



# Barn Owl Report – 2021

## Ulster Wildlife





## Acknowledgements

We would like to thank all the people involved, directly or indirectly, in the barn owl project. Thank you to every single **volunteer** that carried out the survey for us, and those that reported sightings. A special thank you to our **nest minders** who go out of their way to protect barn owls in Northern Ireland. Thank you to everyone that made us a barn owl **nesting box** and assisted in the project. As this project has limited funding, we rely on our superb volunteers to achieve the objectives of our conservation work. It is always humbling to see that so many of you stand in solidarity with us to try to help this iconic species thrive in Northern Ireland. 2021 has been another abnormal year due to the impacts of Covid-19 and the unpredictable weather; we have been limited in what we have been able to do, but with the help of staff, trainees and volunteers, have still managed to continue our conservation efforts for barn owls in NI. This year's programme delivery would not have been possible without your help.

Thank you also to the BTO, BirdWatch Ireland, CEDaR, Comber Rotary, National Trust, NBDC, NIRSG, RSPB NI, UW Grassroots Challenge and the Young Farmers Club.



**Picture 1:** Katy Bell, Senior Conservation Officer, with Ronald Surgenor and Ive Rouart who both volunteer on the barn owl project. We couldn't achieve as much for barn owls in Northern Ireland without the help from our volunteers.

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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 however is highly concerning. Barn owls have been in decline for decades as a result of habitat loss. 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 now 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.

As an important part of our natural and cultural heritage, our barn owl work aims to develop and advance barn owl conservation throughout Northern Ireland. A range of actions are undertaken, such as the management of sightings, roosting sites, and nest sites, that are provided by the general public, 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 main focus in the summer months is co-ordinating the annual barn owl survey. Thanks to our 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; although this had to change this year and last year due to the restrictions from Covid-19. Knowing the exact locations of roosting and breeding barn owls is essential to target our conservation efforts. However, 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.

This report will give an overview of the work that has been done throughout the year, with an important focus on the barn owl survey. It will compare some results with the findings of the previous years, and the work plan for 2022 will be discussed.

## 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, like the fact that, to a large degree, they rely on the same food sources (*i.e.* small rodents), but long-eared owls are vastly under recorded.

## 2.2. Survey Methodology

For our 2021 survey, due to the impacts of Covid-19, we were unable to hold our usual workshops. We held one workshop on Zoom to go through the survey methodology. We contacted anyone on our list that had a barn owl box and asked that the landowner check the box themselves for any signs of occupation during the months of July and August. This meant that no one was walking on other people's land in order to keep people safe. Each surveyor received a copy of the Survey Methodology, a Recording Form and a Risk Assessment.

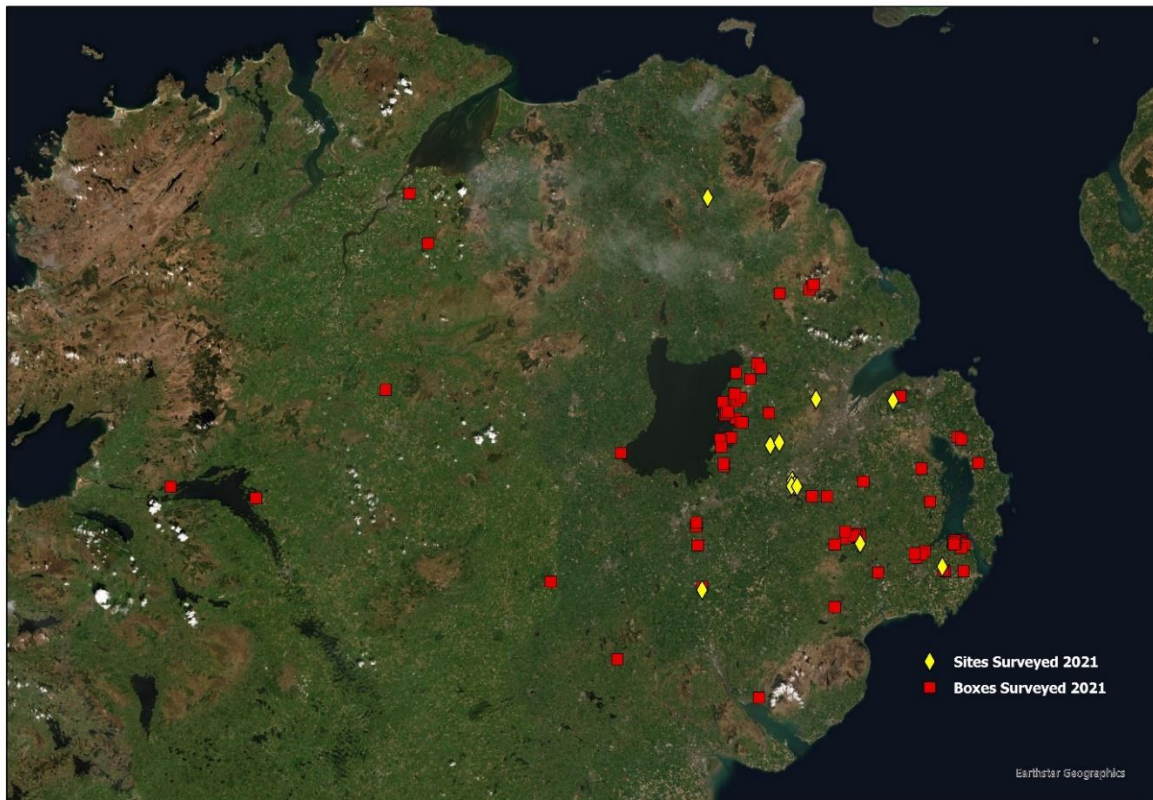
We asked that people provide us with up-to-date information regarding the nesting box: whether it was being used, the grid reference, and whether it needed repaired or replaced. That way we can see whether we need to replace a box or add boxes in an area. We also carried out a number of surveys at key sites. The area was visited during the day to check for any signs; feathers, pellets, whitewash, and then an evening visit was also carried out where possible.

Our nest minders had been monitoring their sites all year so we were keeping in touch with them regarding the known barn owl pairs (see **3.2**).

## 2.3. Results

In total **99** boxes were checked for signs of barn owl activity throughout July and August. We also carried out a total of **12** surveys at potential sites. **Figure 1** shows the majority of the boxes are in the east of the country as our barn owl population is more abundant in the east, but there is a spread of boxes across the whole of NI. We were limited in the amount of surveys we could do in 2021 due to Covid-19. The work completed was definitely a success during a global pandemic; thank you to all our volunteers, Ulster Wildlife staff, and volunteers from the NIRSG who helped out.

During the surveys, adult barn owls were seen at two different sites, along with a number of long-eared owls. There were also pellets and feathers found in a small number of previously unoccupied boxes. These sightings will be followed up in 2022.



**Figure 1:** Location of the boxes and sites surveyed in 2021.

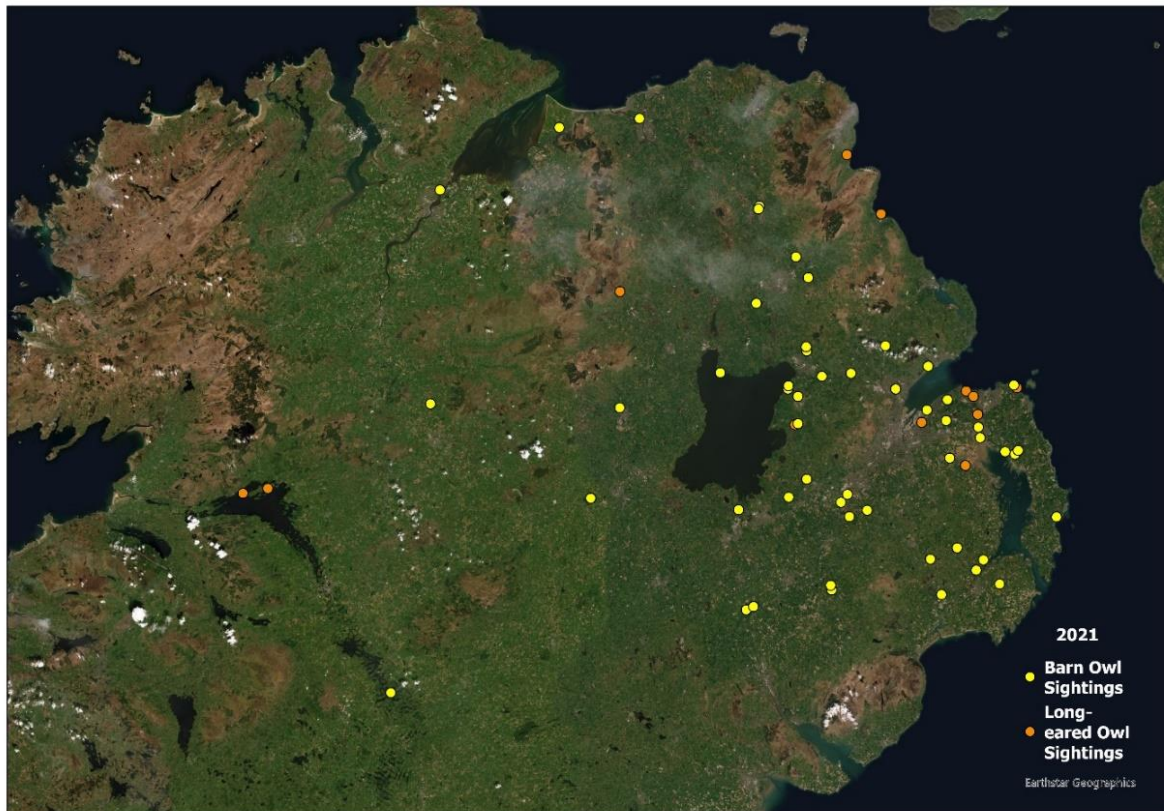
### 3. Other key points

#### 3.1. Sightings

We are pleased to see support from the public continue with regular sightings of barn owls reported to us via phone call, email, social media (Facebook/Twitter), or online through CEDaR's website (Centre for Environmental Data and Recording) and iRecord. By the end of 2021, **56** sightings have been entered onto our database and mapped (**Figure 2**). This data gives us an insight into where birds may be nesting or roosting. This allows us to target our conservation action specifically where it is needed. The summer survey is also key in raising awareness and generating sighting reports through public engagement. It is vitally important to get the message out there that our local barn owl population is struggling and needs our help.

We also received **14** sightings of long-eared owls (**Figure 2**). Long-eared owls are actually more common than barn owls but they are not reported as frequently. We will continue to encourage sightings of long-eared owls.



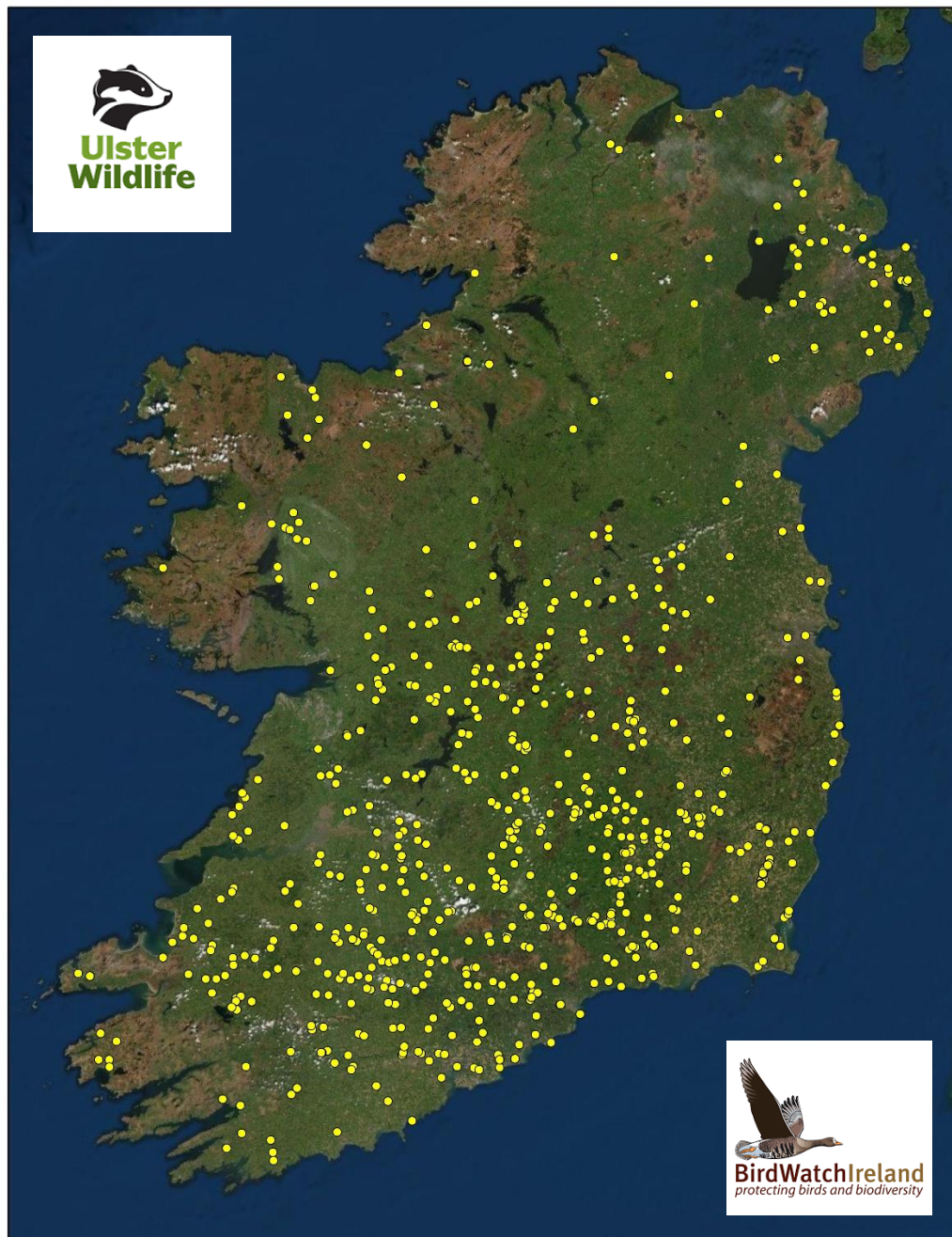


**Figure 2:** Sightings of Barn Owls and Long-eared Owls in 2021.

In collaboration with BirdWatch Ireland we produced a combined map of sightings across the island of Ireland for 2021 (**Figure 3**). This gives us an insight into barn owl distribution and prevalence across Ireland. It also allows us to target our conservation efforts as well as look at possible survey gaps.

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 collaborate across the UK with the Barn Owl Trust on the State of the UK Barn Owl Population reports. Within Ireland we are collaborating with BirdWatch Ireland, RSPB NI, and various other barn owl volunteer projects. This work is vital to get a clear picture of what is happening with barn owls in Ireland as a whole.

If you have a barn owl or long-eared owl sighting in Northern Ireland please report it to [barnowls@ulsterwildlife.org](mailto:barnowls@ulsterwildlife.org), or for the Republic of Ireland visit <https://bit.ly/barnowl-survey>.



**Figure 3:** Sightings of Barn Owls across Ireland (BirdWatch Ireland and Ulster Wildlife).

### 3.2. Dead barn owl reports

In March 2021 we unfortunately got a report of a dead adult female barn owl. This had been found at the base of a tree. The post mortem revealed the bird had suffered trauma to the shoulder, possibly from a collision. It then unfortunately couldn't hunt and starved. Barn owls face many risks in the countryside and this was a real blow to the population as it was a breeding female from the area.

If you find a dead barn owl please report it to [barnowls@ulsterwildlife.org](mailto:barnowls@ulsterwildlife.org).



### 3.3. Known active nest sites

In 2021 we monitored a number of active nest sites. The extreme weather during the year was devastating for the majority of the nesting pairs. Most of the pairs started nesting as normal in early spring; a cold spell then hit so the birds abandoned nests, they then started to nest again but there were periods of more extreme weather; a heatwave and heavy rain in the summer months. This led to two of our pairs producing chicks later in the summer which fledged in September. There were two chicks at each nest and we were able to carry out ringing with BTO licenced ringers. There was no opportunity for second broods. There was one nest site where access wasn't possible that possibly produced three young.

Nest site	Number fledged 2018	Number fledged 2019	Number fledged 2020	Number fledged 2021
Ards	2	2	-	-
Mount Stewart	-	-	3	-
Crumlin	5	6 (2 broods)	6 (2 broods of 4 + 2)	-
Strangford	-	2	3	2
Finnebrogue	-	-	-	2
<i>Mean</i>	<i>3.5</i>	<i>3.3</i>	<i>4</i>	<i>2</i>

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

There were two established pairs at the Strangford site. We think however that the female we found dead at the start of 2021 was the female from one of these pairs. The other pair managed to produce two chicks in August which fledged in September (**Picture 2**). These birds were hanging around at the site throughout the year so we believe they will breed again in 2022. There is an amazing network of boxes at this site and the habitat is able to support more than one pair.



**Picture 2:** One of the late brood of chicks at the Strangford site in September 2021.

The birds on the Ards Peninsula and at Mount Stewart failed this year due to the weather. We made sure over the winter that we repaired, replaced or added new boxes to increase the opportunities for the birds. The pair has been in the area over the winter of 2021, so we hope they will have a successful 2022.

A new pair established at Finnebrogue estate in late spring of 2021. Areas of the site have been managed in a wildlife friendly way; this along with a number of boxes being erected in the winter of 2020, attracted a pair to the site. A late brood of two chicks fledged in September 2021; these birds were ringed by BTO ringers (**Pictures 3 & 4**).

With the help of our volunteers we hope that these nests will continue to thrive and new nests will be established in 2021 and beyond.



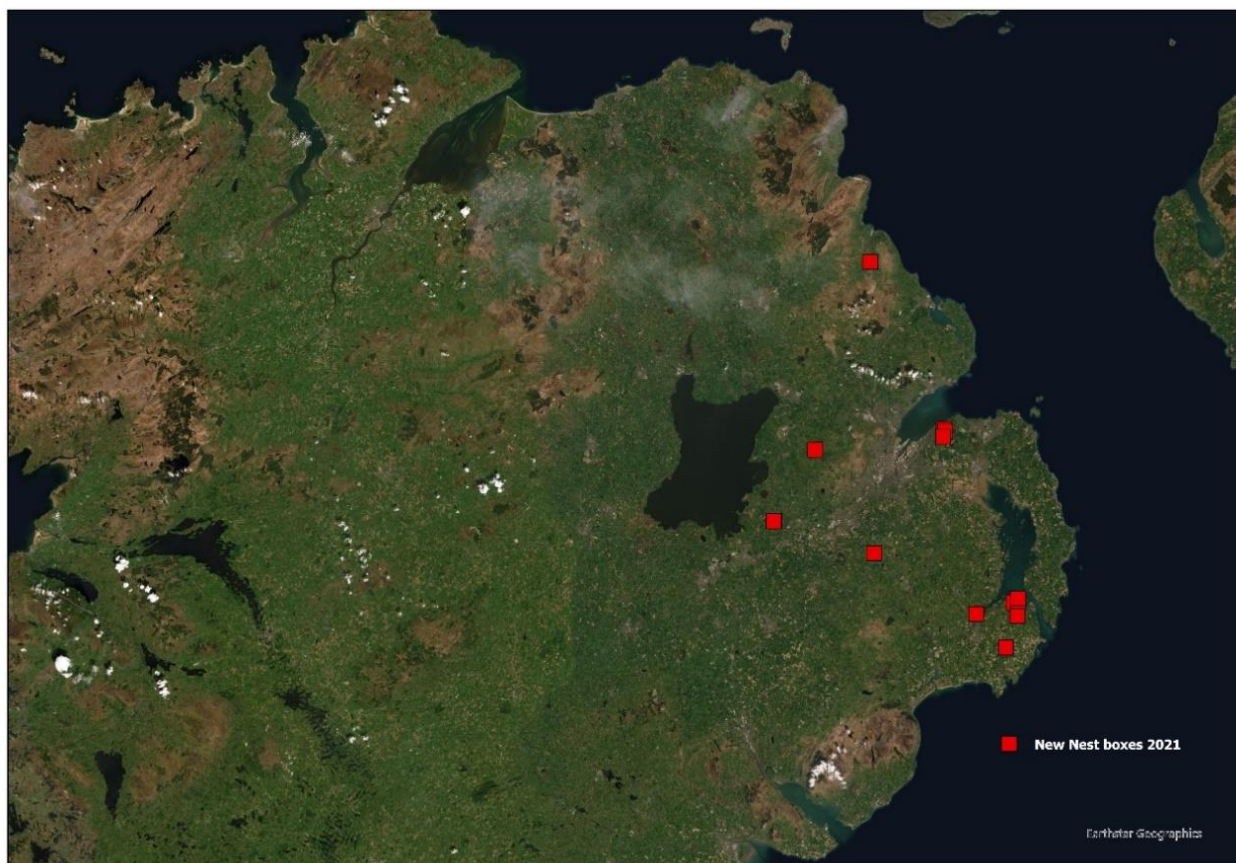
**Pictures 3 & 4:** The chicks, which are very close to fledging, at the Finnebrogue site.

### 3.4. Boxes

Since the beginning of the year, **18** barn owl boxes have been erected throughout Northern Ireland (**Figure 4**). We focused on priority areas where we knew barn owls were present; and also areas of suitable foraging habitat. We also carried out a total of **33** site visits to landowners where we provided advice on boxes and land management. More nest boxes were also erected at existing nest sites to increase the network of boxes in the area and to offer roosting or nesting opportunities for fledglings. We have a number of organisations and volunteers making nesting boxes

for us. Our thanks to all the groups, young people, and volunteers who helped make this happen.

While we aim to support everyone who gets in contact with us, as there is a high demand for boxes, we have to prioritise possible sites which are the most suitable for barn owls. 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, such as the proximity to main road. We must visit a site before we make the decision on whether the site is suitable for a box. In the winter of 2021 (Jan/Feb and Nov/Dec) we carried out a number of site visits to establish whether the area was suitable for barn owls and suitable for a nesting box.



**Figure 4:** Locations where barn owl boxes were erected in 2021.



We have been working closely with the RSPB NI and have established an excellent relationship by working together to provide boxes for landowners (**Picture 5**).



**Picture 5:** Our last box erected in 2021; with help from the RSPB.

#### **4. Limitations**

Barn owls are very scarce in Northern Ireland and so there are difficulties in locating nest sites. Since the start of the barn owl project, more than 600 sites have been checked, but unfortunately, we still only know of a small number of active nest sites. In each survey, the majority of potential nest/roost sites that are assigned to volunteers are derelict buildings. It is possible that barn owl nests are more often located in trees in NI. Trees are obviously harder to check because they are more numerous, but also because the holes can be hidden, either by their position (e.g. too high) or by the presence of surrounding vegetation such as ivy.

Another factor which can limit locating nests is the lack of equipment, because barn owls are rare, nocturnal and elusive birds, having more access to adequate gear to perform the survey could make a big difference. Equipment like night vision cameras or parabolic microphones could enable us to survey a site more effectively. However, this equipment is expensive and we cannot afford one for each surveyor. Instead, it could be possible to have a few but allocate them in sites where barn owls are more likely to be found. We were able to purchase thermal imaging binoculars in early 2020 which have been very useful so far.

Finally, our understanding of barn owl distribution in Northern Ireland may be biased towards areas where communities are more aware or where population densities are higher. Awareness effort needs to be put into areas where we are lacking sightings in order to see whether or not the actual distribution is reflective of our data.

Our face to face events were cancelled in 2021 but we still managed to carry out a number of events online which reached a large number of people.

## **5. Future plans**

In November 2021 we took on a new member of staff as Priority Species Officer to work alongside the Senior Conservation Officer on the project. This will increase our capacity on the barn owl project. Our main aim is to focus on priority areas and follow up on possible nesting pairs. We always aim to increase our understanding of this elusive and iconic bird in Northern Ireland. For 2022 we hope that we can get our events up and running again once Covid restrictions have lifted.

Our main aim this year will again be to identify more unknown nest sites. Our target audience through our communications will 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 continue to carry out site visits and provide advice on nature-friendly land management. 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 2022 and hope to increase the number of potential sites checked. Getting landowners to check their own boxes proved successful in 2020 and 2021, and so we will repeat this again in 2022. We hope to acquire more thermal imaging equipment to increase our reach.

Ulster Wildlife will continue to work closely with RSPB NI and the Northern Ireland Raptor Study Group (NIRSG) locally, along with BirdWatch Ireland (BWI), The Barn Owl Project and The Barn Owl Trust more widely.

## **6. Conclusion**

In Northern Ireland, barn owls remain very vulnerable and elusive. The annual survey, performed by our volunteers during the summer, had allowed us to check 99 boxes and 12 new sites. We had more challenges due to the impact of Covid-19 but still managed to complete our survey due to the help of our volunteers and nest minders.

It is clear that adverse weather conditions are having a serious impact on our local barn owl population. The effects of climate change can be seen and we need to monitor how this affects these birds in the future. Luckily we had some birds able to fledge chicks late in the year, but this eliminates the opportunities for a second brood. By expanding our box network we hope to provide more opportunities for birds to nest and roost. We also believe land management is key to barn owl's survival and this remains crucial in helping our population here in Northern Ireland.

Finally, 2022 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 help protect our small population of barn owls in Northern Ireland. We are looking forward to the year 2021 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 7:** A barn owl at one of our local nest sites.



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