



Barn Owl Report – 2019



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 NI. 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 almost exclusively 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. This year's programme delivery would not have been possible without your help.

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Introduction

Since 2010, Ulster Wildlife has undertaken work focusing on the conservation of Barn Owls (*Tyto alba*). Classed as “Least Concern” on the 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 think 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 databases of sightings, roosting sites, and nest sites, that are provided by the general public, the construction and the erection of nest boxes, and supporting landowners to improve their habitat for barn owls. In addition, one of our main prongs of activity takes place during the summer through the annual barn owl survey. Thanks to our dedicated volunteers, consecutive barn owl surveys have been carried out, on an annual basis, since 2010, across the whole of Northern Ireland. The aim is to visit sites that are most likely to host barn owls in order to discover new active roost or nest sites. Knowing the exact locations of roosting and breeding barn owls is essential to target our conservation effort. However, surveying for barn owls is not an easy task, particularly in the low population densities that they exist at 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 2020 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 discuss barn owls 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 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. With 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), we are trying to understand why barn owls are seemingly struggling much more than long-eared owls.

2.2. Survey Methodology

In June 2019, 3 workshops were organised in Fermanagh, Antrim and Downpatrick. The aim was to give a general presentation about barn owls and long-eared owls, to present the results of the previous survey, and to go through the methodology of the survey. In total, 31 people attended the workshops. We had a total of 33 volunteers take part in the survey in 2019. The survey was performed during the summer, mid-July until the end of August.

Each volunteer, or pairing, received a survey pack with everything they needed to perform the survey, and up to 3 sites were delegated to them. The sites allocated for the 2019 survey were chosen on the basis that they haven't been checked in the last two years, with the exception of some boxes which are checked every year by the same volunteers or landowners. Each site was inspected both during the day and at night. The survey allows us to collect any barn owl evidence on site, investigate the integrity of our boxes and other sites the barn owls are using, and in the case of new reports, the accuracy of the information provided (*i.e.* precise location).

- **Day visit**

For each site, a day visit was completed by the volunteers to get familiar with the area, talk to locals and get landowner's permission to access the site. Once this was done, each site was carefully inspected to search for any visual evidence of barn owls. Any feathers, pellets or whitewash were noted in a survey form and the first two were collected and sent back to Ulster Wildlife for analysis. As the chicks are most vocal during the survey season (July-August), listening for "snores" was an important part of the survey.

- **Night visit**

When surveying for a nocturnal bird, a night visit is essential to complete the survey. Thus, for each site, volunteers stayed from dusk for at least an hour. It was advised to perform it during a clear, moonlit night, and to choose a discrete vantage point to survey from with an uninterrupted view. Parents might be seen flying and chicks can be heard begging for food. Any activity at a site was reported to Ulster Wildlife to enable a licensed surveyor to check the site for evidence of nesting.

2.3. Results

In total, 98 sites were checked for signs of barn owl/long-eared owl activity over the summer (**Figure 1**); comprising 32 potential sites (potential nests and areas with recent sightings), 43 barn owl boxes, and 23 sites for long-eared owls. Figure 1 shows the majority of sites checked are in the east of the country where we get the most reported sightings; but there is also a general cover across the whole of NI.

Based on the volunteers who indicated the number of hours that they surveyed, an average of 1.7 hour per site were calculated. This suggests a total of 182.5 hours spent on the field to check the 98 sites which equate to almost an entire month of full-time work for a single person (without taking into account travel time).



Figure 1: Location of the different sites surveyed in 2019.

During the survey, no barn owls were sighted or heard directly by the volunteers but a number of sightings were reported while talking to locals/landowners. These sites are monitored to try to locate the roost/nest place. No pellets or feathers were found at potential sites. A number of boxes were reported to have been damaged so these will be replaced in the following year. While talking to landowners, a number had expressed their interest to help, and willingness to put up a nesting box. Any potential habitat or nesting site is recorded to enable us to investigate further. A small number of possible long-eared owl nest sites were found as well as 4 volunteers directly hearing long-eareds while out on the survey.

3. Other key points

3.1. Sightings

We are pleased to see support from the public continue with regular sightings reported to us via phone call, email, social media (Facebook/Twitter) or online through CEDaR's website (Centre for Environmental Data and Recording), and on iRecord. By the end of 2019, more than 50 sightings have been entered onto our database and mapped (**Figure 2**). We also received 11 sightings directly from CEDaR. We received fewer

sightings in 2019 but this is probably because we did not do a public call for sightings. We have a good idea where the birds are so now our focus will be on finding nest sites. We usually get an increased number of sightings during the summer, showing that the distribution of postcards, leaflets and posters by our volunteers during the survey is important. In addition to collecting useful information, the survey is also a key point to raise awareness.



Figure 2: Sightings of barn owls to Ulster Wildlife in 2019



Picture 1: Juvenile male rescued in Nov 2019

In November 2019 we had a report of a barn owl that was trapped inside the wood processing plant at Balcas in County Fermanagh (**Picture 1**). We were able to get this bird out under licence by using a mist net. The bird was ringed and checked for injuries, and then released. This was a juvenile male and was a great record for County Fermanagh. There are historical nesting sites in the area so these will be investigated in 2020.

Also in January 2019, one of our staff members had a barn owl appear at a pine marten feeding station in County Down (**Picture 2**). This area was monitored for the rest of the year and the bird didn't return. However we have had other sightings in the area.



Picture 2: A barn owl pictured at a pine marten feeding area in County Down.

3.2. Dead barn owl reports

We also unfortunately get some records of dead birds and a dead barn owl was found in January 2019 by RSPB staff on the M1. This was an unringed adult male. Unfortunately, one of the risks for these birds is getting hit by vehicles on main roads.

One of the Crumlin chicks from 2018 was sadly found dead in County Louth in March 2019. The bird had a ring and was sent to the BTO. This bird had travelled over 70 miles but unfortunately flew into overhead wires. This bird had a tragic end but it gives us an idea of the direction these chicks were travelling. It also highlights the importance of ringing chicks to improve our understanding and knowledge of their dispersion from the nest.

3.3. Known active nest sites

After having only 2 active nest sites in 2018, our number went back up to 3 as a pair settled in a nest box in Strangford (**Table 1**). This could have possibly been the female from the previous South Down site. This is great news as it was in a box erected by Ulster Wildlife five years previously. Due to the hard work of our nest minder at the Crumlin site the pair also had 2 broods, bringing the number of known chicks born up to 10. Chicks were ringed at all three nest sites in the summer; three chicks were ringed at the Crumlin site, two in Strangford and two in Ards.

Nest site	Number fledged 2017	Number fledged 2018	Number fledged 2019
Ards	2	2	2
S. Down	3	-	-
Crumlin	2	5	6 (2 broods)
Strangford	-	-	2
<i>Mean</i>	<i>2.3</i>	<i>3.5</i>	<i>2.5</i>

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



Picture 3: Two chicks from 2019 at the Ards Peninsula nest site.

The birds on the Ards Peninsula continue to fledge 2 chicks every year (**Picture 3**). This can be put down to the fantastic habitat management at the site. They were ringed in September 2019. There is a possibility that this was a second brood but we have no confirmation of a first brood. These birds have been breeding successfully since 2014.

It was very positive to have a pair settle in a nest box in Strangford after 5 years. The landowner has been making his farm 'owl-friendly' for years and it has certainly paid off. Two chicks were born (**Picture 4**) and then ringed in July 2019. One of the chicks remained at the site throughout the winter and the birds continued to use the nest boxes for roosting.



Picture 4 and 5: One of the chicks and adults respectively at the Strangford site.

The birds at Crumlin had another successful year. They had 3 chicks which were ringed in June 2019; the second time birds at this site were ringed. The nest minder at Crumlin provided some supplementary feeding in times of very bad weather where the birds could not hunt, he also provided grain to feed rodents to increase the food

supply; along with wild bird cover in the surrounding area and correct habitat management, this led to this pair having a second brood of a further 3 chicks.

In the winter of 2019 unfortunately the male bird disappeared from the Crumlin nest site. The female remained and called for the male. She left in February 2020 and we were worried this nest site would be lost. However, in March 2020 a pair appeared in a nearby nest box and also a second pair near our nest minder's house. This hopefully brings our number of active nest sites to 4 for 2020. We are unsure which birds are which and aim to get a closer look to see if we can see any rings. We will continue to monitor this throughout the year. With the help of our volunteers we hope that these nests will continue to thrive and new nests will be established in 2020 and beyond.

3.4. Boxes

Since the beginning of the year, 33 barn owl boxes have been erected throughout Northern Ireland (Figure 3). More nest boxes have been 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 adults, 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. To help us make this decision we use a suitability matrix containing different 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 and also (negatively) the proximity to main roads. Higher scores place interested parties further up the table and those sites that score higher are selected for barn owl box erection.

In the winter of 2019 we carried out a number of site visits to establish whether the area was suitable for barn owls and suitable for a nesting box. Looking forward we will not be giving out barn owl nesting boxes without adequate site visits.

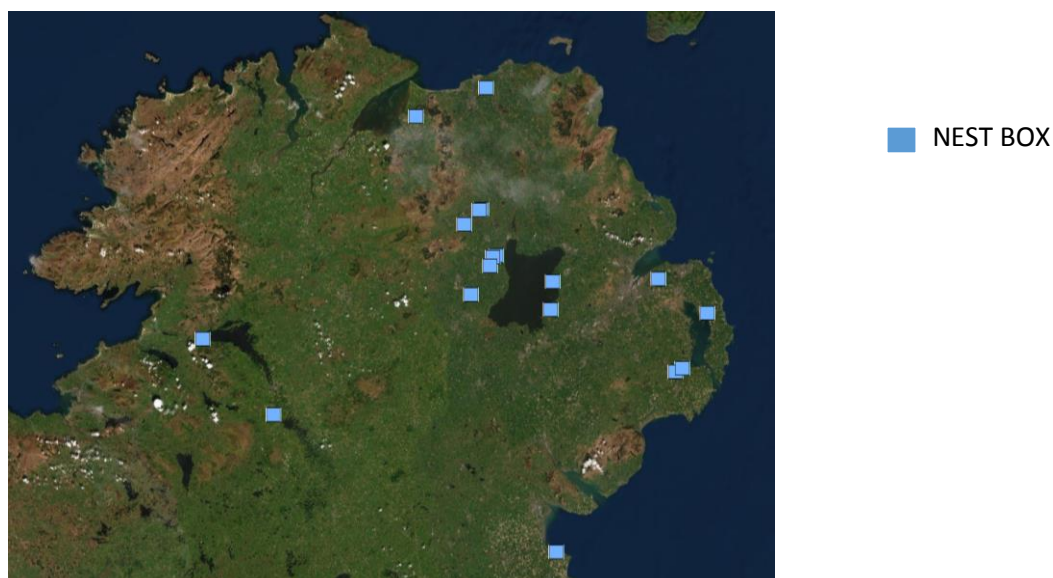


Figure 3: Locations where barn owl boxes were erected in 2019.

4. Limitation

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 500 sites have been checked, but unfortunately, we still only know of too few 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 gear 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.

Finally, our idea of barn owl distribution in Northern Ireland can 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.

In 2020 we aim to review our survey methodology to enable us to be more effective and efficient in our field work.

5. Future plans

For 2020 we will be refreshing our approach to the barn owl project. Our main aim this year will be to find new 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 made March 2020 'Barn Owl Month' and we targeted all our social media around nest sites. Articles appeared in Farming Life and we were interviewed for BBC Radio Ulster's Farming Matters programme. We will continue to target landowners and farmers throughout the year.

We will also be reviewing our survey methodology for 2020 to make it more efficient. Our volunteers have been so helpful over the years but we want to make sure we are using their time effectively. We will aim to check all our nest boxes in 2020 to determine if they are being used, need repaired or replaced.

With the help of our funders we have been able to purchase thermal imaging binoculars for the project. These will be invaluable at helping us to locate nest sites. These will be able to be loaned out to volunteers on a case by case basis.

With Covid-19 and lockdown happening in the UK from March 2020 some of our plans have had to change. We will hopefully be able to carry out our 2020 survey by the

summer but we are following government advice and will be able to make new plans once lockdown is over.

Throughout 2019 one of our nest minders has been training his dog Tyto to locate barn owl pellets. So far she has been able to identify a number of potential new sites as well finding lots of pellets!

We would still like to investigate the possibility of placing satellite tracking devices on chicks in order to locate where the chicks have established new nests or roosts. Our aim is to locate new nests and then we would have more of an opportunity to tag a bird without risking our fragile population.

6. Conclusion

In Northern Ireland, barn owls remain very scarce and hard to find. The annual survey, performed by our volunteers during the summer, had allowed us to check 98 sites. Potential new long-eared owl nest sites have been found and a number of reports of barn owls. We have increased the amount of data available with sightings by locals, new potential nest sites, and boxes that needed replacing, all being reported back to us. We are delighted to see that the survey represents an important way to raise awareness among people as we noted a clear peak in the number of sightings reported to us during the survey season.

The year 2019 was a positive one; after being down to only 2 nest sites in 2018 we were up to 3 in 2019. With birds settling in a nest box erected by Ulster Wildlife, it made for a very positive outcome. We had 10 chicks born, but were also sad to lose one of our chicks from 2018. The site in Ards continues to raise 2 chicks, while in Crumlin the nest-minder of the site helped the breeding pair to raise 2 broods of healthy barn owl chicks with limited supplementary feeding during poor hunting weather. At all three sites, the chicks were ringed to help us monitor dispersal. In addition, 33 boxes were erected throughout Northern Ireland since January 2019.

Finally, 2020 brings exciting opportunities to reassess our survey methodology and 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 2020 and the continuation of our conservation work on this iconic species.

We anticipate that this year will build on the successes of recent years and 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.

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