

Castlebanny Barn Owl Survey 2020

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1. Introduction

A Barn Owl survey was carried out in the Castlebanny Wind Farm study area in March 2020 in an attempt to establish whether or not the species occurs within 500m of the wind farm. The Barn Owl is a Red-listed Bird of Conservation Concern in Ireland due to extensive population declines over recent decades (Colhoun and Cummins, 2013). The causes of this decline include intensification of agriculture that has led to a reduction of prey rich foraging habitat brought about by the replacement of hay with silage as the principal source of fodder. Renovation and demolition of old buildings has resulted in a loss of nesting sites. Other factors contributing to the species decline include greater use of rodenticides resulting in secondary poisoning. Increased road traffic along with the expansion of the road network is also thought to be negatively impacting Barn Owl populations (Lusby 2017).

Barn Owls are still relatively widespread in Ireland but they are now rare over most of the country (especially the eastern half) and there is a distinct concentration in Munster with particular concentrations in Counties Kerry, Cork, Limerick and Tipperary. This geographical disparity in distribution has been attributed to the presence of an introduced mammal species, the Bank Vole that was accidentally introduced from Germany to West Limerick in the 1920s. Another introduced small mammal, the Greater White-toothed Shrew, was discovered in Tipperary in 2008 (Lusby & O'Clery 2014). In recent years, an apparent revival in numbers has been noticed in Tipperary and Cork and this has been attributed to an increase in foraging opportunities related to the spread of these two introduced mammal species (Lusby 2020).

2. Methodology

2.1. Survey Design

The survey methodology used in this study was based on Lusby (2017) but it was decided to use a zone of influence of 500 m around the footprint of the wind farm based on the large area of unsuitable habitat (post-thicket conifer plantation) within the site. Barn Owls do forage over pre-thicket forestry plantations but the extent of this habitat is relatively limited in the site and is not likely to be a major attraction to Barn Owls that may be present in lowland areas surrounding the proposed wind farm. A large area of pre-thicket plantation occurs in the southwestern part of the site in the Derrylackey area but most of this habitat lies outside the 500m zone of influence. Potential roost/breeding sites were searched for signs of Barn Owl usage, notably pellets (regurgitated prey remains), white-wash (distinctive droppings) and discarded feathers. Nocturnal visits were carried out at two sites where interior access was not possible during daytime surveys. These visits were timed to coincide with the emergence of owls potentially present or to assess whether birds were visiting potential nest sites.

2.2. Survey Areas

The only likely roost/nest sites within the zone of influence of the site are man-made structures such as houses and farm buildings as there are very few trees of the size or species likely to contain suitable cavities (apart from a line of 12 large Monterey Cypress trees at Site 6). Consequently, it was decided to focus the survey on buildings. Six potential roost and/or breeding sites were identified by using a combination of familiarity with the identified sites from earlier surveys and the use of aerial photography (Figure 1). These sites were visited and examined for evidence of Barn Owl occupation on March 17th and 24th and nocturnal watches were carried out at two sites (2 & 4) on the night of March 24th as it was not possible to assess the interior of these two sites during daytime visits.

3. Results

Site 1. (S567-346) is located in the northwest of the study area and consists of three fairly modern livestock sheds used for wintering cattle. All three sheds were occupied by cattle and this significantly reduced the chances of finding any signs of Barn Owl usage of the site (droppings, pellets and feathers). In any event, no evidence of occupation was found and the site was deemed to be unsuitable as a breeding site as most modern sheds do not contain secluded areas suitable for nesting.

Site 2. (S569-344) is located close to Site 1 in the northwest of the study area. The site consists of a disused farmhouse with a fully intact roof, unbroken windows and doors. There are two chimneys that did not appear to have chimney pots (normally unsuitable for Barn Owls) and the chimneys did not appear to have any Jackdaw access prevention devices such as netting wire. The farmyard also contained two small sheds and a hayshed. The small sheds were deemed to be unsuitable as they were sealed and inaccessible to owls and were also probably too low to be of any attraction. The hayshed is an old style, curve-roofed shed unsuitable for nesting but did have roosting potential. The shed was searched and two examples of white-wash and a single Kestrel pellet were found beneath one of the rafters. The white-wash splashes were likely to be Kestrel given the presence of a Kestrel pellet close by and the relatively small size of the chalky white splash. No definitive sign of Barn Owl presence was identified.

A nocturnal watch was carried out on the night of March 24th between 20.15 and 21.45 to assess the site given the presence of two potentially suitable chimneys. No Barn Owls were seen or heard during this period. It is highly unlikely that this site is being used by Barn Owls. Furthermore, the active use of rodenticide (seen at two locations) is likely to present an indirect hazard to visiting owls.

Site 3. (S576-336) is located on the edge of a forested area at an altitude of approximately 230 metres in the northwest of the study area. The site consists of a single large, modern livestock shed occupied by cattle. The site is unsuitable for breeding but could potentially be

used as an occasional roosting site. Three splashes of white-wash were seen on structures inside the shed and these were likely to be either Kestrel or less likely Barn Owl (given the relatively small size of the splashes). No pellets or other evidence were found.

Site 4. (S582-350) is located in the forest close to the northern extremity of the study site. The site consists of two small stone cottages and both have intact roofs. Both buildings are small and do not have chimneys. One of the buildings was open and it was possible to examine the interior. No evidence of Barn Owl occupation was found. The second, slightly larger building was sealed and entry was not possible. A large part of the interior could be seen through windows and other apertures and no evidence of occupation was found. The building is unlikely to be suitable for breeding due to the absence of suitable cavities or nesting platforms but may be potentially used as a roosting site. Much of the forest nearby is at the pre-thicket stage and is potentially suitable foraging habitat for Barn Owls.

A nocturnal watch was carried out on the night of March 24th between 19.10 and 19.50 to coincide with dusk when Barn Owls normally emerge from their roost locations. No Barn Owls were seen or heard and this site is almost certainly not being currently used by Barn Owls.

Site 5. (S583-322) is located high on the hill in the centre of the study area close to the forest edge. The site consists of four derelict and dilapidated farm buildings. Three of the buildings are roofless and the remaining building is partially roofed. Three of the buildings are unsuitable for nesting due to the absence of suitable cavities. One building contains a series of cavities that were once used to support rafters. These cavities are quite low (approximately 2 metres from the ground) and unlikely to be used. Each cavity was examined and no evidence of occupation was found. A large growth of Ivy (which can be used for roosting) in the same building was also examined and no evidence was found.

Site 6. (S588-331) is located in the north-eastern corner of the study area. The site consists of a dilapidated farmhouse and several farm buildings. Only one of the outbuildings has a roof but no suitable cavity. None of the other outbuildings had any obvious cavities. The farmhouse no longer has a roof but does have two chimneys. The interior of the house was examined in detail but no evidence of Barn Owl occupation was found and it is highly unlikely that Barn Owls are currently using this site and there is no evidence of recent occupation.

A line of 12 large Monterey Cypress trees approximately 300 metres east of this farmyard was also examined but no evidence of Barn Owl usage was found.

Discussion

Six man-made structures (and a tree-line) were examined externally and internally where possible and a nocturnal visit was made to the two sites where interior access was not possible. No confirmed evidence of Barn Owl occupation was found at any of the sites and it

is highly likely that none of the assessed sites is currently being used for breeding purposes nor was there any confirmed evidence of recent usage. White-wash (droppings) was found at two sites but one of these was almost certainly of Kestrel origin and the other example was also likely to be of Kestrel origin (based on the extent of white-wash).

All of the sites that were examined in this survey occur in the northern half of the proposed wind farm site. No potentially suitable sites (buildings) were identified in the southern half and the tree species that occur in the area are predominantly unsuitable conifers or eucalyptus trees. The survey was undertaken in the late wintering period but within the timeframe where courtship behaviour and site occupation should have been noticeable. No definitive sign of Barn Owl occupation (pellets or discarded feathers) was found at any of the surveyed sites. Had any such evidence been found, survey work would have continued into the breeding season. The lack of definitive evidence at any of the surveyed sites has led to the conclusion that Barn Owls are not breeding or roosting at any of these sites rendering further investigation unnecessary.

Conclusion

Barn Owls have been scarce in Co. Kilkenny in recent decades (Balmer *et al* 2013) but this may change as a result of the eastward spread of the Greater White-toothed Shrew and Bank Vole. The Bank Vole is now widespread in the county and there are several records of Greater White-toothed Shrew indicating colonisation from the west (NBDC 2020). A dead Greater White-toothed Shrew was found in the Derrylacky area during recent bird surveys for this project. It is possible and likely that the colonisation of the county by these two small mammal species will eventually lead to an increase in the Barn Owl population in Co. Kilkenny.

References

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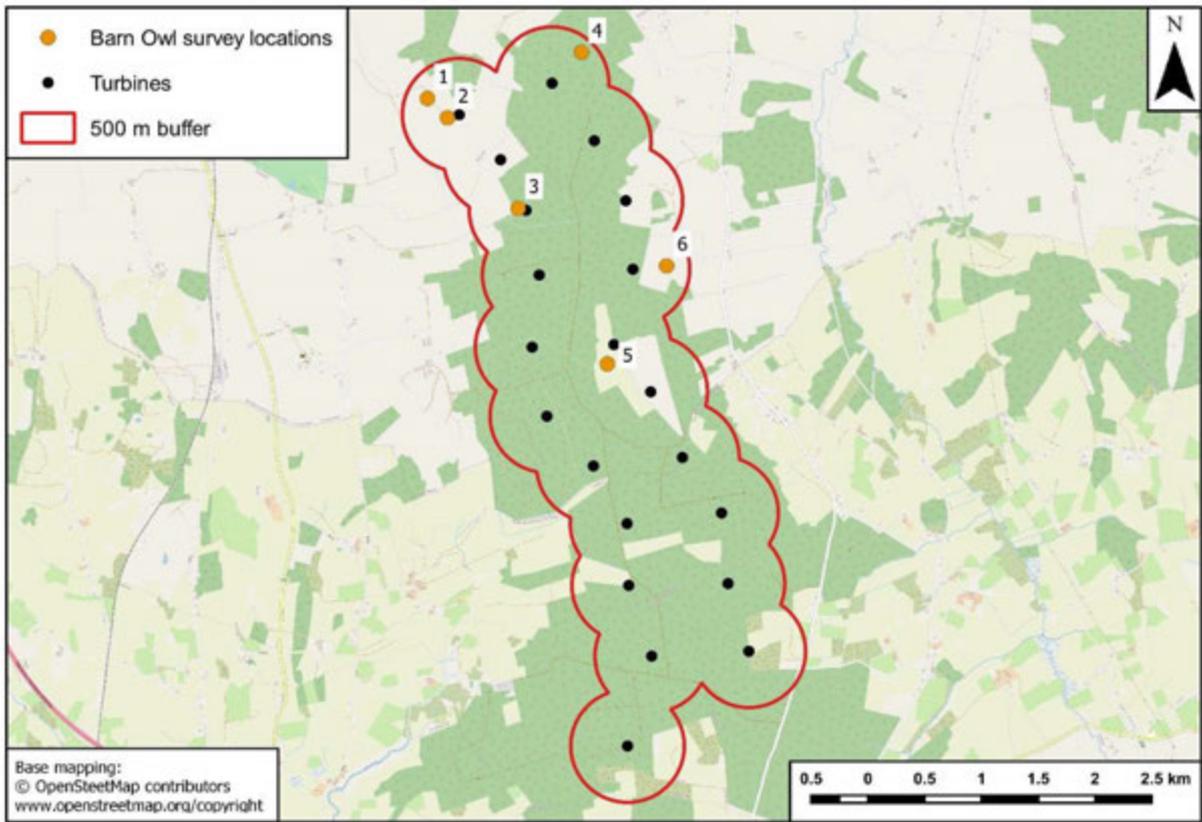


Figure 1. Barn Owl survey locations.