



CGO Ecology Ltd 27a Ridgefield Gardens Christchurch Dorset BH23 4QG UK

## **Barn owl survey for proposed new prison, bowling club, and boiler house on land adjacent to HMP Garth and HMP Wymott, Leyland**

CGO Ecology Ltd  
Christchurch

19<sup>th</sup> October 2021

**Authors:**

Dr Chris Glead-Owen MCIEEM, Director & Principal Ecologist  
Amy Trewick ACIEEM, Associate Ecologist

Volume code: GHX0000 Project wide

Project: Garth Wymott 2

Document number: 608623-0000-CGO-GHX0000-XX-RP-X-0009

Issue number: P02

Suitability code: S3 Suitable for Review & Comment

Date of issue: 19/10/2021

Classification: Official

**For client:**

Mace Ltd  
155 Moorgate  
London  
EC2M 6XB

(+44) 01202 798126  
enquiries@cgoecology.com  
www.cgoecology.com

*Registered Company in England and Wales, number 6532052  
Registered office: Suite 8 Bourne Gate, 25 Bourne Valley Road, Poole, Dorset, BH12 1DY, UK*




Project: MoJ NPP Garth Wymott 2

Deliverable: Barn owl survey report

Our reference: ALRZ BOS

Version: 2

Date: 19<sup>th</sup> October 2021

Corresponding author:	Dr Chris Gleed-Owen BSc (Hons) PhD MCIEEM	
Checked by:	Rebecca Perl BA MA	
Approved by:	Dr Chris Gleed-Owen BSc (Hons) PhD MCIEEM	

Issued to: Mace Ltd. Anticipated circulation includes Mace internal use, Ministry of Justice, Pick Everard, Laing O'Rourke, other appointed consultancies, Chorley Council, Greater Manchester Ecology Unit, Natural England, and other relevant stakeholders.

Version control:

Version	Date	Summary of changes
1	10/10/2021	n/a
2	19/10/2021	Minor changes re securing provisions on third-party land, contractor area.

## Non-technical summary

### Introduction

CGO Ecology Ltd (CGO) was instructed by Mace Ltd, on behalf of the Ministry of Justice (MoJ), to conduct a barn owl survey at HMPs Garth and Wymott, Leyland, Lancashire. The Ministry of Justice proposes a development as part of its New Prisons Programme on land centred on (SD 502 205). The Local Planning Authority (LPA) is Chorley Council. Preliminary Ecological Appraisal by Ramboll and CGO recommended a barn owl survey.

### Methodology

CGO and its subconsultant Haycock & Jay Associates Ltd (HJA) undertook daytime walkovers to search for barn owl roosts/nests in February/March 2021, and dusk and dawn surveys to identify roost use and foraging activity in April to July 2021. No internal building inspections took place from April to June, to avoid disturbance of roosting/nesting sites. The Zone of Influence (ZoI) was assumed to be a 100m buffer around the development site. The surveys were led by Chris Gleed-Owen MCIEEM and Karl Harrison MCIEEM, assisted by other suitably-experienced HJA ecologists. CGO Associate Ecologist Amy Trewick ACIEEM (CL29-license number 00456) is co-author.

### Results

The Ramboll PEA reported barn owl records within 2km, but did not find any evidence on site. The CGO/HJA walkovers found a barn owl nestbox in barn B11 (potential relocated pump station area for the new prison). Dusk/dawn surveys identified this as being occupied by nesting barn owls. A second roost, probably occupied by the male, was identified in barn B10 nearby. A maximum of three barn owls were seen on one dusk survey. Barn owls were observed hunting over the proposed new prison area, and farmland to the north and east. Some foraging occurred on MoJ land within the proposed new prison area, but most was on third-party land to the north. No roosts or nest sites were identified in trees.

### Conclusions, mitigation, enhancement recommendations

A barn owl roost and nest site is present within the development (B11), and a second roost exists just outside the development (B10) within the ZoI. The B11 roost site will be lost, and the box will be moved to B10 or another off-site location. Land adjacent to B10 will be planted as woodland for Biodiversity Net Gain (BNG). At least one alternative artificial nestbox/roost must be provided in a suitable building on third-party land the north of the new prison (secured by planning condition) at least 30 days prior to removal of the existing B11 roost. This must be removed outside the March-August breeding period, and checked immediately beforehand by a CL29-licensed ecologist for signs of nesting activity. The resident barn owls will be displaced to farmland to the north and east which they are already familiar with, as they use it for foraging. The loss of foraging habitat for the new prison is a minor part of the available habitat in the immediate area, and there will be a net gain in grassland in the wider site BNG area.

Demolition and tree removal will avoid the March-August nesting season where possible, but if works are unavoidable during this period, a barn owl roost/nest check must take place immediately before demolition or felling occurs. As construction activity levels will be high, any active nest must be safeguarded with a minimum 30m standoff until any chicks have fledged.

Other mitigation measures will include a sensitive lighting plan, with directional lighting around the fringes of the development areas, and no new nocturnal lighting of retained barn owl foraging habitat.

As an enhancement, an additional barn owl nestbox will be provided in a suitable building or tree within the wider site BNG area to the south of the new bowling club, to provide additional roosting and nesting opportunities. The BNG grassland restoration will increase the site's overall carrying capacity for small mammals, and therefore for barn owls.

## Contents

1. Introduction	5
1.1. Background	5
1.2. Legal protections	5
1.3. Authors, surveyors	5
1.4. Site context	6
1.5. Proposed works	7
2. Methodology	7
2.1. Desk study	7
2.2. Walkover surveys	7
2.3. Dusk and dawn surveys	8
2.4. Limitations	8
3. Baseline Ecological Conditions	8
4. Impact Assessment	9
5. Mitigation	10
6. Residual effects, enhancements	10
7. References	11

## 1. Introduction

### 1.1. Background

CGO Ecology Ltd (CGO) was instructed by Mace Ltd, on behalf of the Ministry of Justice (MoJ), to conduct a barn owl (*Tyto alba*) survey of land adjacent to HMP Garth and HMP Wymott near Leyland, Lancashire (Figure 1). The Ministry of Justice proposes a new prison, bowling club, and boiler house development as part of its New Prisons Programme on land centred on (SP 7052 8873) (Figure 2). The Local Planning Authority (LPA) is Chorley Council. It obtains its ecological advice from Greater Manchester Ecology Unit (GMEU).

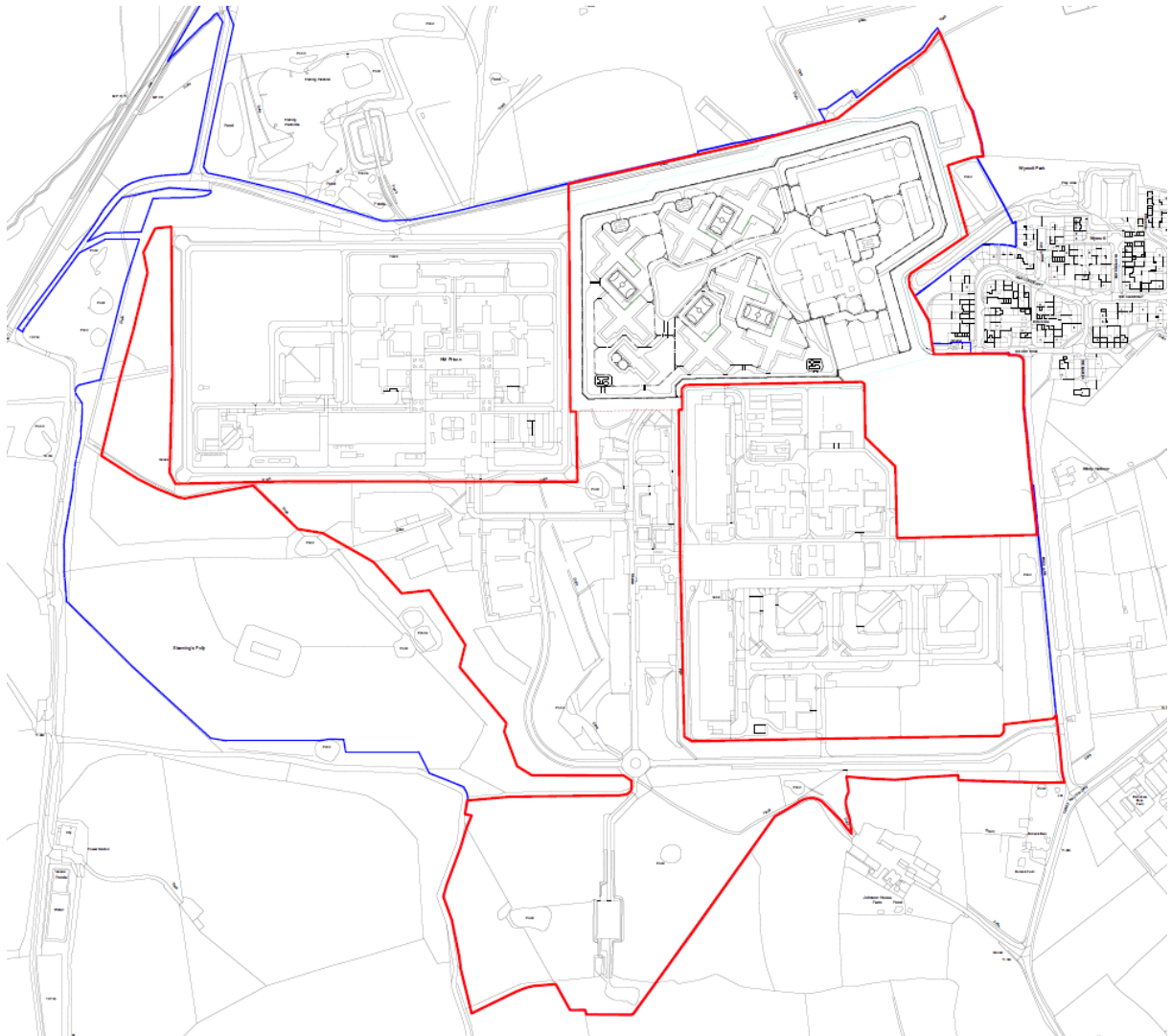


Figure 1 – Proposed development (red line), and MoJ ownership boundary (blue line).

### 1.2. Legal protection

Barn owls and their nests and eggs are protected by the Wildlife and Countryside Act 1981 (as amended). Barn owls may roost and/or nest in agricultural buildings, trees, and other natural cavities. They forage over grassland, primarily at dusk and dawn, where they hunt small mammals such as field vole (*Microtus agrestis*).

### 1.3. Authors, surveyors

Lead author Dr Chris Gleed-Owen MCIEEM is Director and Principal Ecologist of CGO, project manager for the Garth Wymott 2 phase 2 ecological surveys. He conducted daytime walkovers in February, March, and April; and dusk surveys on 21<sup>st</sup> June and 13<sup>th</sup> July 2021.

Amy Trewick ACIEEM, Associate Ecologist for CGO, is co-author of this report. She holds a Natural England CL29 barn owl licence.

Haycock and Jay Associates Ltd (HJA) was commissioned to carry out most of the phase 2 ecology surveys as subconsultant to CGO, including evening and morning bat and GCN surveys on many occasions which serve as valid barn owl survey exercises. These were led by Karl Harrison MCIEEM, Will Steele ACIEEM, Rachel Whitaker, Emma Sutton, Richard Else, Clare Cashon, and Hazel Watson.

This report aims to follow CIEEM (2017) guidance, and provide sufficient information to assist an EcIA conforming to CIEEM (2018) guidance.

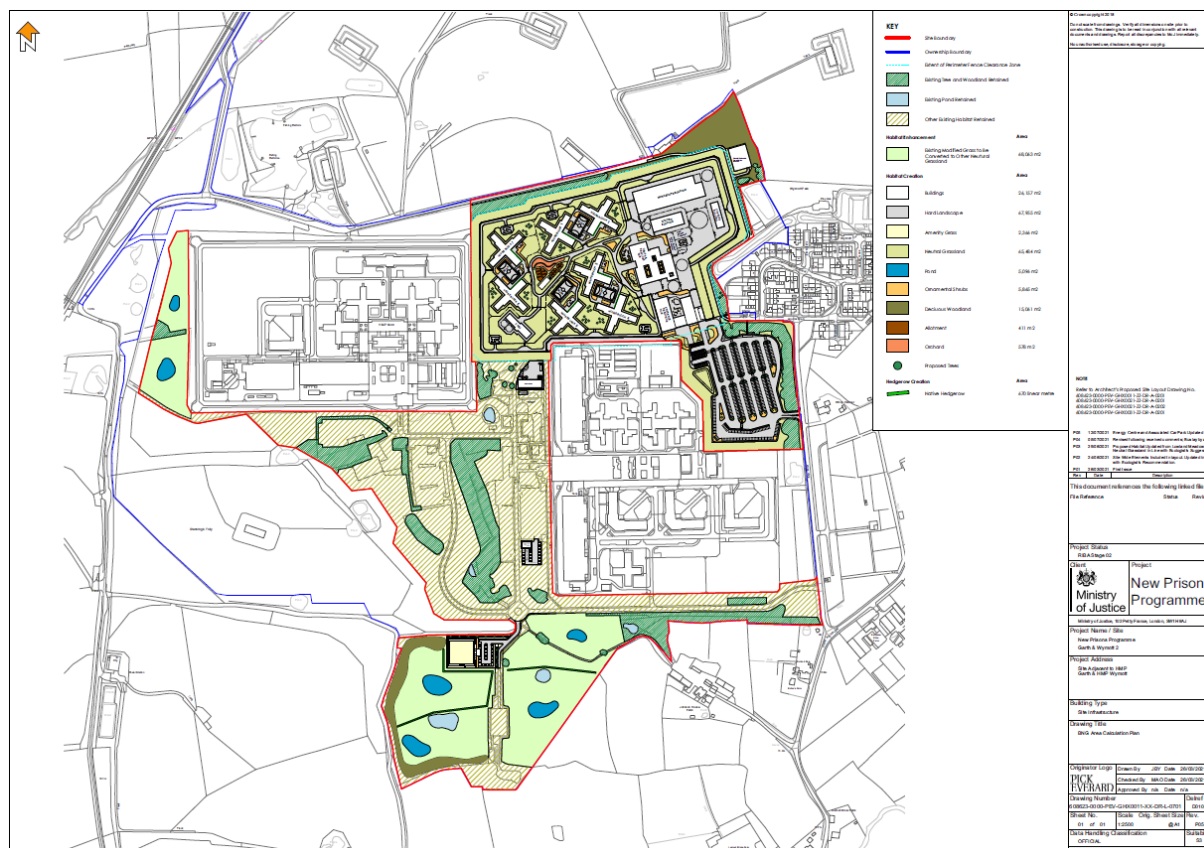


Figure 2 – Proposed development and landscaping plan, produced by Pick Everard.

#### 1.4. Site context

The proposed new prison development site is land to the north of HMP Wymott and east of HMP Garth, currently used as a sheep (*Ovis aries*) farm, stables, bowling club, boiler house, and utility buildings. The part within HMP Wymott is a sports field and disused assault course. The new boiler house will be between the existing prisons. The new bowling club will be on farmland to the south of both prisons. A large area of poor-quality pasture to the south of the prisons forms part of the wider site Biodiversity Net Gain (BNG) package supporting the application.

The surrounding landscape is intensively farmed for a mixture of livestock and arable crops, but there are significant areas of woodland and other land uses. A large area of woodland lies to the southwest of the site, extending around the west and north of HMP Garth. There are major urban areas to the northeast (Leyland and Preston), and a network of minor roads, railway lines, villages, hamlets, and farms in all directions.

The MoJ site and surrounding areas were used as an ammunition storage facility during World War II. Many of the brick buildings and surrounding earth bunkers still exist, and are used as livestock barns today.



## 1.5. Proposed works

An Outline Planning Application (OPA) has been submitted. The proposed development is a hybrid planning application seeking: Outline planning permission (with all matters reserved except for access, parking and landscaping) for a new prison (up to 74,531.71m<sup>2</sup>) within a secure perimeter fence following demolition of existing buildings and structures and together with associated engineering works; Outline planning permission for a replacement boiler house (with all matters reserved except for access); and Full planning permission for a replacement bowling green and club house.

The new prison will occupy an area of 18.40ha on land to the north of HMP Wymott currently occupied by a sheep farm, stables, bowling club, and boiler house. The bowling club will occupy 0.63ha on land to the south of HMP Wymott, on land used as pasture currently. The boiler house will occupy 0.23ha on land between HMP Wymott and HMP Garth, on previously-developed land.

The indicative site layout proposes a range of buildings and facilities typical of a Category C resettlement prison, including: Seven new houseblocks each accommodating up to 245 prisoners (1,715 prisoners in total); Supporting development including kitchen, workshops, kennels, Entrance Resource Hub, Central Services Hub and support buildings; Ancillary development including car parking (c. 525 spaces), internal road layout and perimeter fencing enclosing a secure perimeter area of 10.5ha. The house blocks will be four storeys (plus pitched roof) in height, whilst the other buildings will range from one to three storeys.

The new prison will be designed and built to be highly sustainable and to exceed local and national planning policy requirements in terms of sustainability. The MoJ's aspirations include targeting near-zero carbon operations, 10% BNG, and at least BREEAM 'Excellent' certification, with endeavours to achieving BREEAM 'Outstanding'.

## 2. Methodology

### 2.1. Desk study

A Preliminary Ecological Appraisal (PEA) conducted by Ramboll (Molesworth, 2020) included a Lancashire Environment Record Network (LERN) 2km search. A PEA of additional areas by CGO was undertaken in April 2021 (Gleed-Owen, 2021), including consultation of the Defra MAGIC Map Application (<https://magic.defra.gov.uk/MagicMap.aspx>).

### 2.2. Walkover surveys

CGO and HJA conducted daytime building and tree inspections and site walkovers targeting barn owl evidence in February and March 2021. The Zone of Influence (Zoi) is considered to be the site and a buffer up to 100m wide where significant disturbance through construction activity is occurring. General methodology followed Shawyer (2011), adapted to fit the site and information gathered during PEA and phase 2 surveys. All observations used binoculars without disturbance to barn owls. No internal building inspections occurred during the peak breeding season of April to mid-June.

Incidental data was also gathered during daytime walkover surveys for great crested newt (*Triturus cristatus*, GCN), reptiles, water vole (*Arvicola amphibius*), and Invasive Non-Native Species (INNS) in April, May, June, and July 2021. Significant daytime survey effort targeting reptiles (seven days), GCN (five days), Water vole (two days), and INNS (two days) was thereby applied to barn owl roost and activity detection.

### 2.3. Dusk and dawn surveys

Targeted barn owl dusk surveys were conducted on 21<sup>st</sup> June and 13<sup>th</sup> July 2021 by Chris Glead-Owen, to observe buildings B10, B11, and barn owl foraging patterns in the area. These ran from sunset to 1.5 hours after sunset. The surveyor position was the track junction to the west of B10, with wide views of the farmland and buildings in all directions.

Surveys for other species also served as significant effort for gathering incidental barn owl data across the whole site. Dusk surveys of buildings and trees were conducted for bats from 11<sup>th</sup> May to 10<sup>th</sup> June 2021 (50 surveyor sessions). Evening and early-morning GCN surveys occurred on 16 nights between 16<sup>th</sup> March and 24<sup>th</sup> May 2021. Monthly bat transects were also conducted from March to October 2021.

### 2.4. Limitations

There were no significant constraints on the surveys. The geographical spread of survey effort covered the entire site over many days and nights. The surveys covered a period of six months and three seasons, with no disturbance to barn owls, roosts, or nest sites.

Presence-absence survey of barn owl roosts in the buildings on third-party land to the north of the new prisons site would have been useful, to assist in formulating the mitigation response. However, access was not possible to this land.

## 3. Baseline ecological conditions

Ramboll's PEA (Molesworth, 2020) reported barn owl records from the LERN search within 2km, but did not find any roosts on site. Nevertheless, it concluded that suitable buildings and trees for barn owl roosts were present, and therefore recommended the phase 2 survey.

The CGO and HJA building inspections in February and March 2021 identified two barn owl roosts (B10, B11), including one nest site (B11). No roosts or nest sites were identified in trees or other buildings.

A barn owl nestbox is present on the south inner elevation of barn B11, a WWII bunker that will be demolished to facilitate the proposed relocated pump station area for the new prison. No barn owl was seen on the initial B11 visits, but a few pellets were found. B11 is generally occupied by cattle (*Bos taurus*), therefore any pellets are generally lost among dung and straw. Internal inspection of B10 in March 2021 also flushed a barn owl from the metal roof structure, and pellets and guano were observed on and below the roller door at the east end. Further internal inspections were avoided in B10 and B11.

During dusk and dawn bat surveys in May and June 2021, B11 was confirmed as being occupied by nesting barn owls. A barn owl flew out of B11 on the evening 10<sup>th</sup> May 2021, and a barn owl was seen entering B11 on the dawn of 8<sup>th</sup> June 2021. Three barn owls were seen flying adjacent to B11 at one point on the evening of 8<sup>th</sup> June 2021, presumably including one or two fledglings. Therefore, it can be concluded that the nestbox is successfully used for breeding, and that B11 contains a current roost and nest site.

A barn owl was seen hunting over the fields around B10 and B11 on 19<sup>th</sup> April and 19<sup>th</sup> May 2021. On 10<sup>th</sup> May 2021, a barn owl was seen flying through the belt of land between the prisons. No additional records were gained from GCN surveys of ponds and ditches, including the extensive open fields to the south of the site (proposed BNG enhancement area).

On the targeted dusk surveys of 21<sup>st</sup> June and 13<sup>th</sup> July 2021, a barn owl was seen emerging from, and re-entering, B11 many times. On 13<sup>th</sup> July, the barn owl repeatedly foraged around a barn on third-party land at SD 5043 2103, to the north of the proposed prison site. Between



B11 and the foraging site, the owl repeatedly flew over MoJ land north and northwest of B11, but also occasionally westward over the stables area before veering north to forage off-site.

It is likely that the owls spend some time foraging over the fields and hedgerows on MoJ land, but the third-party land to the north is clearly of importance. This third-party land also contains several WWII barns which could have roost potential.

Barn owls prefer a longer-sward grassland with a well-developed litter layer than supports a larger population of small mammals such as field vole. Such habitats are sparse within the MoJ land, and only exist in narrow belts along hedgerows and track edges. Most of the land is short-sward grassland, intensively grazed by sheep, cattle, and horses (*Equus caballus*). The farmland to the north and east of the proposed prison appears to be similar in character, but it is less intensively grazed. The current management regime of the site reduces its carrying capacity for barn owl. With a longer sward, it would support more small mammals and barn owls.

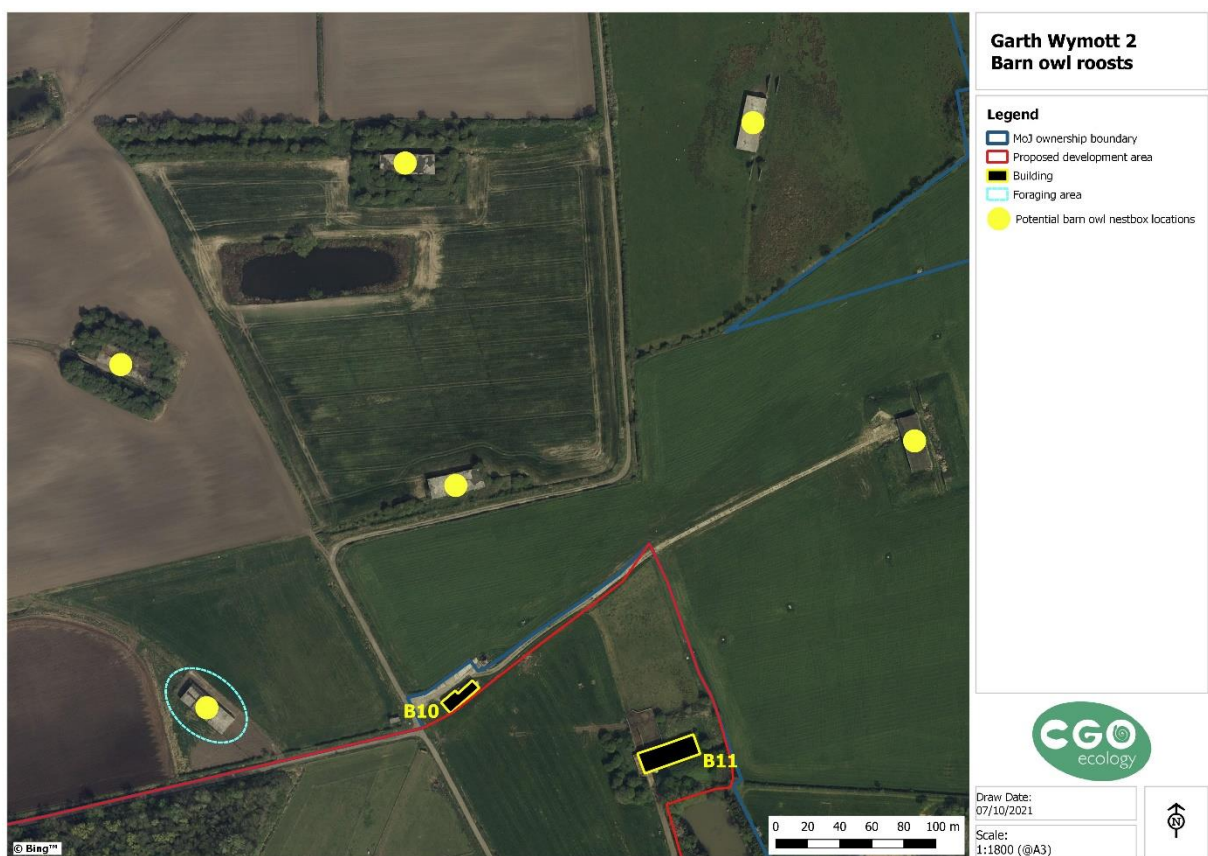


Figure 3 – Barn owl nest site (B11) and roost (B10). Foraging occurs around the off-site building to the west of B10. This and other buildings on third-party land have not been surveyed, but could be used for artificial nestbox(es).

#### 4. Impact assessment

A barn owl nest site and roost in building B11 will be lost to the development, and must be fully compensated by licensed mitigation. A second roost in B10 just outside the development will not be impacted.

A large area of short-grazed grassland will be lost to the new prison, but it appears to be of limited value to barn owls, as it is intensively grazed by livestock, and operated as a farmyard with stables. Most barn owl foraging occurs in third-party land to the north of the MoJ estate. Land adjacent to B10 and B11 will be planted as woodland for Biodiversity Net Gain (BNG), which will cause loss of some additional barn owl foraging habitat. A net gain in grassland will

be achieved elsewhere in the wider site BNG area to the south of the prisons. Overall, the loss of foraging habitat to the development and BNG is at an acceptable level which can be mitigated.

## **5. Mitigation**

At least one alternative artificial nestbox/roost must be provided in a suitable building on third-party land to the north of the new prison. The existing B11 nestbox/roost must be removed outside the March-August breeding period, following a check on current activity status by a CL29-licensed ecologist. If in sufficiently-good condition, the same nestbox could be relocated elsewhere, as the inhabitants will be familiar with it. Installation in B10 is proposed.

In addition, a new nestbox is proposed, to be erected in an existing building on third-party (off-site) land to the north of B10. This must be installed at least 30 days prior to removal of the existing one from B11, so that there is always one nestbox known to the resident owls, and an alternative undisturbed nestbox is immediately available when the existing one is moved. The third-party location and permission must be secured by planning condition for a long-term commitment in the order of 30 years, following the barn owl mitigation strategy outlined here.

The barn owls occupying B11 will be displaced to an alternative nesting/roosting site which they already use, or to a new box in a building on land that they are familiar with, as they use it for foraging.

The foraging habitat lost to the new prison development will be a minor part of the available habitat in the immediate area. There is much more extensive foraging habitat to the northwest, north, and northeast. The MoJ land is more disturbed and subject to lighting, noise, and intensive grazing.

Demolition and tree removal will avoid the March-August nesting season where possible, but if works are unavoidable during this period, a barn owl roost/nest check must take place immediately before demolition or felling occurs. As construction activity levels are likely to be high, any active nest must be safeguarded with a minimum 30m stand-off until any chicks have fledged.

Other mitigation measures will include a sensitive lighting plan, with directional lighting around the fringes of the development areas, and no new nocturnal lighting to be allowed where it will affect barn owl foraging habitat on site or off-site.

## **6. Residual effects, enhancements**

The embedded mitigation will seek to fully mitigate and compensate the development impacts associated with construction and operation. The loss of B11 and some foraging habitat will occur during construction and be compensated by alternative nestbox provision. No further impacts are anticipated during operation.

As an enhancement, an additional barn owl nestbox will be provided in a suitable building or tree within the wider site BNG area to the south of the new bowling club, to provide additional roosting and nesting opportunities for barn owls. The existing WWII brick-built barn B21, currently occupied by pigs (*Sus domesticus*), at SD 5030 2005 will be a suitable location.

The BNG grassland restoration in the surrounding area will greatly increase its carrying capacity for small mammals, and will allow extension of barn owl territory.

## 7. References

- CIEEM (2017) *Guidelines for Ecological Report Writing*. Chartered Institute of Ecology and Environmental Management, Winchester.
- CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1 (Sept 2019)*. Chartered Institute of Ecology and Environmental Management, Winchester.
- Gleed-Owen, C. (2021) *Preliminary Ecological Appraisal of additional areas at Albatross & Razorbill (HMPs Garth & Wymott, Leyland, Lancashire, for Ministry of Justice New Prisons Programme)*. CGO Ecology Ltd, Christchurch.
- LERN (2020) *Standard 2km data search for HMPs Garth and Wymott*. Lancashire Environment Record Network, Preston.
- Molesworth, J. (2020) *Albatross & Razorbill. Preliminary Ecological Appraisal*. Ramboll, Exeter.
- Shawyer, C. (2011) *Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment Developing Best Practice in Survey and Reporting*. Wildlife Conservation Partnership, Wheathampstead.