

Rossmore Mausoleum, Rossmore Forest Park, Monaghan, Co. Monaghan

Bat and Ecological Surveys



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FINAL REPORT



Faith Wilson

ECOLOGICAL CONSULTANT

**FAITH WILSON ECOLOGICAL CONSULTANT BSC (HONS) CENV MCIEEM
KESTREL RIDGE, TIGRONEY WEST, AVOCA, CO. WICKLOW**

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Bat and Ecological Surveys

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Rossmore Mausoleum, Rossmore Forest Park, Monaghan, Co. Monaghan

Bat and Ecological Surveys

1. INTRODUCTION

Faith Wilson (licensed bat specialist) was initially commissioned in 2021 by Carrig Conservation International on behalf of the Heritage Office of Monaghan County Council to undertake an ecological survey of Rossmore Mausoleum, Rossmore Forest Park, Monaghan, Co. Monaghan as part of a conservation management plan for the mausoleum. The primary focus of the study was for bats and birds using the structure.



Plate 1. Rossmore Mausoleum.

This report details the findings of an ecological survey of the mausoleum and recommends mitigation measures to ensure that protected species such as bats and birds are not negatively impacted during any proposed building conservation works. The Heritage Officer applied for a bat derogation licence from NPWS for the works. This was approved in 2022 (DER/BAT 2022-113) and expired on 28th February 2023. Conservation works to the mausoleum were completed in 2022/2023 but were not supervised by the bat specialist. A number of building works remain extant for which a new bat derogation licence is required. In light of same the building was visited on 6th December 2023 when bats were in hibernation and then resurveyed during the active bat season in August 2024 to update information on the bat fauna roosting within the mausoleum.

2. METHODOLOGY

2.1 General Methods

Consultation

Bat Conservation Ireland and the National Parks and Wildlife Service were consulted regarding records of bat activity in the area.

Visual Inspection

A visual inspection of the buildings within the site was undertaken on the 30th August 2021, 6th December 2023 and 14th August 2024 during daylight hours.

Detector Surveys

A bat detector survey was carried out at dusk on the 30th August 2021 using several types of bat detectors - two *Batbox Duet* Heterodyne/Frequency Division detectors, a Pettersson D100 Heterodyne detector, an SM2 mini bat detector and an Echometer Touch 2 Pro. The survey focused on potential emergence of bats from the mausoleum and a walk over survey of the site and surrounding area was also conducted.

A further bat activity survey at dusk was completed on the 14th August 2024 to provide an up to date record of how bats are using the structure post the works.

2.2 Legislation Relating To Bats

2.2.1 *Wildlife Act 1976*

In the Republic, under Schedule 5 of the Wildlife Act 1976, all bats and their roosts are protected by law. It is unlawful to disturb either without the appropriate licence. The Act was amended in 2000.

2.2.2 *EU Habitat and Species Directive*

The EU Directive on the Conservation of Natural habitats and of Wild Fauna and Flora (Habitats Directive 1992), seeks to protect rare species and their habitats, including all species of bats recorded in Ireland.

2.2.3 *Bern and Bonn Convention*

Ireland has also ratified two international conventions, which afford protection to bats amongst other fauna. These are known as the 'Bern' and 'Bonn' Conventions.

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982), exists to conserve all species and their habitats, including bats. The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, enacted 1983) was instigated to protect migrant species across all European boundaries, which covers certain species of bat.

3. RESULTS

3.1 General Description of the Rossmore Mausoleum Building

The Rossmore Mausoleum is located within the Rossmore Forest Park, which is approximately three kilometres south west of Monaghan town in Co. Monaghan as shown on **Figure 1** below. The Rossmore Forest Park is owned and managed by Coillte, who report that:

‘The lands were formerly part of the barony of Rossmore. A castle was constructed in 1827 with various extensions being added over the years. The site of the castle can still be seen in the park. As with many estates of the time, Rossmore fell into decline during the mid-20th century and the estate was subsequently divided among the local farmers with the Irish Forestry Division acquiring the forested areas. Rossmore Castle was demolished in 1974’.

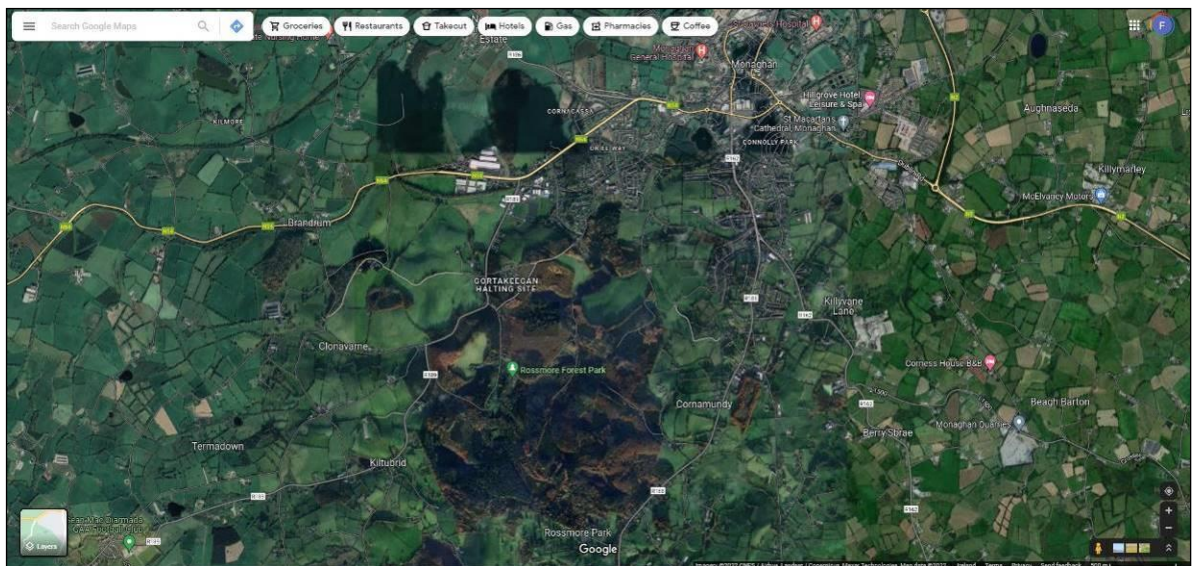


Figure 1. Rossmore Forest Park is located south west of Monaghan Town (Source: Google Maps).

The National Inventory of Architectural Heritage describes the Rossmore Mausoleum as follows:

‘The Rossmore Mausoleum was designed by E.J. Tarver by commission of the fifth Baron Rossmore. It commemorates the death of the fourth baron who died after a hunting accident at Windsor Castle in 1874, aged 23. Built on a rocky outcrop over a small river and waterfall, the picturesque mausoleum fell into disrepair and was victim to theft and graffiti in the late twentieth century. It is currently being painstakingly conserved by the voluntary Rossmore Mausoleum Conservation Group. The mausoleum may have replaced an earlier family mausoleum elsewhere on the estate, and is an integral element of this unique demesne landscape. Intact demesne features at Rossmore Park include gates, gate lodges, walled gardens, waterworks, and steps to the foundations of the former Rossmore Castle. This idiosyncratic building exhibits many interesting features of architectural and artistic value, in particular the cast-iron screens to the interior

and the remains of the stained glass windows designed in 1874 by Heaton, Butler and Bayne, an English stained-glass firm. The terracotta tiled roof, skirt hip and usual projecting apex to gable are iconic of the Germanic-medieval style of the Arts and Crafts movement, while the domed cap to the tower references more classical architectural leanings’.



Plate 2. Rossmore Mausoleum.

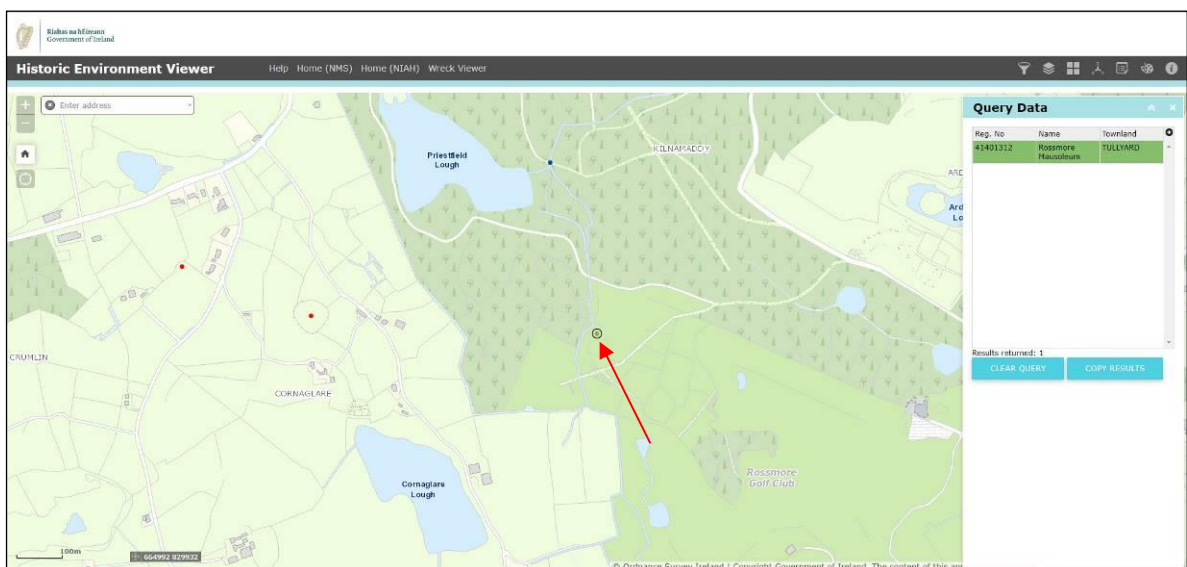


Figure 2. Rossmore Mausoleum within Rossmore Forest Park (Source: https://maps.archaeology.ie/historicenvironment/?REG_NO=41401312).

3.2 Desktop Research

The Rossmore Mausoleum and Rossmore Woods have not been the subject of any previous dedicated bat surveys, but a bat walk conducted in the northern part of the woods in 2006 by Bat Conservation Ireland recorded Leisler's bat, Daubenton's bat and Soprano pipistrelle bats.

Indeed there are very few records of bats from the environs of Monaghan town within the Bat Conservation Ireland database. Four species have been recorded from the town including common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Daubenton's bat (*Myotis daubentonii*) and Leisler's bat (*Nyctalus leisleri*).

Other species recorded from within the 10km square in which the Rossmore Mausoleum is situated (H63), include:

- Soprano pipistrelle
- Common pipistrelle
- Daubenton's bat
- Leisler's bat
- Natterer's bat (*Myotis nattereri*)
- Brown long-eared bat (*Plecotus auritus*), and
- an unidentified *Myotis* sp.

Many of these records relate to surveys conducted along the River Blackwater.

The nature of the building and the setting of the Rossmore Mausoleum, surrounded by woodland and adjoining a river and waterfall would be very favourable to bats.

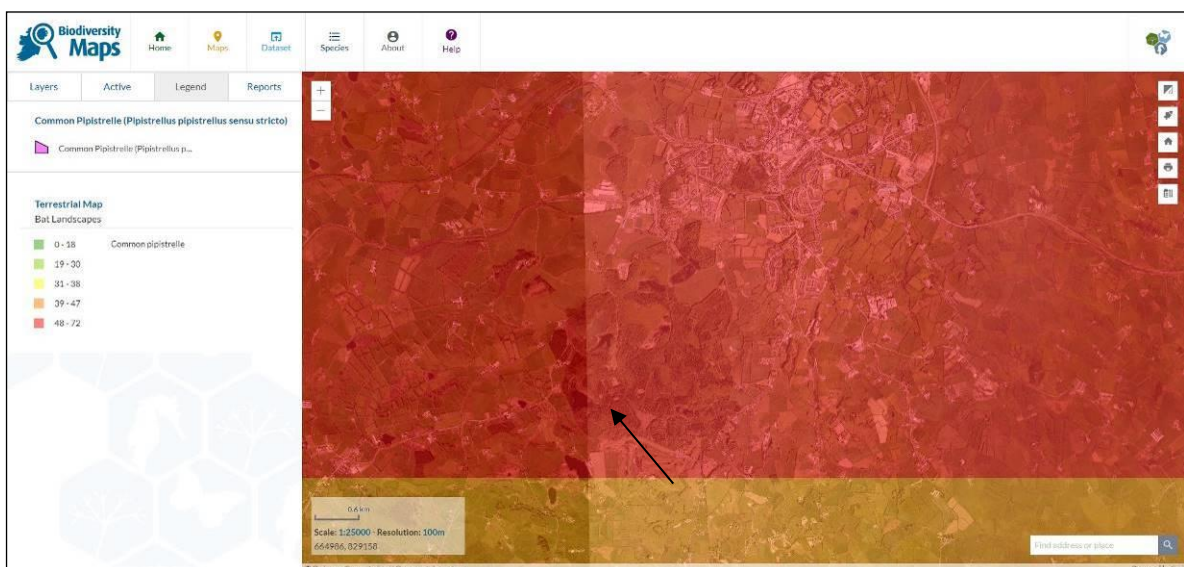


Figure 3. Habitat suitability mapping for Common pipistrelle bat in the vicinity of Monaghan Town (Source: NBDC). The approximate location of the mausoleum is shown by the black arrow.

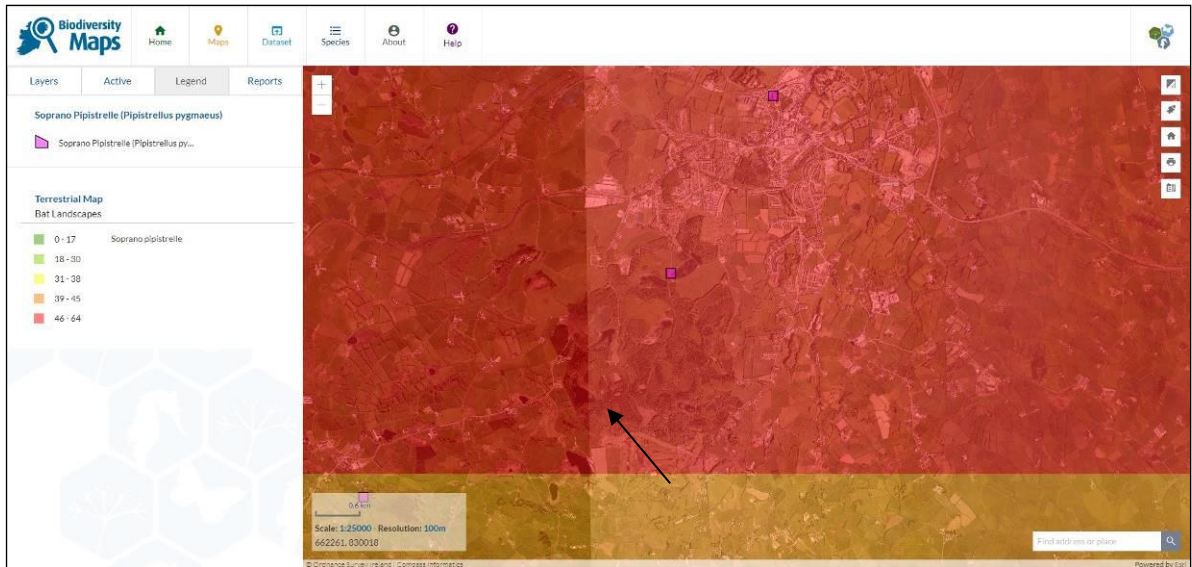


Figure 4. Records of Soprano pipistrelle bat (purple squares) and habitat suitability mapping for the species in the vicinity of Monaghan Town (Source: NBDC). The approximate location of the mausoleum is shown by the black arrow.

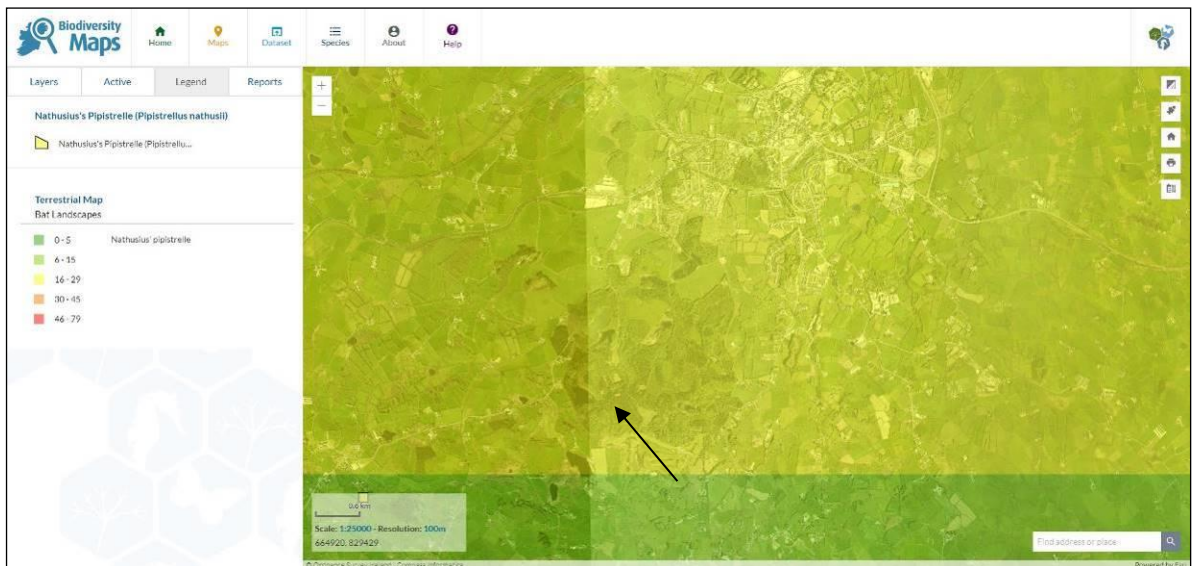


Figure 5. Habitat suitability mapping for Nathusius pipistrelle bat in the vicinity of Monaghan Town (Source: NBDC). The approximate location of the mausoleum is shown by the black arrow.

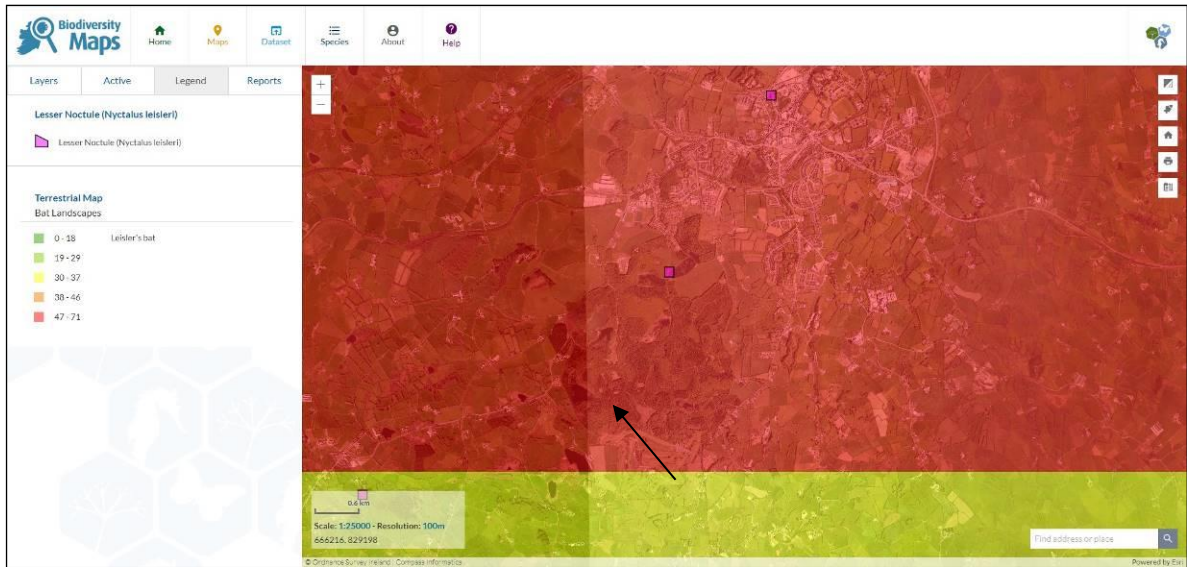


Figure 6. Records of Leisler’s bat (purple squares) and habitat suitability mapping for the species in the vicinity of Monaghan Town (Source: NBDC). The approximate location of the mausoleum is shown by the black arrow.

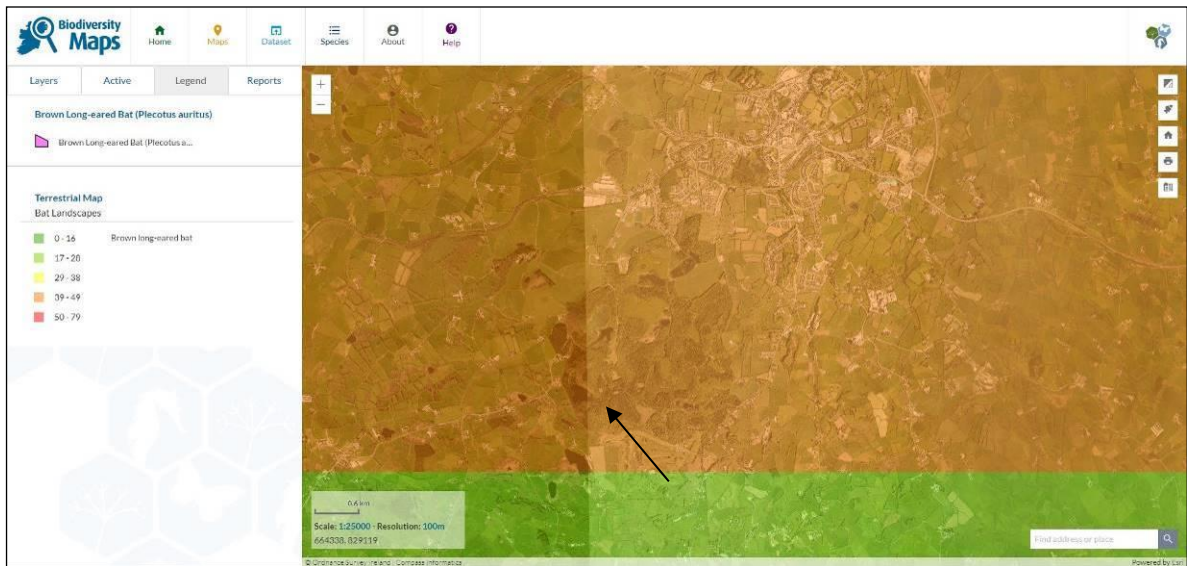


Figure 7. Habitat suitability mapping for Brown long-eared bat in the vicinity of Monaghan Town (Source: NBDC). The approximate location of the mausoleum is shown by the black arrow.

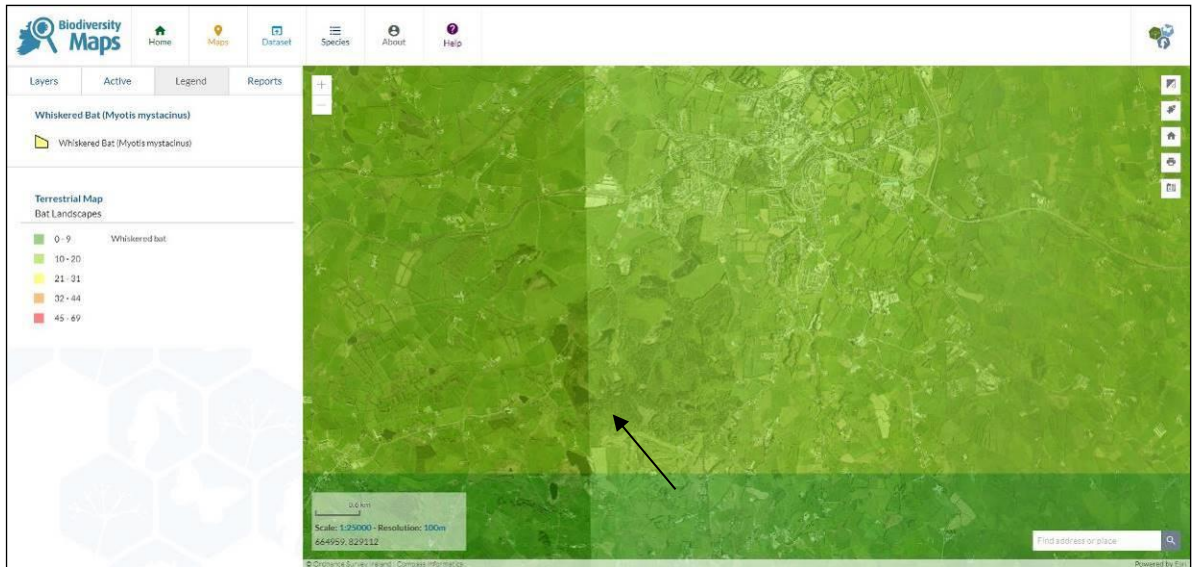


Figure 8. Habitat suitability mapping for Whiskered bat in the vicinity of Monaghan Town (Source: NBDC). The approximate location of the mausoleum is shown by the black arrow.

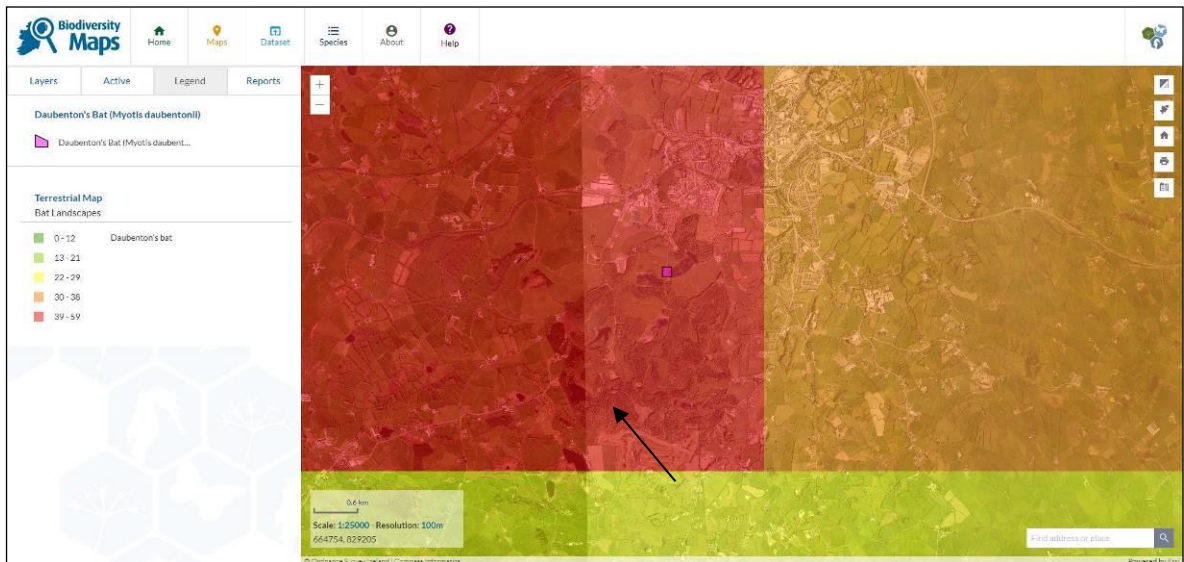


Figure 9. Records of Daubenton's bat (purple square) and habitat suitability mapping for the species in the vicinity of Monaghan Town (Source: NBDC). The approximate location of the mausoleum is shown by the black arrow.

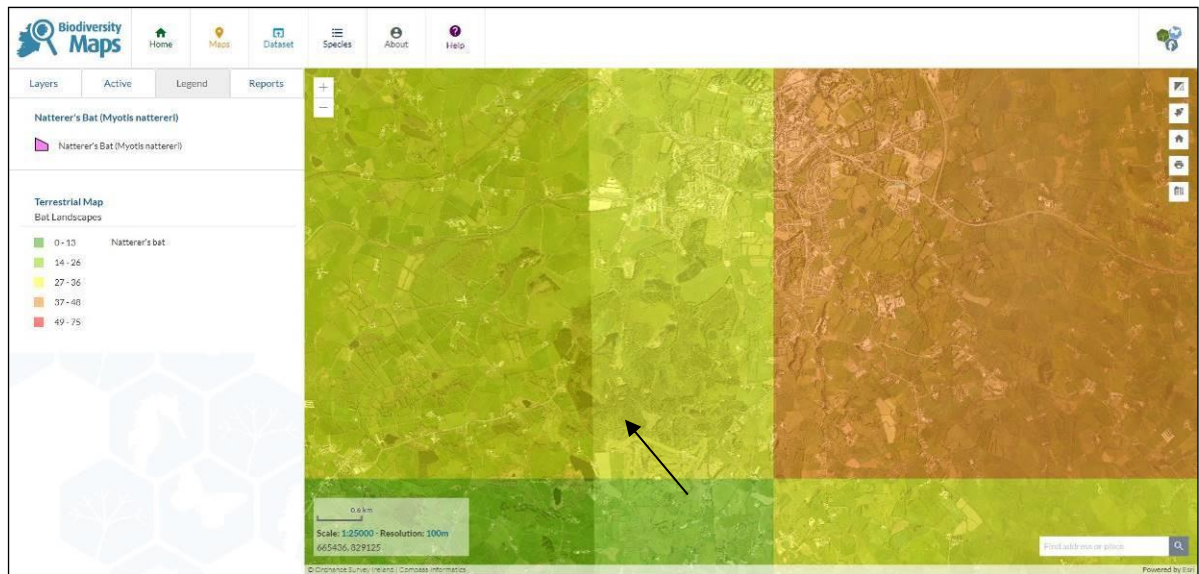


Figure 10. Habitat suitability mapping for Natterer’s bat in the vicinity of Monaghan Town (Source: NBDC). The approximate location of the mausoleum is shown by the black arrow.

3.3 Survey Results - 2021

3.3.1 Visual Inspection - 2021

The visual inspection of the mausoleum completed in 2021 recorded evidence of bats using the building at various locations for roosting purposes.

Bat droppings were scattered throughout the building with large accumulations below the tower cupola and in each of the side aisles. Bat droppings were also noted on the front door of the building and there are numerous access points including the open nature of the door timber frame and the louvered vents, which bats may avail of to access the building. There are also a number of loose tiles on the roof which would allow bats to access the building and to roost beneath them.

Within the buildings a minimum of twelve Brown long-eared bats were recorded roosting behind the tongue and groove sheeting on the ceiling and there are crevices in the brickwork in these areas which would be suitable for roosting bats to utilise.

From ground level there is what appears to be a large crack in the tower cupola, which would offer roosting potential for species such as Daubenton’s bat and a potential hibernation site in the winter months for several species.



Plate 3. Accumulations of droppings on the floor of the Mausoleum.

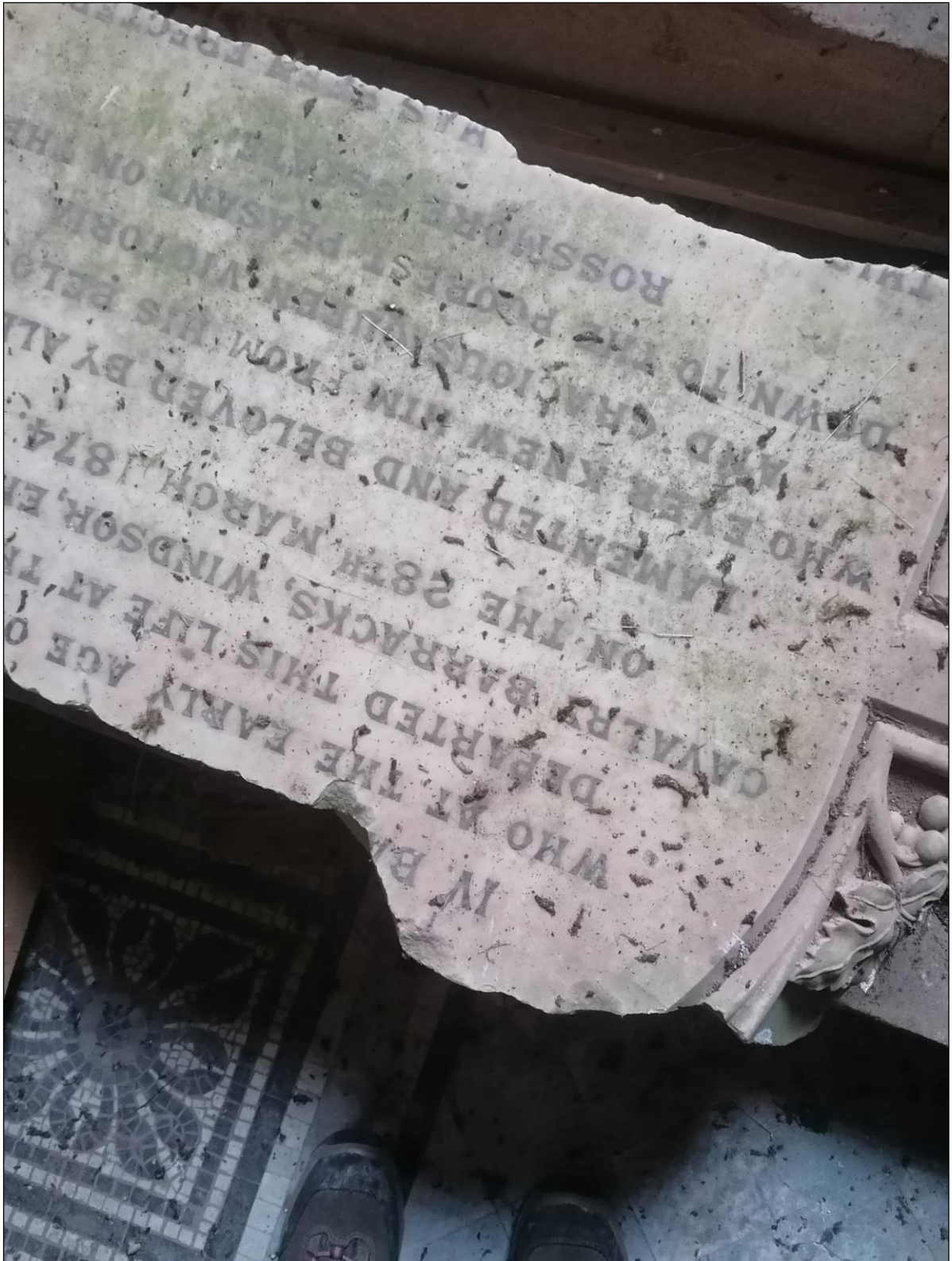


Plate 4. Bat droppings on stonework within the building.



Plate 5. Old clay roof tiles within the building with bat droppings.



Plate 6. Bat droppings on the door.



Plate 7. Suitable roosting crevices in brickwork in the side aisles for crevice dwelling bats which should be retained.



Plate 8. Roosting area within the cupola.



Plate 9. Fascia and other timber features offering roosting for species such as Pipistrelle bats. The open framework of the door allows both swallows and bats to access the building.



Plate 10. Bat droppings were noted on the door and step below the entrance.



Plate 11. Slipped/missing clay tiles offer roosting potential for bats and access to the building.



Plate 12. Gaps below clay tiles and louvered windows offer roosting potential for bats and access to the building.

3.3.2 Detector Survey - 2021

The survey confirmed an extremely rich diversity of bat species utilising the Rossmore Mausoleum building with a minimum of seven species of bats recorded in the vicinity of the building. These included:

- A Brown long eared maternity roost
- Common pipistrelle
- Soprano pipistrelle
- Leisler's bat
- Natterer's bat
- A Probable Daubenton's bat
- A Possible Whiskered bat

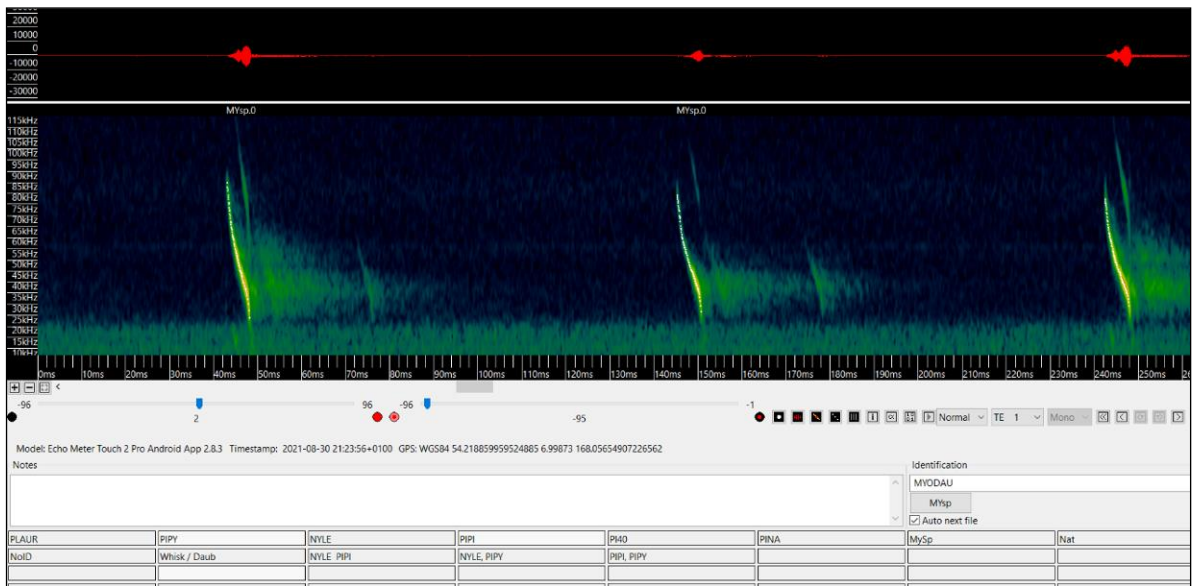


Figure 11. Probable Daubenton's Bat sonogram.

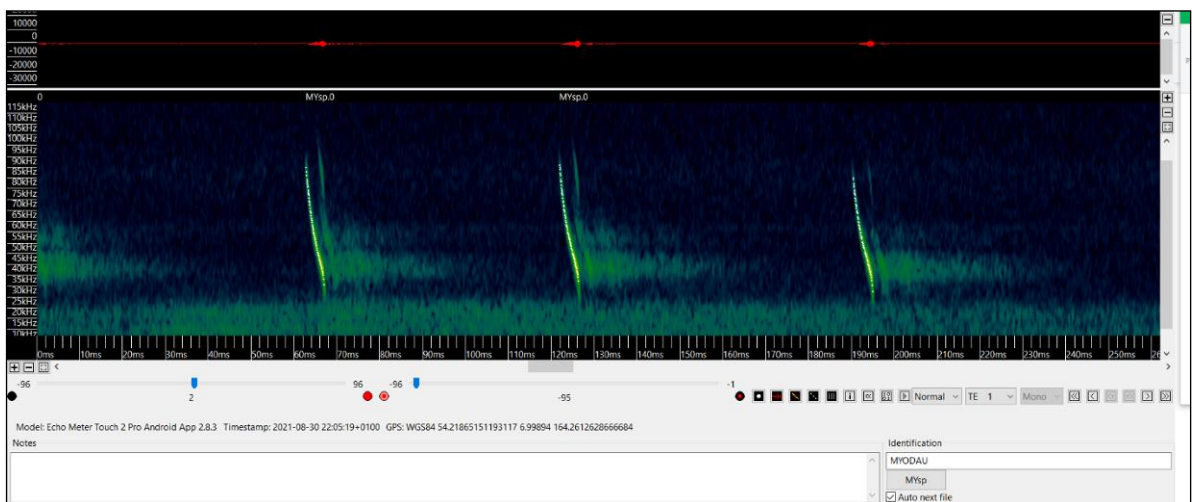


Figure 12. Daubenton's or Whiskered Bat sonogram.

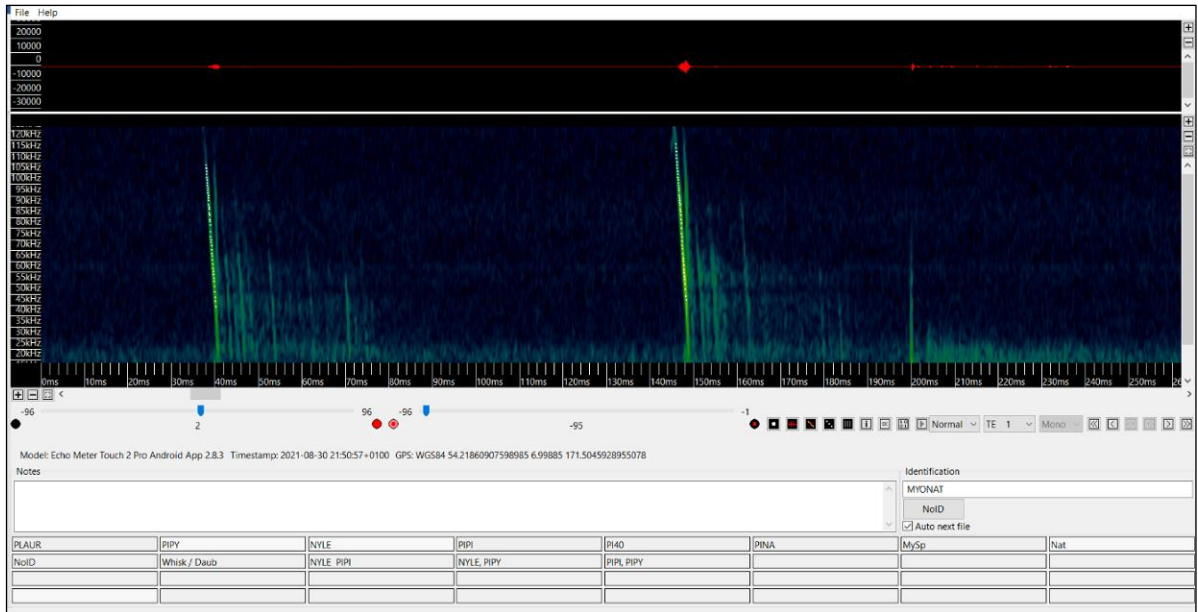


Figure 13. Natterer's Bat sonogram.

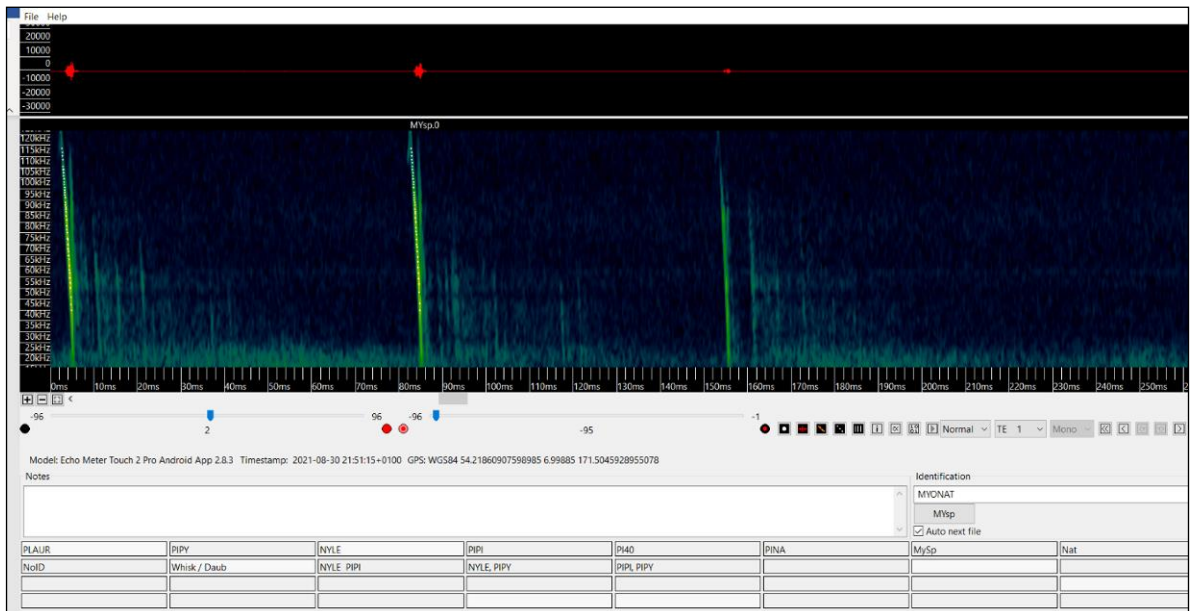


Figure 14. Natterer's Bat sonogram.

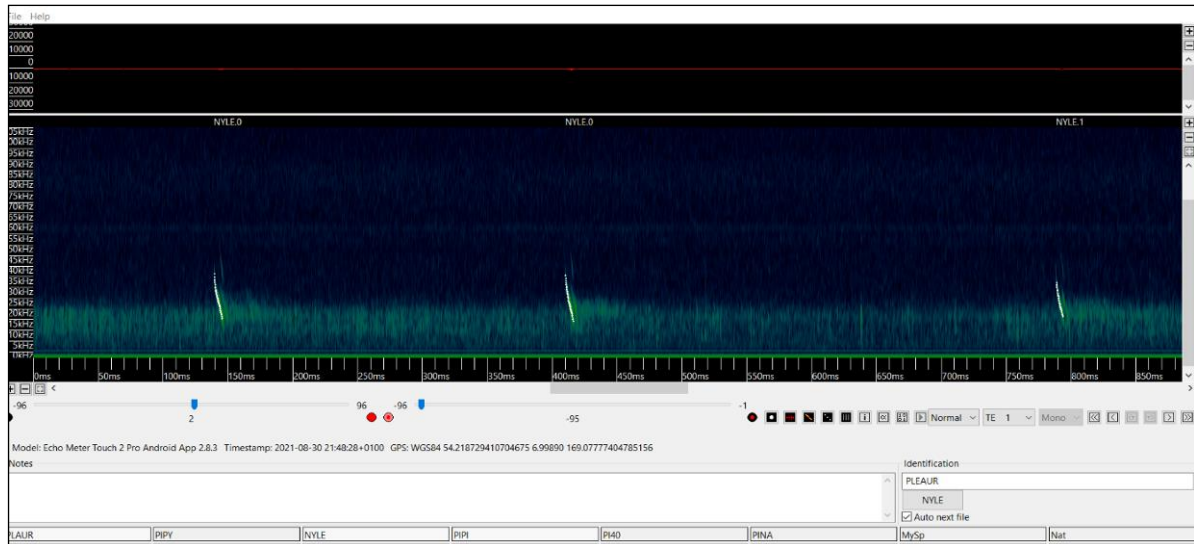


Figure 15. Brown long eared bat sonogram.

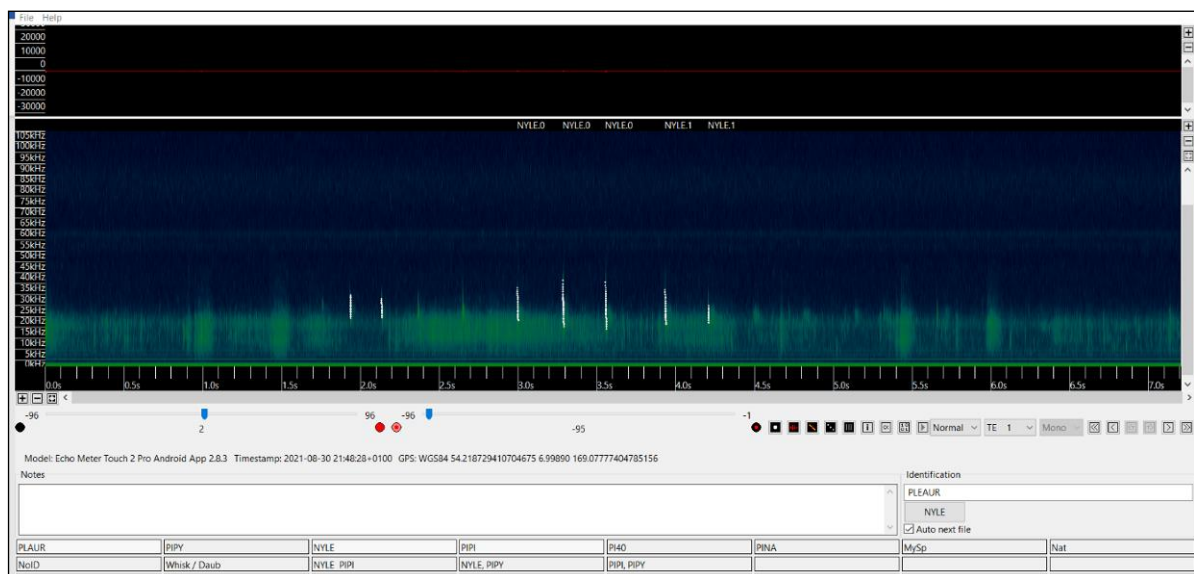


Figure 16. Brown long eared bat sonogram.

3.3.3 Breeding Birds - 2021

Swallows (*Hirundo rustica*) are using the building for nesting in and two active nests were recorded.

3.3.4 Botanical Survey - 2021

There are large numbers of invasive species within the woodland requiring control and eradication. It is recommended that an invasive species management plan is drawn up for the property and implemented. A multi-annual approach to the treatment of invasives will be required.

3.3.5 Survey Constraints - 2021

There were no survey constraints encountered during the site visit. Weather throughout the survey was warm with temperatures of 12° to 14° and it was a calm dry evening. The breeding season for birds was almost complete.

3.4 Survey Results - 2023

3.4.1 Visual Inspection - 2023

The visual inspection of the mausoleum and the completed conservation works took place on 6th December 2023. Faith Wilson was accompanied by Shane Nolan (the conservation contractor) and Niall Malone (Monaghan County Council). The works completed to date include:

- Localised patch repairs of broken terracotta roof tiles
- The installation of new powder-coated aluminium rainwater goods
- Repair works to the timber fascia at the eaves
- Repair works to the timber barge-boards and bellcote
- The installation of black-coloured powder coated grilles to the north window
- Works to the interior brickwork including repointing
- Reinstallation of interior tongue-and-groove panelling once the building has dried out

As was previously noted in 2021 there was evidence of bats using the building at various locations for roosting purposes – in the form of bat droppings and feeding signs.

The conservation works that remain to be completed in 2024 are as follows:

Item 12: Door Lock

Provision of a lock for the door to the mausoleum.

Item 13: Entrance Steps

Fit in 2 # stone grafts to broken step.

Item 15: Floor Tiles

Remove sample mosaic tiles from the floor of the Mausoleum and manufacture replacement tiles.

Item 1: Narrow windows

Provide and install two narrow windows either side of main door.



Plate 13. Rossmore Mausoleum in December 2023 – note repaired clay tiles on the roof.



Plate 14. The window beside the door (left hand side) was temporarily closed off but continues to provide access for bats to the mausoleum. It is recommended that a wooden louvre window is installed here.



Plate 15. The window beside the door (right hand side) was also temporarily closed off but no longer provides access for bats to the mausoleum. It is recommended that a wooden louvre window is installed here.



Plate 16. There was evidence of brown long eared bats feeding within the mausoleum – small tortoiseshell butterfly wings.



Plate 17. Fresh bat droppings within the mausoleum.



Plate 18. Bat roost location in the tower cupola.



Plate 19. Newly installed tg&v sheeting in the aisles of mausoleum.



Plate 20. Original tg&v sheeting in main roof of mausoleum.

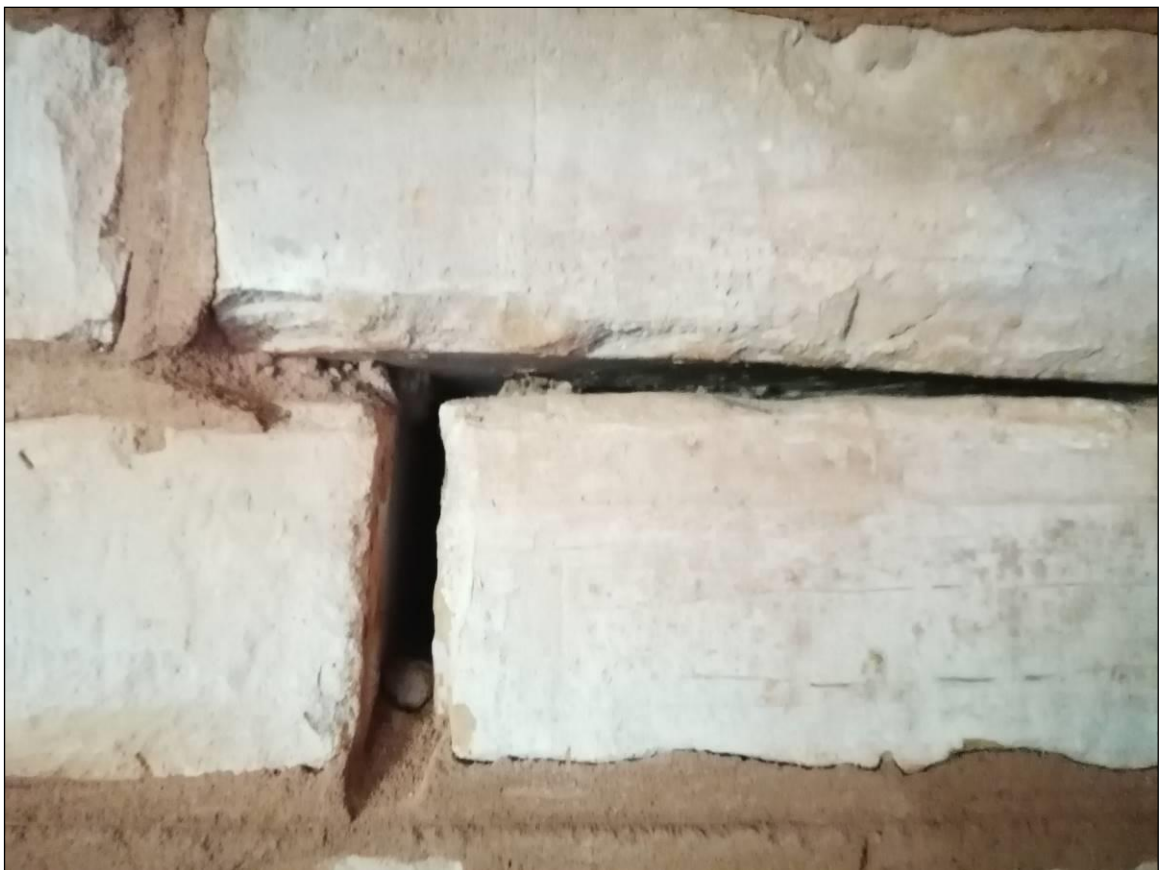


Plate 21. Crevices between the brick work - these are to be left un-pointed.



Plate 22. Potential hibernation location in the brick work – to be retained.



Plate 23. It is recommended that a small 18mm gap is created behind a new fascia board on the bell cote over the entrance to afford a roosting location for bats.



Plate 24. A lock is to be provided on the door, which is currently locked with a chain and padlock.

3.5 Survey Results - 2024

3.5.1 Visual Inspection - 2024

The visual inspection of the mausoleum took place on the 14th August 2024. This inspection recorded evidence of bats continuing to use the building at various locations for roosting purposes. As previously noted bat droppings were recorded throughout the mausoleum with a large cluster of droppings below the tower cupola. A single dead Leisler's bat was also recorded. Brown long-eared bats were visible roosting within the structure.



Plate 25. Dead bat in the mausoleum.



Plate 26. Feeding signs of brown long eared bat.



Plate 27. Bat droppings scattered on the floor.



Plate 28. Emerging brown long-eared bats.

3.5.2 Detector Survey - 2024

The survey confirmed the Rossmore Mausoleum building continues to support a Brown long eared maternity roost and other bat species were regularly encountered in the woodlands. The most common of these were Common and Soprano pipistrelle bats, Leisler's bat and a possible Nathusius pipistrelle.

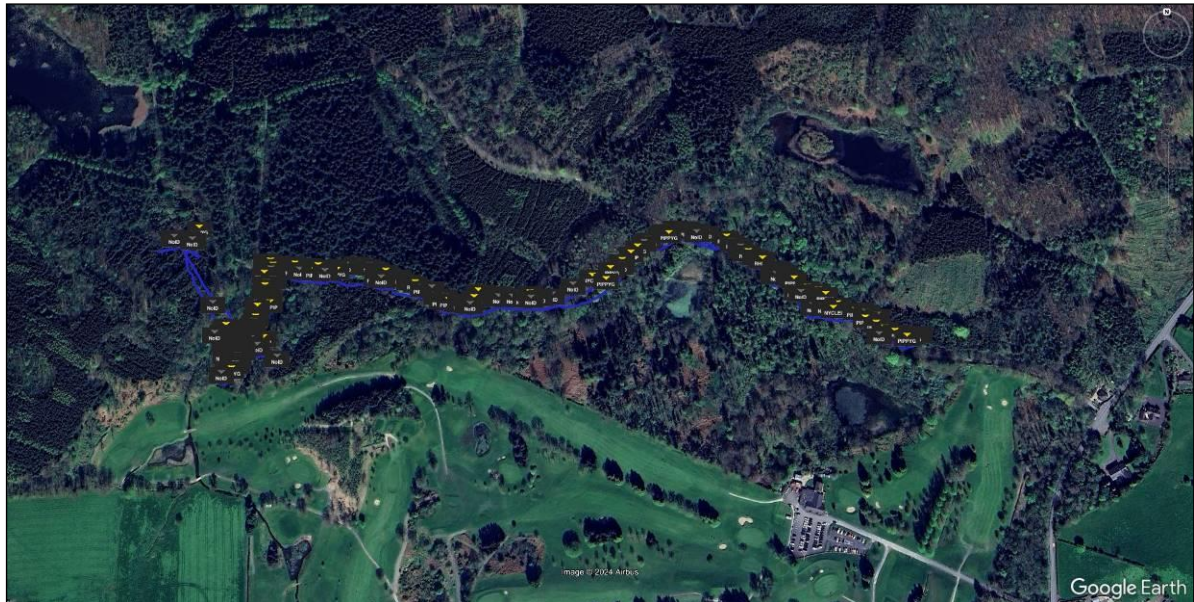


Figure XX. Bat activity within Rossmore Woods and in the vicinity of the mausoleum.

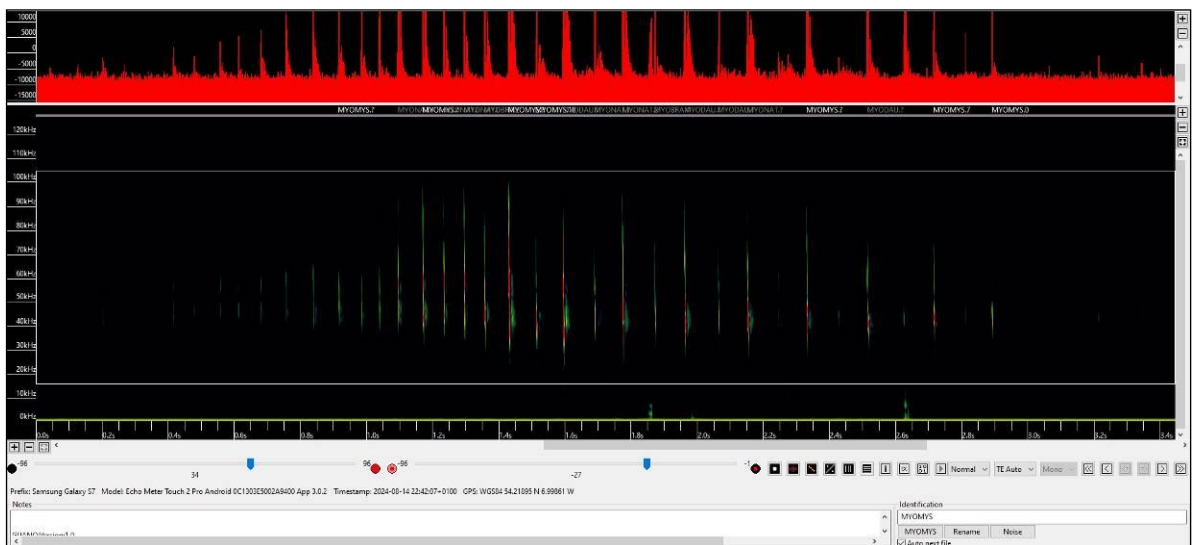


Figure XX. Sonogram of *Myotis* bat outside the mausoleum.

4. DESCRIPTION OF LIKELY SIGNIFICANT IMPACTS

4.1 Building Conservation Works

A conservation plan for the Rossmore Mausoleum was prepared by Carrig Conservation International (2021). The report recommended a series of conservation works, which were to be carried out on a phased basis with the most urgent being undertaken immediately.

The recommended conservation works to the Rossmore Mausoleum, which had potential implications for bats included:

- Localised patch repairs of broken terracotta tiles
- The installation of new powder-coated aluminium rainwater goods
- Repair works to the timber fascia at the eaves
- Repair works to the timber barge-boards and bellcote
- The installation of black-coloured powder coated grilles to the north window
- Works to the interior brickwork including repointing
- Reinstallation of interior tongue-and-groove panelling once the building has dried out

As noted above in **Section 3.4** some of these works are now completed. These were completed under the bat derogation licence previously issued by NPWS to Shirley Clerkin the Heritage Officer in Monaghan County Council.

4.2 Potential Impacts of the Remaining Conservation Works on Bats

Given that bats are currently roosting in this building a new bat derogation licence from National Parks and Wildlife Service will be required for the remaining works. The building hosts a number of confirmed and potential roosting locations as indicated on the photographic inventory above. Some of the outstanding conservation works could disturb bats or could result in their exclusion from the roost if the presence of bats is not considered.

4.3 Potential Impacts of the Conservation Works on Birds

Several Swallow nests were recorded within the structure during both the 2021 and 2024 surveys. All birds, nests, eggs and nestlings are fully protected under law (Wildlife Act 1976 (Amended 2000)). Wilful destruction of an active nest (from the building stage until the chicks have fledged) is an offence, unless the building is occupied (in which case, the nest is only protected when there are eggs or chicks present). If work is being undertaken on a building, and an active nest is found, this constitutes notice that the nest is present. Any further work that results in the destruction of the nest is therefore an offence (BirdWatch Ireland (2008)). It is recommended that breeding birds continue to have access to the building for both breeding and roosting purposes and that a portion of the main door is not grilled.

Any internal works should be completed outside the bird breeding season (March to August inclusive) to prevent disturbance to breeding birds.

5. MITIGATION MEASURES

5.1 Consideration of Alternatives – Bat Derogation Licence

The building conservation works are required for the preservation of the Rossmore Mausoleum, which is a listed monument protected under the National Monuments Act.

The works are necessary for the conservation of the structure.

The bat survey and mitigation measures outlined below demonstrate that bats were considered as part of the works completed under the previous bat derogation licence (DER/BAT 2022-113), that they can and have been protected during the works to date, and that their roosting spaces were successfully conserved and the overall integrity of the building enhanced and conserved.

The alternative would be for the remaining building works to not proceed and the condition of the building would then deteriorate if not adequately ventilated which would not serve the purpose of either the bats or the monument.

A new bat derogation licence is therefore required for the works as the previously issued licence (DER/BAT 2022-113 - see Appendix 1) has expired. In line with legal requirements and best practice the works should not proceed in the absence of a bat derogation licence.

5.2 Bat Derogation Licence

Given the presence of seven species of bats roosting within and utilising the mausoleum and environs **a new bat derogation licence from National Parks and Wildlife Service will be required for any remaining conservation works to this building.** The previously issued licence (DER/BAT 2022-113 - see Appendix 1) has expired.

5.3 Proposed Mitigation Measures for Bats

A number of specific measures are required for bats for the remaining works to the Rossmore Mausoleum.

These follow best practice guidelines to minimise any disturbance to bats roosting within the site and ensure that they remain in the area. The previous works completed under

Measure 1: Windows

It is recommended that a wooden louvre window is installed on either side of the door to continue to provide access for bats to the mausoleum. This will also assist with ventilating the building.

Measure 2: Mausoleum Door

Bats and swallows currently use the open timber framework of the door to enter and exit the building and this access should be retained.

Measure 3: Bell Cote

It is recommended that a small 18mm gap is created behind a new fascia board on the bell cote over the entrance to afford a roosting location for bats.

Measure 4: Bat Guano

Bat guano was noted in the conservation report – it this is a concern for the tiles in the mausoleum it is recommended that a floor covering is placed below where the bats are roosting in the cupola.

Measure 5: Cuopla

The roosting site in the cupola should be retained and not repointed.

Measure 6: Building and Site Illumination

Lighting should not be used within the site as it deters many bat species from foraging and disturbs wildlife.

Measure 7: Timing of Works

It is recommended that the remaining works are scheduled for the autumn months as this is when the maternity roosts are disbanding and before bats begin to hibernate but some works may be possible outside this window – please seek advice from a bat specialist and NPWS before works are scheduled.

Measure 8: Bat Specialist

Once a bat derogation licence is granted and a contractor is appointed for the works that a meeting must be held on site with a bat specialist to ensure that the mitigation measures are clearly understood and once the works are finished they are signed off by a bat specialist.

Health and Safety Issues:

Workers on the mausoleum should be informed that bats are a protected species under both Irish and European legislation. Ideally bats should only be handled by a licensed bat specialist. If a grounded bat is encountered (typically a young bat) it should only be handled wearing gloves and lifted up in a piece of cloth (such as a tea towel) before being returned to the roost. As with all wild animals, bats can carry diseases, and hence protective measures to ensure that one is not bitten by a bat should be taken.

5.4 Proposed Mitigation Measures for Breeding Birds

Any internal works to the buildings should be conducted outside the bird breeding season (March – August inclusive) to allow the Swallows to breed without disturbance.

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APPENDIX 1. EXPIRED BAT DEROGATION LICENCE



An Roinn Tithíochta,
Rialtas Áitiúil agus Oidhreacht
Department of Housing,
Local Government and Heritage

Licence No.: DER/BAT 2022 – 113

EUROPEAN COMMUNITIES (BIRDS AND NATURAL HABITATS) REGULATIONS, 2011 (S.I. No 477 of 2011)

DEROGATION LICENCE

Granted under Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations 2011, hereinafter referred to as “the Habitats Regulations”.

The Minister for Housing, Local Government and Heritage, in exercise of the powers conferred on him by Regulation 54 of the Habitats Regulations hereby grants to **Shirley Clerkin, Monaghan County Council, The Glen, Co. Monaghan H18 YT50** supervised by **Faith Wilson, Kestral Ridge, Tigroney West, Avoca, Co. Wicklow**, a licence. It is stated that:

(A) In the interests of protecting wild flora and fauna and conserving natural habitats.

(B) There is no satisfactory alternative, and the action authorised by this licence will not be detrimental to the maintenance of the population of **bats** referred to below at a favourable conservation status in their natural range.

The licence is issued in respect of the following **bat species**:

- **brown long-eared bat** **Plecotus auritus**

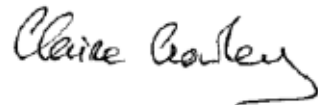
. This licence authorises the following:

- (a) Roost disturbance;
- (b) Actions authorised within the licence

This licence is subject to the terms and conditions set out overleaf.

Terms and Conditions

1. This licence is granted solely to allow the activities specified in connection with the **conservation/restoration works** located at **Rossmore Mausoleum, Brown's Wood, Rossmore Park, Co. Monaghan** , for **Shirley Clerkin (Monaghan County Council)**.
2. All activities authorised by this licence, and all equipment used in connection herewith, shall be carried out, constructed and maintained (as the case may be) so as to avoid unnecessary injury or distress to any species of **BAT**.
3. This licence may be modified or revoked, for stated reasons, at any time.
4. The mitigation measures outlined in the application report (**Rossmore Mausoleum, Rossmore Forest Park, Monaghan, Co. Monaghan Ecological Survey** , pgs.21-23), together with any changes or clarification agreed in correspondence between NPWS and the agent or applicant, are to be carried out. Strict adherence must be paid to all the proposed measures in the application.
5. No work can begin before **September 2nd 2022** and must be completed by **February 28th 2023**.
6. The works will be supervised by a licensed bat specialist **Faith Wilson**.
7. This licence shall be produced for inspection on a request being made on that behalf by a member of An Garda Síochána or an authorised NPWS officer appointed under Regulation 4 of the Habitats Regulations.
8. The local National Parks and Wildlife Service field officer **Eoin Connolly**, Eoin.Connolly@housing.gov.ie , **+353 15393272** should be contacted prior to the commencement of any activity, and if bats are detected on site during the course of the work, under the terms of this licence.
9. A report shall be submitted to Wildlife Licensing Unit, National Parks and Wildlife Service Department of Housing, Local Government and Heritage, R. 2.03, 90 North King Street, Smithfield, Dublin 7, D07 N7CV on completion of the actions which this licence authorises, describing the activities carried out in pursuance of this licence.
10. An ecologist must be employed to ensure the mitigation measures are undertaken and to liaise with the contractors to this end. The ecologist will sign-off on all mitigation measures and submit a short report documenting the successful implementation of these measures to the NPWS on their completion.



Claire Crowley
(a person authorised by the Minister to sign on his behalf)

02/09/2022

Wildlife Licensing Unit
National Parks and Wildlife Service
Housing, Local Government and Heritage
R. 2.03
90 North King Street
Smithfield
Dublin 7
D07 N7CV



NOTES (1 to 2).

- This licence is granted for the period specified and subject to compliance with the conditions specified. Anything done other than in accordance with the terms of this licence may constitute an offence.
- This licence applies to **bats** and to no other species.