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PRELIMINARY ECOLOGICAL APPRAISAL REPORT AND BAT SURVEY REPORT

STABLES AT KINWARDSTONE FARM, BURBAGE, WILTSHIRE

BY

stark ecology ltd

JULY 2023

stark ecology ltd

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INTRODUCTION

Stark Ecology Ltd was asked by Hoare Ridge and Morris LLP to carry out a Preliminary Ecological Appraisal and building inspection for bats survey of stables at Kinwardstone Farm, Burbage. The stables are proposed for partial conversion and renovation.

The site is located at OS Grid Reference SU238605 and is in a rural location surrounded by mixed farmland which supports good hedgerow networks and woodland connectivity.

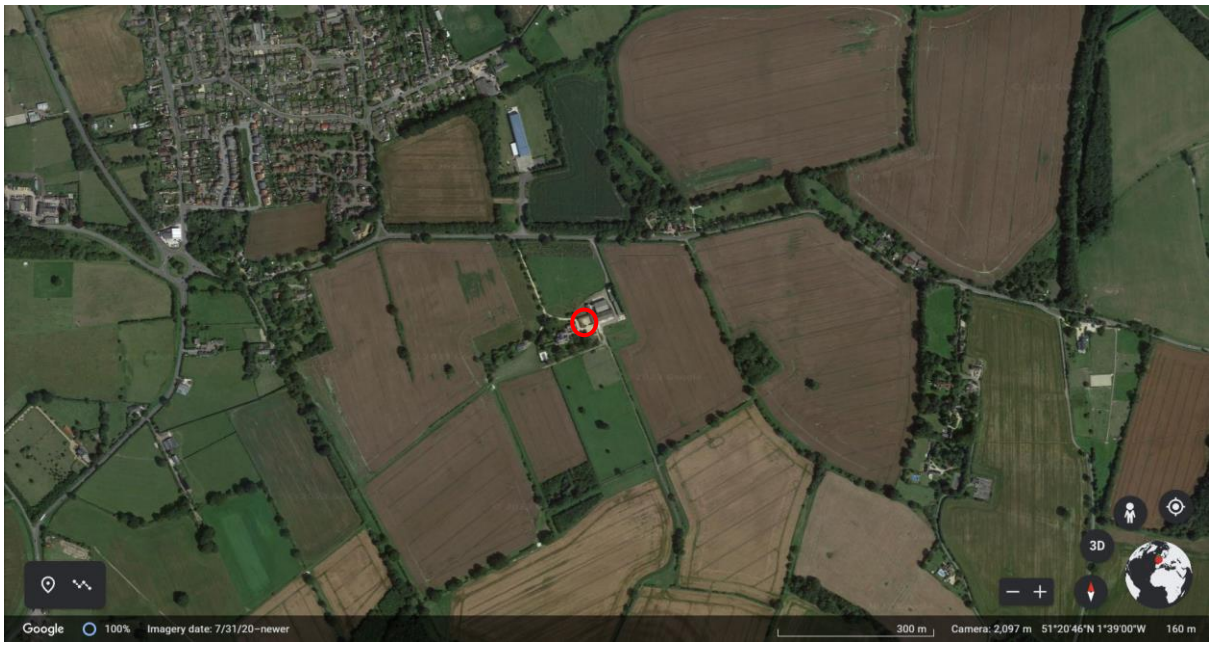


Fig 1: The stables at Kinwardstone Farm are surrounded by mixed farmland with good hedgerow and woodland connectivity.

The Preliminary Ecological Appraisal and building inspection survey was carried out by Georgie Starkie BSc (Hons) MSc MRSB (Natural England Class 2 Bat Licence Number 2015-13123-CLS-CLS) on 4th May 2023 when the weather was overcast (100% cloud) but dry with a moderate wind. The temperature was approximately 17°C.

The stables were found to have Moderate potential to support roosting bats and so two emergence surveys were recommended. The first emergence survey was carried out by Georgie Starkie, Ellie Gollop BSc (Hons) PgD, Jake Cousins, Richard Codlin (Natural England Class 2 Bat Licence Number 2017-31885-CLS-CLS) and Gareth Harris BSc (Hons) MSc MCIEEM (Natural England Class 3 & 4 Bat Licence Number 2015-11684-CLS-CLS) on 29th June 2023 when the weather was clear and dry throughout with no wind. The temperature was between 15 and 19°C.

A second emergence survey was carried out by Georgie Starkie, Ellie Gollop, Jake Cousins, Jolene Orlowski and Gareth Harris on the 13th July 2023 when the weather was overcast but dry with a light wind. The temperature was between 14 and 18°C.

METHODOLOGY

Data Search

A data search was requested from Wiltshire and Swindon Biological Records Centre (WSBRC) for records of protected and notable habitats and species within 2km of Kinwardstone Farm.

The MAGIC website was used to search for any protected or designated sites and any European Protected Species licences which have been granted by Natural England for work within 2km.

Preliminary Ecological Appraisal and Building Inspection for Bats

The stables were surveyed internally and externally in accordance with the Bat Survey Guidelines, published by the Bat Conservation Trust (BCT). Externally they were examined for cracks, crevices or other features that could be used by bats for shelter or as access points to voids within the building. Internally they were surveyed for signs of use by bats such as droppings, rub marks or bats themselves.

Evidence of any other species (eg. nesting birds) was sought both inside the building and in the habitat immediately surrounding it.

Emergence Surveys

Emergence surveys were carried out from 15 minutes before sunset until 90 minutes after sunset on 29th June and 13th July 2023. EM Touch Pro, Batlogger and Batscanner detectors were used to confirm the species observed and Canon XA11 with infrared LED lighting arrays or Panasonic HC-VX870 with infra-red, supported by a Nightfox XC5 850nm torch, were used to aid visual assessment of bat activity associated with the stables. Bat activity in the surrounding area was also noted.

Limitations

This survey provides a brief snapshot of the site at the time the work was carried out and while every step was taken to ensure that the results of the survey are accurate, features of ecological value can change and therefore this report is only valid for 12 months.

RESULTS

Desk Study

There are no Special Areas of Conservation (SAC), Special Protection Areas (SPA) or Sites of Special Scientific Interest (SSSI) within 2km of Kinwardstone Farm.

The data search from WSBRC included records of three Local Wildlife Sites (LWS) within 2km, as summarised in Table 1 below.

Table 1: Local Wildlife Sites (LWS) within 2km of Kinwardstone Farm.

LWS	Description	Distance and Direction from Site
Southgrove Copse	A fairly large ancient woodland site, largely converted to conifer, Beech or mixed plantation, with small semi-natural and coppice compartments.	1.2km SW
Suddene Park Farm - Railway Line	Disused railway line east of Burbage. Scrub & woodland on sides with calcareous grassland in some central areas.	1.4km NE
Kennet & Avon Canal	A restored canal much used for recreation.	1.95km NE

No impacts on any of these LWS would be anticipated as a result of the proposed work to convert the stables at Kinwardstone Farm.

Few bat species have been recorded within 2km of Kinwardstone Farm with only records of common pipistrelle *Pipistrellus pipistrellus*, brown long-eared *Plecotus auritus* and serotine *Eptesicus serotinus* returned by WSBRC. Other records of mammals within 2km which may be of relevance to the proposals to convert and renovate the stables are badger *Meles meles*, brown hare *Lepus europaeus* and hedgehog *Erinaceus europaeus*.

Bird records which may be of relevance when considering the proposals to renovate the stables include:

- Barn owl *Tyto alba*
- House sparrow *Passer domesticus*
- House martin *Delichon urbicum*

Natural England has granted no licences for work affecting European Protected Species at locations within 2km of Kinwardstone Farm.

Building Inspection

The stables at Kinwardstone Farm are a single storey red brick building in a "U" shape around a central courtyard. The courtyard is hard standing and the roof is clay double Roman tiles. The wooden stable doors are generally kept closed and secured.



Fig 2: The stables at Kinwardstone Farm.

This photo taken from the south on 4th May 2023.



Fig 3: The stables at Kinwardstone Farm.

This photo taken from the south on 4th May 2023.

The stables are set out in three distinct sections, as shown in Fig 4 below.

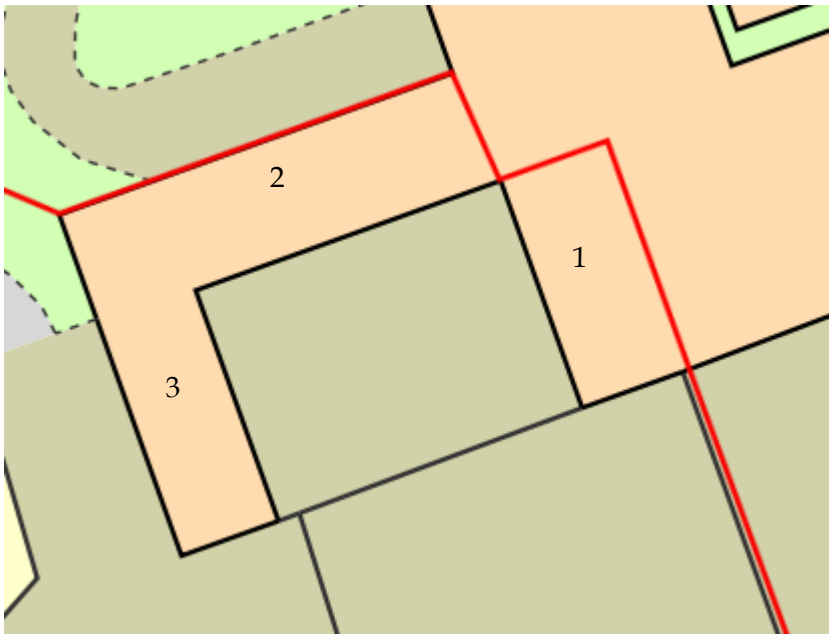


Fig 4: There are three distinct areas of the stables.

Area 1

This area is not directly connected to the other parts of the stables and ties into a larger agricultural barn to the north, which is in separate ownership. This part of the building is still used as a stable and so the doors are sometimes left open.



Fig 5: Area 1, which is still in use as a stable, ties into a larger agricultural barn to the north.

This photo taken 4th May 2023.

Internally Area 1 is set out as horse stalls and the floor is regularly swept. The roof in this part of the building is lined with bitumen roofing felt with plywood below.



Fig 6: Area 1 is still used as a stable and is set out as stalls inside.

This photo taken 4th May 2023.



Fig 7: The roof is lined with bitumen felt with plywood below in Area 1 of the stables.

This photo taken 4th May 2023.

Area 2

This part of the building ties into the same larger agricultural barn as Area 1 at its eastern end. The eastern part of this area is used as a tack room and so is accessed regularly. The rest of this area of the building is used for storage and so is in use less frequently.

The roof of the tack room is lined with bitumen roofing felt but the rest of the roof in Area 2 is unlined. As a result, daylight and the worst of the weather is able to penetrate much of Area 2.



Fig 8: The eastern part of Area 2 is a tack room and the roof in this area is lined with bitumen roofing felt.

This photo taken 4th May 2023.



Fig 9: Most of Area 2 has an unlined roof and is used for storage.

This photo taken 4th May 2023.



Fig 10: The unlined roof of Area 2 allows daylight to penetrate and provides little protection from the worst of the weather.

This photo taken 4th May 2023.

Area 3

This area of the building is also used only for storage and so is not accessed on a regular basis. The walls are generally red brick but there is an area of unlined timber board on the east (internal) face of this part of the building.



Fig 11: Area 3 has unlined timber walls on the eastern aspect.

This photo taken 4th May 2023.

Internally this part of the stables is open throughout and is not separated into stalls. Windows allow daylight to penetrate throughout this part of the building and the roof here is also unlined, which allows further disturbance from daylight and the worst of the weather.



Fig 12: The unlined roof and windows allow daylight to penetrate much of Area 3.

This photo taken 4th May 2023.

Bats

No bat droppings or other evidence of bats was found in any part of the stables at Kinwardstone Farm, including on stored items, the walls, roof timbers or the floor. All areas of the stables were easily accessible to the surveyor. As the doors and windows are generally kept closed and secured, there is little fly-in access available for bats to most internal areas of the stables. The unlined roof of Areas 2 and 3 provides little protection from the worst of the weather and allows daylight to penetrate.

Externally, a number of crevice features were noted which are potentially suitable for bats to use when roosting:

- There are numerous crevices in the brick walls, particularly at the gable ends.
- Gaps were noted at the eaves, behind timber fascia boards, on all aspects of the stables.



Fig 13: There are external crevices of the stables which could be suitable for roosting bats.

This photo taken from the southwest on 4th May 2023.



Fig 14: There are external crevices in the southeast corner of the stables.

This photo taken from the south on 4th May 2023.

The stables at Kinwardstone Farm are surrounded by high quality habitat for a range of bats species to use when commuting and foraging and so the relatively low number of external crevice features of the stables are considered to have Moderate potential to support roosting bats. In line with current survey guidelines, two emergence surveys have been conducted to determine any use of these features by roosting bats.

Emergence Survey – 29th June 2023

The results of this survey are set out in Appendix 2.

This survey was carried out at an optimum time of the year in good weather conditions and bat activity was recorded in the habitat surrounding the stables.

No bats were recorded emerging from any feature of the stables and no other behaviour to indicate use of the building by roosting bats was recorded.

Low levels of commuting and foraging was recorded by common pipistrelle, and there was a single pass by a brown long-eared bat at the very end of the survey.

Emergence Survey – 13th July 2023

The results of this survey are set out in Appendix 3.

This survey was carried out at an optimum time of the year in good weather conditions and bat activity was recorded in the habitat surrounding the stables.

No bats were recorded emerging from any feature of the stables and no other behaviour to indicate use of the building by roosting bats was recorded.

Commuting and foraging was recorded throughout the survey by common pipistrelle bats with noctule *Nyctalus noctula* recorded foraging over the site early on. Single passes by brown long-eared, natterer's *Myotis nattereri* and Daubenton's *M. daubentonii* were recorded towards the end of the survey.

Several brown hare were observed commuting through the farmyard to the south of the stables during the course of this survey.

Nesting Birds

Two old swallow *Hirundo rustica* nests were noted in the tack room (TN1 in Appendix 1) during the survey carried out on 4th May 2023. The nests have shown no signs of use during site visits carried out during May, June and July 2023. One old pigeon nest (TN 2 in Appendix 1) was noted in the southeast corner of the stables but it has also shown no signs of use during site visits carried out between May and July 2023.



Fig 15: Two old swallow nests in the tack room have shown no signs of use in 2023.

This photo taken 4th May 2023.



Fig 16: A pigeon nest with nest material and an egg shell below. This photo taken 4th May 2023.

Barn owl activity was recorded in the habitat around the stables during the emergence surveys carried out in June and July 2023 but the stables are not used by barn owls for nesting or any other purposes.

LEGISLATION

Nesting Birds

The Wildlife & Countryside Act 1981 protects bird species in the UK and makes it an offence to:

- Intentionally kill, injure or take a wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; and
- Intentionally take or destroy the egg of any wild bird.

Other offences under this legislation relate to taking and possessing specimens or the eggs of wild birds.

Hedgehog

Hedgehogs are a Species of Principal Importance (SoPI) under Section 41 of the NERC Act (2006) and should, as such, be conserved through the planning process. Hedgehogs would also fall under the provisions of the Wild Mammals (Protection) Act, 1996, which prevents certain cruel acts against wild mammals.

Brown Hare

Brown hare are a SoPI under Section 41 of the NERC Act (2006) and should, as such, be conserved through the planning process. Brown hare would also fall under the provisions of the Wild Mammals (Protection) Act, 1996, which prevents certain cruel acts against wild mammals.

DISCUSSION AND CONCLUSIONS

Bats

Roosting

No evidence of bats roosting in the stables was found in any internal areas of the building during an inspection survey carried out in May 2023. The internal areas of the building were considered to be unlikely to support roosting bats as the roofs are generally in poor condition, allowing daylight to penetrate throughout and providing little protection from the worst of the weather. As the stables are surrounded by high quality foraging habitat for bats the small number of external crevice features which could be suitable for bats to use when roosting were found to have Moderate potential to support roosting bats and two emergence surveys were recommended.

Two emergence surveys carried out in suitable weather conditions in June and July 2023 recorded quite low levels of bat activity in the habitat surrounding the stables. No bats emerged from or returned to roosts in the stables during these surveys and no behaviour to suggest that the buildings is used by roosting bats was recorded. Both surveys were carried out at an optimum time of the year and in good weather conditions and so these surveys indicate that the stables do not support roosting bats.

No further surveys are required and roosting bats are not considered to pose a contraint to the proposals to renovate and convert the stables.

Commuting and Foraging

The habitat surrounding Kinwardstone Farm is suitable for a range of bat species to use when commuting and foraging through the surrounding landscape. As the proposals are limited to the renovation and conversion of an existing building only, no impacts on bats as they commute and forage would be anticipated.

Where new external lighting is required for the purposes of security, this will comply with ILP Guidance Note 8.

Nesting Birds

No active nests have been recorded in the stables but the presence of old nests confirms that the building is suitable for use by nesting birds. Given the protection afforded to all breeding birds, their nests, eggs and young, it is strongly recommended that work to areas of the building that offers potential nesting habitat

for breeding birds, should be undertaken between October and February, inclusive, outside of the main bird breeding season.

Should this seasonal constraint prove not to be practicable, then suitable surveys for active nests should be undertaken during the nesting bird season (March to August, inclusive). These surveys should be undertaken by a suitably qualified ecologist immediately prior to the start of any works. If any active nest or nest under construction is found, then a buffer zone of at least 5m (with distance dependent upon species and location) should be created around the nest and maintained until all chicks have fledged. Once the fledglings are no longer dependent upon the nest, works can then re-commence.

It should be noted that significant delays can result to works being undertaken during the breeding bird season and, as such, it is strongly recommended that potentially disturbing works, where possible, are completed during the winter months.

Badgers, Brown Hare and Hedgehog

No badger setts have been identified at the site and no latrines, pathways or snuffle holes were found. However, the site is known to be used by brown hare and could be used by badgers, hedgehogs and other wildlife when commuting and foraging through the surroundings and so the following steps should be taken to avoid accidental harm to animals moving across the site during development works:

- Any trenches that have to be left open overnight must be adapted so that any animal that falls into it is able to escape, either by leaving a gradient at one end, or placing a structure (such as a plank of wood) in the trench to allow animals to climb out;
- Anything that may present a fire or other hazard (eg. stored chemicals) should be kept securely locked and made inaccessible to wild animals moving around the site at night.

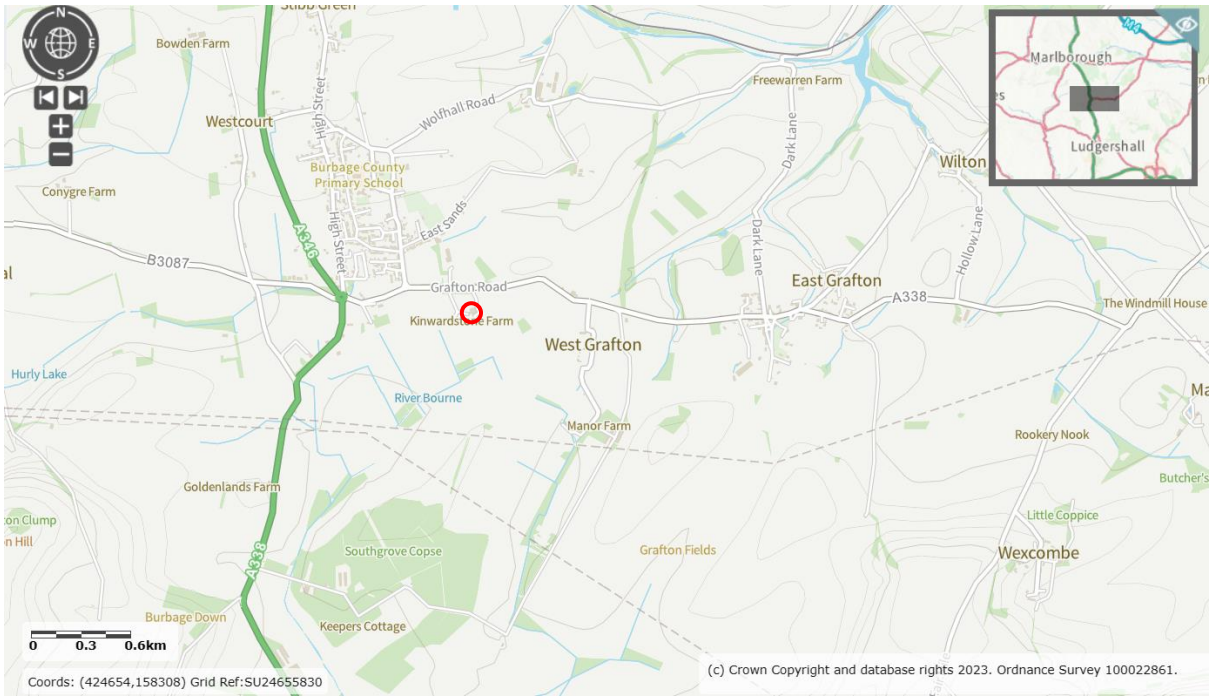
REFERENCES

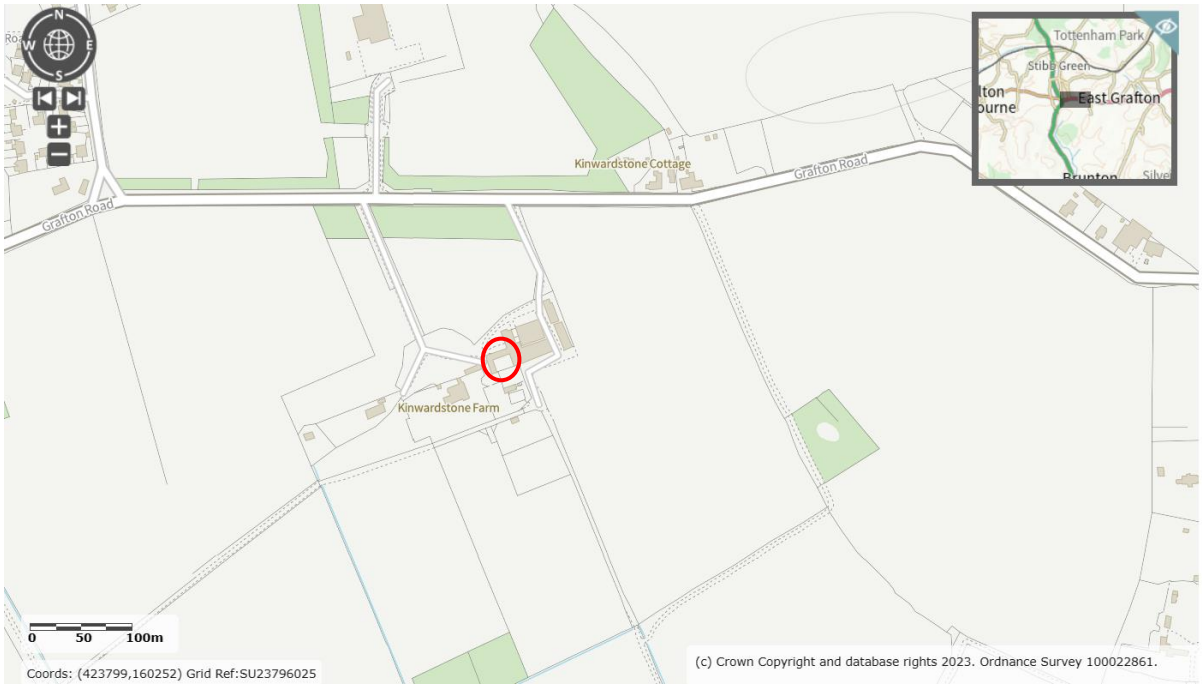
http://www.magic.defra.gov.uk/

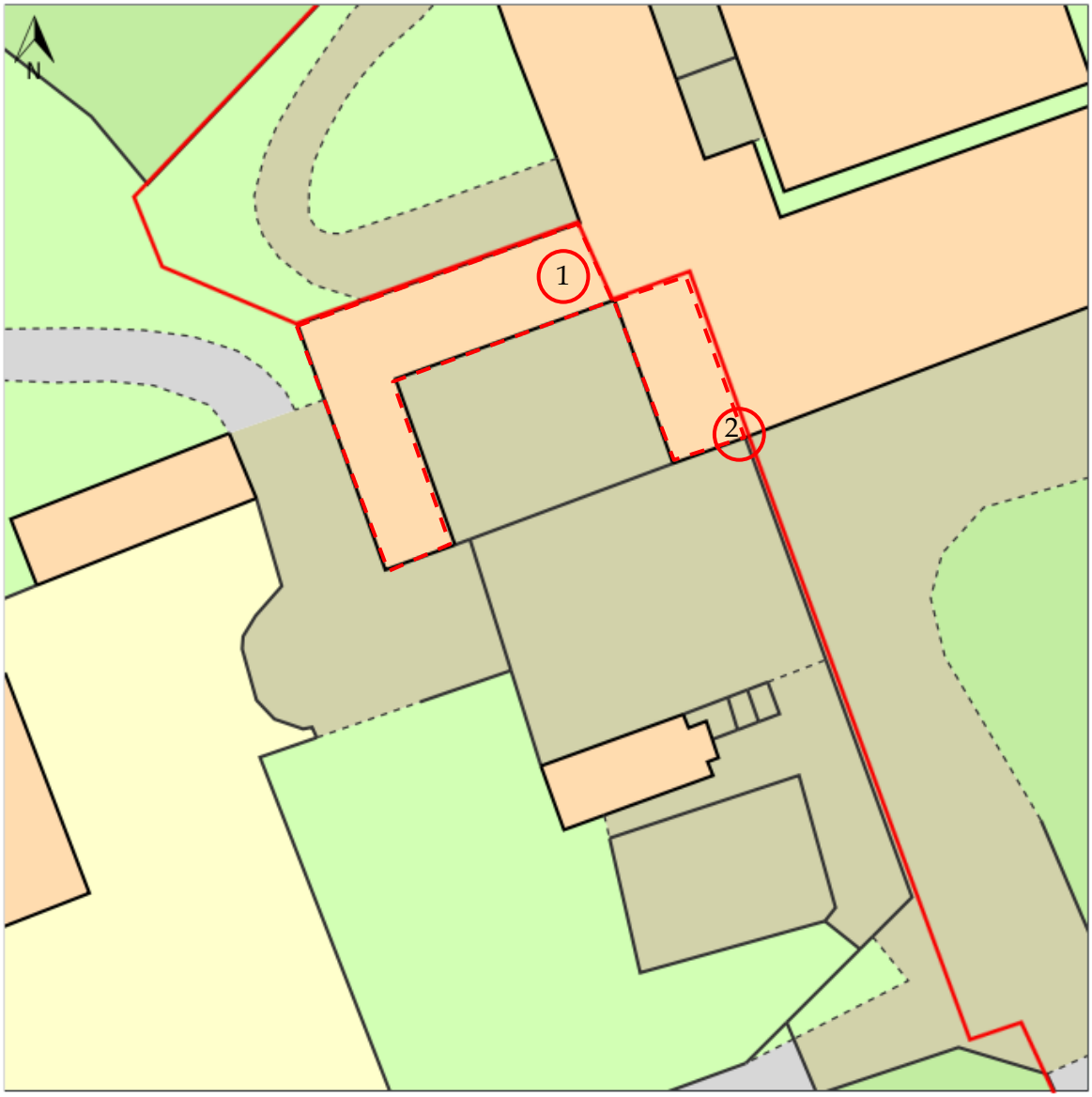
Collins, J. (ed.). (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition.). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1.

Bats and Artificial Lighting in the UK. Guidance Note 08/18. 2018. Institution of Lighting Professionals.

APPENDIX 1: SITE MAP





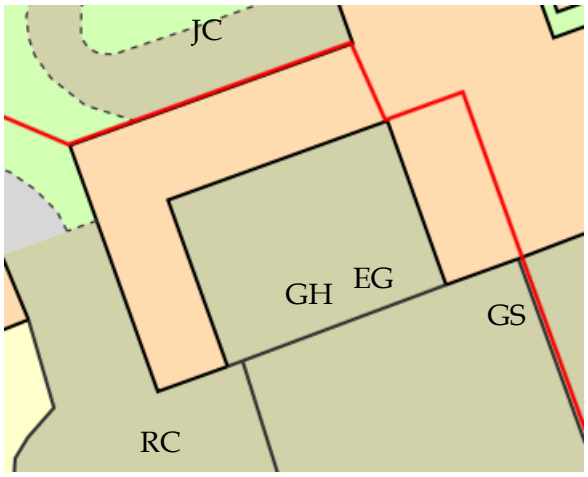


Target Notes

1: Old swallow nests

2: Pigeon nest

APPENDIX 2: EMERGENCE SURVEY 29TH JUNE 2023



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Survey Sheet – Bat Activity

Survey Kit Used:
EM Touch Pro 2
Panasonic HC-VX870
Nightfox XC5

Site Name: Stables at Kinwardstone Farm Date: 29/06/23

Weather Conditions: 0% cloud, no rain, no wind

Max Temp: 18.3ºC Min Temp: 15.2ºC

Sunset Time: 2126 Survey Type: Emergence

Survey Starts: 2111 Survey Ends: 2256 Surveyor: GS

Time	Map Ref	Species	Activity
2159		45 pip	HnS
2203		45 pip	HnS
2205		45 pip	HnS
2211		45 pip	HnS
2214		45 pip	HnS
2221 - 2232		45 pip	HnS – ongoing
2238		45 pip	Commuting past heading W to E
2249		BLE	HnS

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Survey Kit Used:

EM Touch Pro 2

Survey Sheet – Bat Activity

Site Name: Stables at Kinwardstone Farm Date: 29/06/23

Weather Conditions: 0% cloud, no rain, no wind

Max Temp: 18.3ºC Min Temp: 15.2ºC

Sunset Time: 2126 Survey Type: Emergence

Survey Starts: 2111 Survey Ends: 2256 Surveyor: EG

Time	Map Ref	Species	Activity
2157		45 pip	Commuting HnS
2208		45 pip	Briefly seen flying at ridge height to W
2209		45 pip	Flew S to N along W side of roof
2224		45 pip	Faint social calls HnS
2230		45 pip	Commuting HnS
2247		BLE	HnS

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Survey Sheet – Bat Activity

Survey Kit Used:
EM Touch Pro 2
Bat Scanner

Site Name: Stables at Kinwardstone Farm Date: 29/06/23

Weather Conditions: 0% cloud, no rain, no wind

Max Temp: 18.3ºC Min Temp: 15.2ºC

Sunset Time: 2126 Survey Type: Emergence

Survey Starts: 2111 Survey Ends: 2256 Surveyor: GH

Time	Map Ref	Species	Activity
2157		45 pip	HnS
2208		45 pip	HnS far to W
2209		Noctule	HnS
2209		45 pip	HnS to W
2230		45 pip	Foraging passes HnS
2234		45 pip	Foraging HnS
2247		BLE	HnS

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Survey Sheet – Bat Activity

Survey Kit Used:
EM Touch Pro 2
Canon XA11

Site Name: Stables at Kinwardstone Farm Date: 29/06/23

Weather Conditions: 0% cloud, no rain, no wind

Max Temp: 18.3ºC Min Temp: 15.2ºC

Sunset Time: 2126 Survey Type: Emergence

Survey Starts: 2111 Survey Ends: 2256 Surveyor: RC

Time	Map Ref	Species	Activity
2156		45 pip	Social calls HnS
2206		45 pip	Brief call HnS
2208		45 pip	Foraging to NW of stables
2209		45 pip	Commuting S to N along W face of stables
2215		45 pip	Commuting S to N along W face of stables
2218		45 pip	Commuting N to S along W face of stables
2223		45 pip	Social calls HnS
2236		45 pip	HnS
2247		BLE	HnS

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Survey Kit Used:

Batlogger

Survey Sheet – Bat Activity

Site Name: Stables at Kinwardstone Farm Date: 29/06/23

Weather Conditions: 0% cloud, no rain, no wind

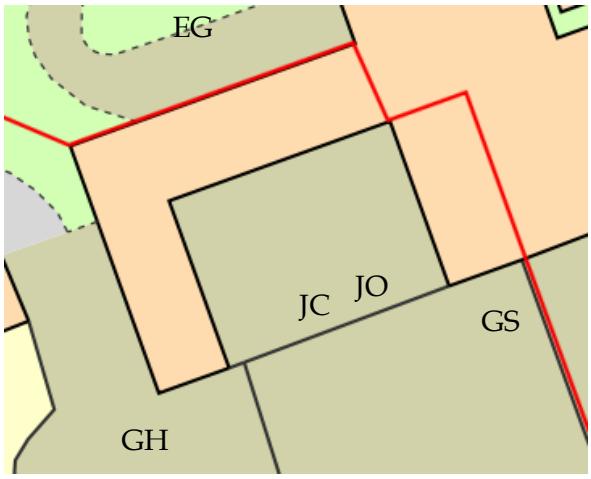
Max Temp: 18.3ºC Min Temp: 15.2ºC

Sunset Time: 2126 Survey Type: Emergence

Survey Starts: 2111 Survey Ends: 2256 Surveyor: JC

Time	Map Ref	Species	Activity
2205		45 pip	Flew over ridge from S
2207		45 pip	Commuting to N
2209-2230		45 pip	1 bat foraging over grassland to N of stables (ongoing)
2235		45 pip	Faint call HnS
2247		BLE	HnS

APPENDIX 3: EMERGENCE SURVEY 13TH JULY 2023



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Survey Sheet – Bat Activity

Survey Kit Used:
EM Touch Pro 2
Panasonic HC-VX870
Nightfox XC5

Site Name: Stables at Kinwardstone Farm Date: 13/07/23

Weather Conditions: 100% light, high cloud, no rain, no wind

Max Temp: 17.5°C Min Temp: 14.5°C

Sunset Time: 2119 Survey Type: Emergence

Survey Starts: 2104 Survey Ends: 2249 Surveyor: GS

Time	Map Ref	Species	Activity
2147		Noctule	Flying high to N of site
2152		45 pip	Faint call HnS
2206		45 pip	Faint activity still HnS
2234		45 pip	Intermittent calls HnS
2236		Brown Hare	Commuting through farmyard
2246		BLE	HnS

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Survey Kit Used:

Batlogger

Survey Sheet – Bat Activity

Site Name: Stables at Kinwardstone Farm Date: 13/07/23

Weather Conditions: 100% light, high cloud, no rain, no wind

Max Temp: 17.5ºC Min Temp: 14.5ºC

Sunset Time: 2119 Survey Type: Emergence

Survey Starts: 2104 Survey Ends: 2249 Surveyor: JO

Time	Map Ref	Species	Activity
2140		Noctule	HnS
2144		Noctule	Foraging high above stables
2148		45 pip	Passes HnS
2153		45 pip	Pass over stables
2202		45 pip	Pass over stables
2205		45 pip	Foraging around surveyor
2218-2222		45 pip	2 bats foraging around surveyor
2230		45 pip	HnS

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Survey Kit Used:

Batlogger

Survey Sheet – Bat Activity

Site Name: Stables at Kinwardstone Farm Date: 13/07/23

Weather Conditions: 100% light, high cloud, no rain, no wind

Max Temp: 17.5ºC Min Temp: 14.5ºC

Sunset Time: 2119 Survey Type: Emergence

Survey Starts: 2104 Survey Ends: 2249 Surveyor: JC

Time	Map Ref	Species	Activity
2142		Noctule	HnS
2145		Noctule	HnS
2149		45 pip	HnS
2154		45 pip	Flying E to W close to stables
2154 – 2200		45 pip	Foraging HnS
2203		45 pip	1 bat foraging close to surveyor
2205		45 pip	1 bat foraging 1 W of stables
2213		45 pip	Intermittent foraging HnS
2219		45 pip	Foraging overhead
2222		45 pip	HnS
2223		45 pip	2 bats foraging close to surveyor

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Survey Kit Used:

EM Touch Pro 2

Batscanner

Survey Sheet – Bat Activity

Site Name: Stables at Kinwardstone Farm Date: 13/07/23

Weather Conditions: 100% light, high cloud, no rain, no wind

Max Temp: 17.5ºC Min Temp: 14.5ºC

Sunset Time: 2119 Survey Type: Emergence

Survey Starts: 2104 Survey Ends: 2249 Surveyor: GH

Time	Map Ref	Species	Activity
2144		45 pip	Foraging in distance (to N)
2150		45 pip	Foraging HnS
2154 – 2229		45 pip	3 bats foraging around mature trees to S
2229		Natterer's	Commuting N to S over drive, away to S
2235		Daubenton's	Foraging HnS
2244		BLE	Brief call HnS

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Survey Kit Used:

EM Touch Pro 2

Survey Sheet – Bat Activity

Site Name: Stables at Kinwardstone Farm Date: 13/07/23

Weather Conditions: 100% light, high cloud, no rain, no wind

Max Temp: 17.5ºC Min Temp: 14.5ºC

Sunset Time: 2119 Survey Type: Emergence

Survey Starts: 2104 Survey Ends: 2249 Surveyor: EG

Time	Map Ref	Species	Activity
2141		Noctule	HnS
2143		45 pip	Foraging to W of stables and along NW elevation
2150		45 pip	Foraging as at 2143
2151		45 pip	2 bats foraging around NW corner of stables
2159		45 pip	Commuting HnS
2203		45 pip	Foraging HnS
2206		45 pip	Foraging HnS
2211		45 pip	Foraging ongoing HnS
2216		45 pip	2nd bat joins ongoing foraging (HnS)
2225		45 pip	Commuting HnS
2229		45 pip	HnS
2245		Myotis sp.	HnS