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Tocher Knowe,
West Linton,
Preliminary Ecological Appraisal



A REPORT PREPARED BY THE
WILDLIFE PARTNERSHIP
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SUMMARY

- This document describes the results of an ecological assessment undertaken In June 2023 at the residential property called Tocher Knowe; located on the northern outskirts of the village of West Linton in the Scottish Borders. The current proposal is to remove the existing dwelling house and build a new house in broadly the same footprint. However, prior to the submission of a planning application, it is necessary to identify the potential for the development plans to impact upon any protected species that may be present within the site
- No bats or signs of bats were observed during the daylight survey of Tocher Knowe and there is no evidence to suggest that bats were present in the building at the time of survey. During the dusk emergence and dawn swarming surveys, no bats were observed entering or leaving the building further confirming that no bats are currently roosting within the site. Therefore, there is no reason to suggest that the building has any importance for bat conservation and further surveys for bats in relation to the proposed works are not warranted at this time.
- No signs of badger were identified anywhere across the proposed development site. A well used animal trail passes along the western boundary of the site just beyond the western perimeter fence at the top of the wooded slope. However, this trail was followed for several hundred meters in both directions and, despite a thorough search, there were no setts, latrines or any other signs that would suggest habitual use of the site by badger.
- No evidence of otter was found along the stretch of the Lyne Water adjacent to the site and the river is effectively shielded from the site by two steeply wooded slopes. The absence of any field signs of otter, in conjunction with the fact that the development will have no impacts on any of the existing habitat along the river, ensures that there will be no impact on resident otters.
- During the initial walkover of the site at Tocher Knowe, a small pond was identified to the immediate southwest of the building. The characteristics of the pond were considered suitable for Great Crested Newts (GCN) and so eDNA samples were collected and sent to SureScreen Scientifics for analysis. Results were received on the 30th June and were negative for GCN; therefore, there is no evidence to suggest that great crested newts have ever been present at this site; however, the pond clearly provides habitat for a range of aquatic species and if it is to be removed then mitigation will be required.

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1. Introduction

1.1 Background.

This document describes the results of a Preliminary Ecological Appraisal (PEA) undertaken between June and October 2023 at the residential property called Tocher Knowe; located on the northern outskirts of the village of West Linton in the Scottish Borders (see Figure 1). The current proposal is to remove the existing dwelling house and build a new house in the same location. However, prior to the submission of a planning application, it is necessary to identify the potential for the development plans to impact upon any protected species that may be present within the site. The building is surrounded by approximately 2.4ha of grounds comprised predominantly of mown grassland with little ecological value. However, the steeply wooded slope to the north and west leads down to the Lyne Water, and provides potential habitat for both badger and otter. The buildings construction type is also suitable for roosting bats and nesting birds and a small pond in the grounds necessitated an assessment for the presence of Great Crested Newt.

Therefore, the current survey included a full inspection of the buildings to be demolished in conjunction with one dusk emergence survey and one dawn swarming survey. A full inspection of the site, including appropriate buffer zones, for any evidence of badger, otter or Great Crested Newt.

The primary aims of the survey were:

- To assess the potential use of the buildings by bats and birds.
- To assess the site for any signs of badger.
- To assess the site for any signs of otter.
- To assess the site for any signs of Great Crested Newt.
- To indicate any further survey requirements.
- To provide guidance in relation to protected species and the proposed development.

1.2 Timing

All work was carried out by a licensed bat ecologist (Dr. Barry Nicholls - Licence number: 222841) in conjunction with three trained field assistants. Timing of surveys and weather conditions are shown in Table 1.

Table 1. Timing and weather conditions for surveys at Tocher Knowe.

Survey	Date	Sunset/Sunrise	Weather
Site Survey	1 st June 2023	n/a	Fine and dry
Emergence Survey	1 st June 2023	Sunset – 21:46 B.S.T	17°C 0.3m/s
Dawn swarming Survey	15 th June 2023	Sunrise – 04:26 B.S.T	12°C 0.1m/s
Habitat Survey	13 th October 2023	n/a	n/a

2. Survey Methodology

2.1 Desk-based search

2.1.1 Designated sites and habitats

GIS databases were interrogated for any statutory designated sites within the site and a 500m zone around the periphery of the site which was considered proportionate to the scale of the proposal.

2.1.2 Existing records

The Wildlife Information Centre (TWIC) was commissioned to undertake a search for existing records and local wildlife sites within the site boundary and to 500m of the boundary.

2.2 Habitat survey

A Phase 1 survey was undertaken which is a standard approach to identify and present habitats¹ and map their spatial extent. This was undertaken on 13 October 2023.

2.3 Building Inspection

The building was examined externally using close-focusing binoculars and a high-powered torch where necessary. Where appropriate a ladder (4.75m) was used to carefully inspect flat roofs and gutters for evidence of bats. Signs of bats commonly found during an external search are:

- Droppings – typically found on the ground beneath roof exits, adhered to walls or on flat surfaces such as windows.
- Urine spots on window glass and other smooth surfaces.
- Fur oil stains, indicating a roost entrance.

The building was also examined with respect to features that have the potential to be used as roosts or access points into the building. Such features include:

- Holes in walls, pipes, gaps behind window frames, lintels and doorways.
- Cracks and crevices in stonework and brickwork.
- Gaps between ridge tiles and ridge and roof tiles, usually where the mortar has fallen out.
- Gaps between lintels above doors and windows.
- Broken or lifted roof tiles.
- Lifted lead flashing around chimneys, dormer windows, roof valleys and ridges and hips or where lead flashing replaces tiles.
- Suitable entry and exit points around the eaves, soffits, fascia and barge boarding and under tiles.
- Bat droppings on the ground, ledges, windows, sills or urine on window-sills.

¹ JNCC, (2010). Handbook for Phase 1 Habitat Survey - a Technique for Environmental Audit, ISBN 0 86139 636 7

Full access was available to the interior of the building and all roof voids. Therefore, a thorough interior search was carried out using a high-powered torch and endoscope where necessary. Particular attention was paid to:

- Droppings beneath the ridge and hip beams of the roof and junctions between the two.
- Droppings, urine staining on and at the base of dividing walls, gable end walls and around chimney breasts.
- Corpses in uncovered water and header tanks or other containers in the roof.
- Scratch marks and characteristic staining from fur oil on timber and walls.
- Access to cavity or rubble-filled walls.
- Cool areas suitable for torpor or hibernation.

Within the roof void particular attention was paid to:

- All beams for free-hanging bats.
- Droppings beneath the ridge and hip beams of the roof and junctions between the two.
- Droppings, urine staining and corpses on, under or in materials or boxes stored in the roof.
- Corpses in uncovered water and header tanks or other containers in the roof..
- Access to cavity or rubble-filled walls.

2.4 Dusk Emergence and Dawn Swarming Surveys

Following the daylight inspection a dusk watch was maintained in the vicinity of any potential roost sites starting one hour prior to sunset (see Table 1) and continued until approximately 2hrs after sunset. Throughout the survey, bats were identified in flight using a frequency division bat detector (Batbox Duet) linked to a high-resolution digital sound recorder (Edirol R-09). The calls were later downloaded to a computer and analysed using wave analysis software (Batsound Pro, Pettersson, Sweden), this allowed accurate identification to species level. The time of contact, direction of flight and behaviour of all bats was recorded. Following the same methodology a dawn survey was carried out two-hours prior to dawn (see Table 1) until it was fully light. Upon returning to their roosts at dawn, bats engage in characteristic swarming behaviour, circling around roost entrances for up to 30 minutes. This distinctive behaviour facilitates the identification of species and the accurate location of roosts at this time.

2.5 Night Vision Aids

During all emergence and re-entry surveys; night vision aids (NVA's) were routinely deployed to ensure that bat species regularly under-recorded during emergence surveys, such as *Plecotus* and *Myotis* species were not missed. NVA's deployed at Tocher Knowe included Omega 2 night vision monoculars and two infra red arrays comprising 4K night vision video cameras paired with x2 Splenssy 96 Infrared illuminators and x2 Nightfox XB5 infrared torches. In addition, if at any time we were concerned that bat usage of the building was not being accurately recorded then additional surveys would have been undertaken.

2.6 Trees

All trees were surveyed from ground level, using close focusing binoculars and a high-powered torch where necessary. All trees identified as having the potential to support roosting bats were climbed and inspected using arborists tree climbing methods. All trees were assessed for bat roosting potential according to the Bat Surveys Good Practice Guidelines issued by the Bat Conservation Trust. The features bats typically use for tree roosts are: natural rot holes, woodpecker holes, gaps behind bark, splits in branches, gaps where trunks or branches have split then fused together, natural faults or gaps, and behind dense ivy. Such features were noted from ground level. The following signs of bats were also searched for:

- Bat droppings.
- Urine stains.
- Distinctive 'batty' odour.
- Fur oil stains.
- Live or dead bats.

2.7 Breeding Birds

Active nests were recorded when the daytime inspection was undertaken. Active nests were discerned from old nests by the presence of breeding birds and/or evidence such as droppings and feathers. Additionally, the buildings were watched for active birds on the first two visits prior to dusk.

2.8 Badger survey

The proposed development site (including an area of potential impact up to 50m from the site boundary) was searched for evidence of badger activity. Typical signs of badger activity include their distinctive latrines, snuffle holes, tracks and padding or guard hairs caught on thorn bushes or fences. Badgers tend to use the same routes for travelling between setts and foraging areas and over time these routes develop into distinctive trails which are obvious to the naked eye. Therefore any trails entering or leaving the site were followed and searched for signs of badger activity to determine whether they were badger runs or simply tracks formed by other animals such as rabbits, deer, etc.

2.9 Otter Survey

The daylight survey consisted of a thorough assessment of the stretch of the Lyne Water that runs adjacent to the proposed development site. The survey also incorporated any islands present along this section of the river. A detailed search for field signs (including tracks, spraints, holts or couches, paths and prey remains) was carried out 200m upstream and 200m downstream of the site. Both banks were assessed independently where access was possible.

2.10 Great Crested Newt (eDNA survey)

Environmental DNA (eDNA) is nuclear or mitochondrial DNA that is released from an organism into the environment. Sources of eDNA include secreted faeces, mucous, gametes, shed skin and carcasses. In aquatic environments, eDNA is diluted and distributed in the water where it persists for 7–21 days. The technique for determining presence/absence of great crested newt (GCN) uses

Polymerase Chain Reaction (PCR) laboratory techniques to detect the species eDNA within water samples. NatureScot accepts the use of environmental DNA surveys as evidence of presence or absence of GCN, provided samples are taken when newts are likely to be present. Currently NatureScot will only accept eDNA survey results undertaken between mid-April and 30th June, in strict accordance with Biggs et al., 2014.

During the initial walkover of the site at Tocher Knowe, a small pond was identified to the immediate southwest of the building. As we are in the correct sampling period for the collection of GCN eDNA; samples were taken using the following protocol: The pond was sampled on 19th June 2023 by Dr Barry Nicholls and Dr. Yolanda Corripio. The protocol for sampling followed the standard protocol for field and laboratory sampling of great crested newts (Biggs et al., 2014), which required the collection of 20 x 30ml subsamples from each pond, spaced as evenly as possible around the pond margin. Each sample was then placed within a Whirl-Pak bag and shaken for 10 seconds, before a 15ml sample was pipetted from the bag and placed in a specimen tube for laboratory analysis. Following collection, samples were refrigerated prior to laboratory dispatch.

Laboratory analysis was undertaken by SureScreen Scientifics. The laboratory follows the analysis methodology outlined within the Defra Project WC1067 (Biggs et al., 2014) using the q-PCR test conducted in two phases. The sample first goes through an extraction process to acquire as much eDNA as possible to produce a pooled sample. The pooled sample is then tested via 1-PCR. Each pooled sample is replicated 12 times to ensure results are accurate. If one of the twelve replicates tests positive the sample is declared positive. The sample is only declared negative if no replicates show amplification. Inhibition and degradation checks are also carried out on each sample using a known DNA marker. Results of these quality control tests are recorded with each sample.

3. Results

3.1 Designated sites and habitats – refer to Figure 1

The site sits on the edge of the Lyne Water Valley through which the River Lyne runs, which is part of the Tweed Special Area of Conservation. The woodland along the Lyne Water valley is included within two potential Local Biodiversity Sites (pLBS):

- 1) the Lyne Water at Tocherknowe, part of which is listed as native woodland in the Native Woodland Survey of Scotland.
- 2) Lyne Dale Wood which lies further to the south, part of which is listed as long-established woodland of plantation origin on the ancient woodland inventory of Scotland.

The Siller Holes pLBS is located to the NE of the site, which comprises post-industrial grassland and ponds.

3.2 Existing records

The TWIC “notable records” reported on a suite of botanical species recorded by Phil Lusby in 1989 during a grassland survey commissioned by SNH. This report was not available online, however the suite of species, grid references and descriptions provided indicate that the valley slopes and bottom of the Lyne Water by Tocher knowe supports rich grassland and flush communities. The grassland

communities described were neutral (NVC MG5) whilst the wetland and flush communities were base-rich (NVC-described as M10 like flushes and M26 (NVC – described as M10 like flushes and M26).

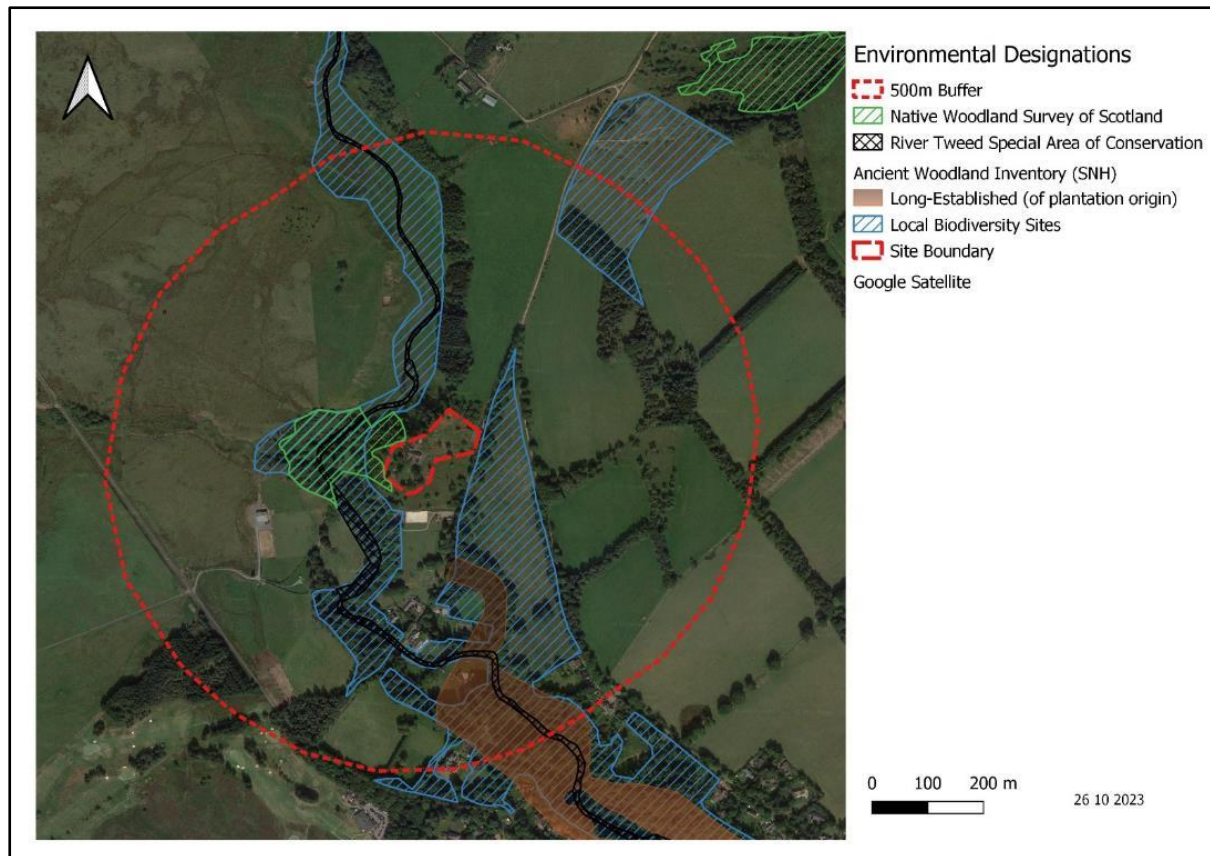


Figure 1. Designated sites within 500m of development site boundary at Tocher Knowe

3.3 Site Description

Tocher Knowe is a residential property located within its own grounds (approx: 2.4ha) approximately 1.2km northwest of the village of West Linton in the Scottish Borders (see Figures 1 -3). The enclosed site comprises grassland (now overgrown) and scattered trees with little ecological interest. However, the ground slopes steeply down to the Lyne water to the immediate north and west of the site and the heavily wooded slope provides suitable habitat for badger and there is also the potential for otter resting sites along this stretch of the Lyne water. The abundance of mature broadleaved woodland in the vicinity of the site also provides excellent commuting and foraging habitat for bat species. The Lyne Water is lined with mature broadleaved woodland along this stretch. Riparian woodland is typically replete with insects and offers ideal foraging habitat for bats. *Pipistrellus pipistrellus*, *Pipistrellus pygmaeus* and *Myotis daubentonii* show a clear preference for this type of foraging habitat and the mixture of water, woodland, open areas and edge habitat, in the immediate vicinity of the cottage, offer excellent foraging habitat for all of Scotland's resident bat species.



Figure 2. Aerial photograph showing the location of Tocher Knowe (outlined in red) and wider environs. Shown in more detail in Figure 3.

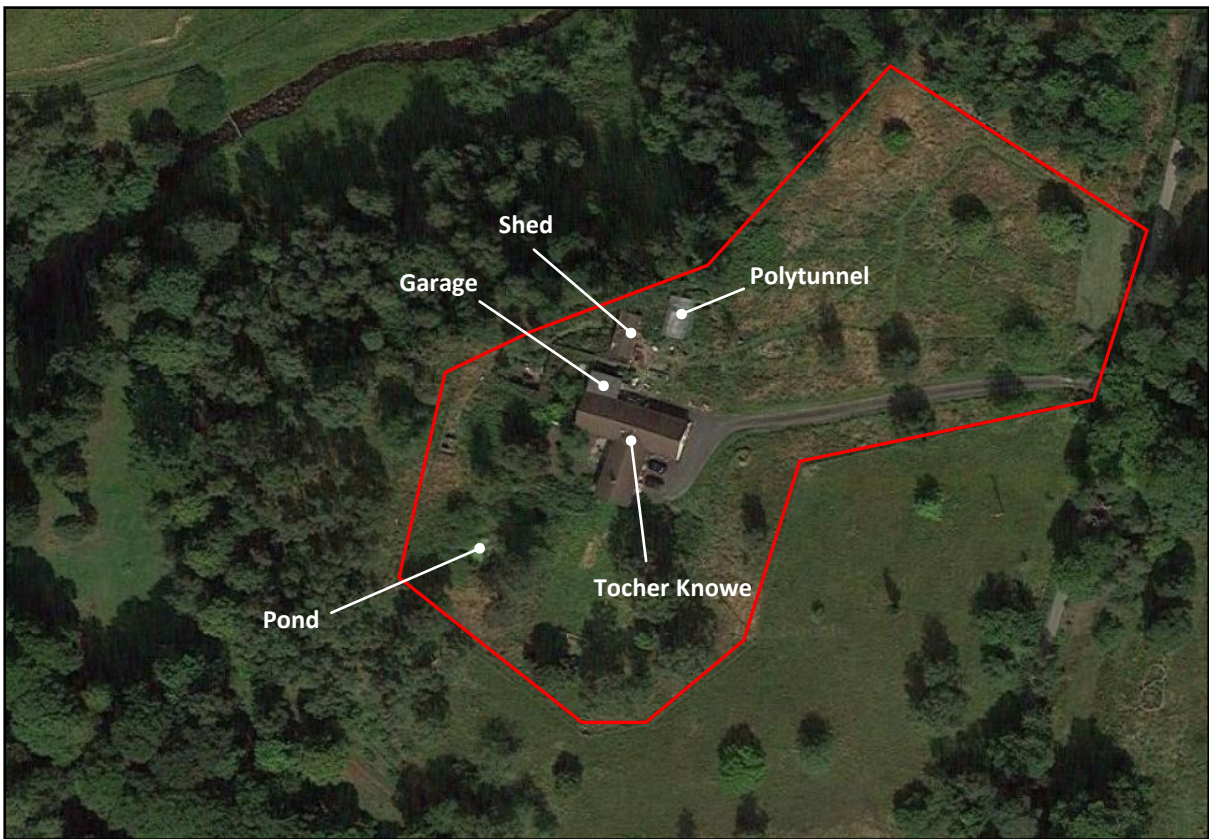


Figure 3. Aerial photograph highlighting all buildings on site and the location of the small pond. A rough schematic showing the plan of the site is provided in Figure 4.

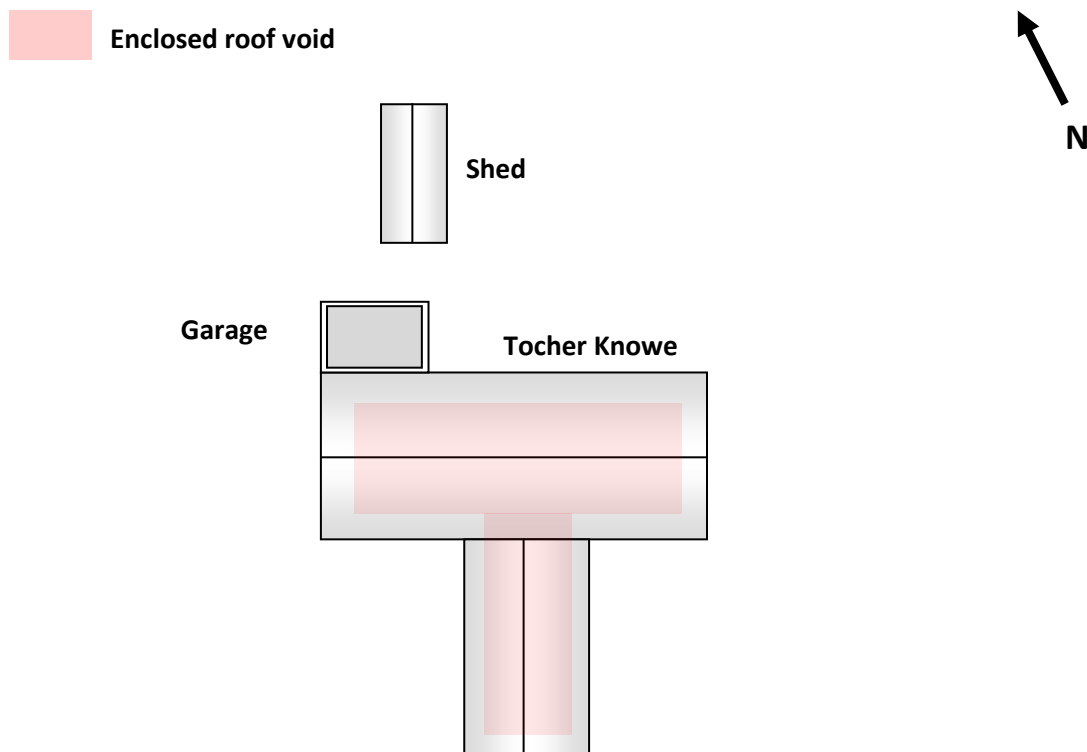


Figure 4. Rough schematic showing the roof plan of Tocher Knowe. The location of all roof voids has been highlighted.

3.4 Building Inspection

The buildings that will be impacted by the proposed works include the main building (Tocher Knowe), including a small attached garage and an adjacent shed. To facilitate interpretation of the results Tocher Knowe and the shed will be treated separately.

3.4.1 Tocher Knowe

Tocher Knowe is a single-storied dwelling house constructed from timber on a concrete base and rendered externally. The roofs are pitched and lined with roofing tiles (see Figures 5-8). The external render is in good condition and tightly sealed leaving no points of access for bats or birds (Figure 9). The building is also tightly sealed around the eaves (Figure 10) and no potential roost sites or access points were identified across the roofs which are also tightly sealed (see Figure 11). A few odd shaped holes and gaps were identified along the eaves on the western elevation (see Figures 12 & 13); however, all of these locations were fully inspected with a flexible endoscope and there was no evidence to indicate that bats or bird have ever occupied these locations. A large wooden vent is attached to the timbered gables on the southern and western elevations and a bat box has also been installed above the vent on the southern elevation (see Figure 14). The bat box was badly rotted and showed no evidence of occupation and the large wooden vent was completely filled with a large wasps nest (Figure 15). There is a small garage attached to the northern elevation of Tocher Knowe and this can accessed via the main house. There is a small gap above the main garage door and this is currently being used as an access point for a breeding pair of swallows that are currently nesting within the garage (see Appendix 2 for location).

Internally the pitched roofs enclose a large interconnected roof void with a floor to apex height of approximately 2.5m (see figure 16). The roof void is filled with a variety of supporting struts and there is no sarking present, rather the underside of the tiles are lined with a layer of permeable fabric (Figure 17). Despite a thorough inspection there was no evidence to indicate that bats or birds have ever access the roof void.



Figure 5. Tocher Knowe – northern elevation.



Figure 6. Tocher Knowe – eastern elevation.



Figure 7. Tocher Knowe – southern elevation.



Figure 8. Tocher Knowe – western elevation.



Figure 9. The external render is tightly sealed leaving no points of access.



Figure 10. The building is tightly sealed around the eaves leaving no access to the wallhead.



Figure 11. The roofing tiles create a continuous layer with no points of access.



Figure 12. Small gap in the eaves on the western elevation.



Figure 13. Damaged mesh has created a point of access on the western elevation.



Figure 14. Large wooden vent with a bat box installed above on the southern elevation. The bat box was badly rotted and empty and the vent was filled with a large wasps nest – shown in Figure 15.

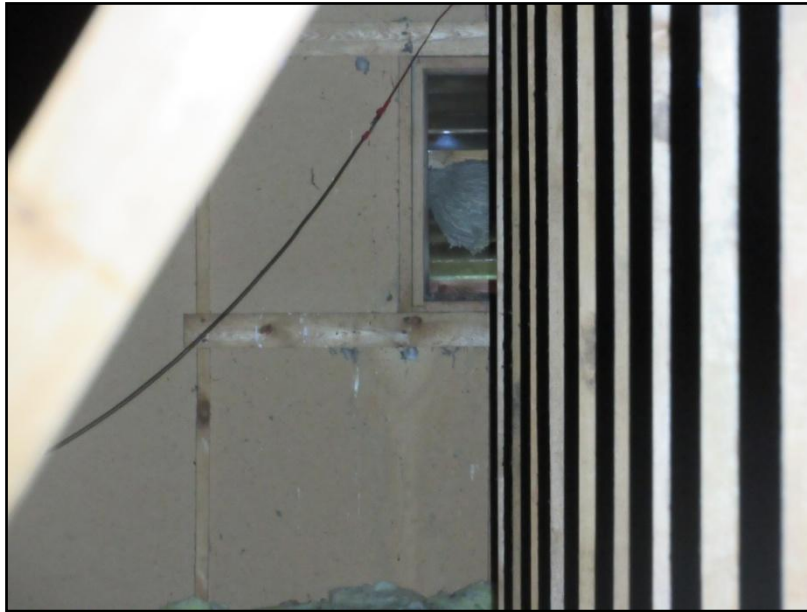


Figure 15. The rear of the vent shown in Figure 14 can be seen in the centre of the picture, the large active wasps nest is also visible.



Figure 16. The roof void is timber framed and lined with a permeable fabric. There was no evidence of bat or birds in the building interior.



Figure 17. There is no sarking present within the roof void. The underside of the tiles is simply lined with a permeable fabric.

3.4.2 The Shed

This is a small wooden shed located to the immediate north of Tocher Knowe. It's a simple wooden structure with a gently pitched roof lined with roofing felt (Figure 18). The building is completely open around the eaves and the doors have been left open (Figure 19). There was no evidence to indicate the presence of bats across this structure; however, birds have free access to the building and there are several active nests for swallow, wren and house martin within the building (Figure 20; see Appendix 2 for location).



Figure 18. The Shed – western elevation.



Figure 19. The Shed is open around the eaves.



Figure 20. Birds have free access to the interior of the shed.

3.5 Tree Survey

There are a good number of scattered trees within the grounds of Tocher Knowe and these range from newly planted to semi-mature to mature. Species recorded within the site include: silver birch, willow, maple, copper beech, sycamore, rowan, cherry, poplar, beech, whitebeam, holly and oak (see Appendix 3 for example photographs). All trees within the site boundary were fully inspected for any potential roosting features. All trees were in good health and there were no cracks or crevices identified that could be exploited by roosting bats and despite an exhaustive search there were no potential roosting features identified within any of the trees within the site boundary. It is expected that some of these trees will have to be felled to facilitate the proposed development and this will have no impact on resident bat species.

3.6 Badger Survey

No signs of badger were identified anywhere within the proposed development site. A well used animal trail passes along the western boundary of the site just beyond the western perimeter fence, at the top of the wooded slope (Figure 21; see Appendix 2 for location). However, this trail was followed for several hundred meters in both directions and, despite a thorough search, there were no setts, latrines or any other signs that would suggest habitual use of the site by badger. However, many of the trails were very well defined and it is entirely possible that that badger may well use this path and; therefore, some general precautions should be made during the construction phase to ensure badger safety.

3.7 Otter Survey

The section of the Lyne Water that runs adjacent to Tocher Knowe is lined with riparian woodland and would provide ideal habitat for otter (see Figure 22 for example). However, a thorough search of both banks (200m upstream and downstream of the site) revealed no signs of otter whatsoever. The survey was undertaken during an exceptionally warm and dry spell in June and as such conditions were perfect with numerous large emergent rocks that would provide ideal sprainting sites. However, no spraints holts or couches were identified within 200m of the proposed development site and there is no evidence to suggest that the proposed works would have any impact on otters. Therefore, given that no holts/couches will be impacted and all existing otter habitat will be retained unmodified, there will be no impact on resident otters.

3.8 Great Crested Newt eDNA Survey

During the initial walkover of the site at Tocher Knowe, a small pond was identified to the immediate southwest of the building. The pond is approximately 5m in diameter; however, the survey was undertaken during an exceptionally dry period in June and the pond had retracted to little more than 2m in diameter and was completely choked with duckweed (Figure 23). The characteristics of the pond were considered suitable for Great Crested Newts (GCN) and so eDNA samples were collected and sent to SureScreen Scientifics for analysis. Results were received on the 30th June and were negative for GCN, see full report in Appendix 3. Therefore, there is no evidence to suggest that great crested newts have ever been present at this site; however, the pond clearly provides habitat for a range of aquatic species and if it is to be removed then mitigation will be required.



Figure 21. Well defined animal trail that runs east to west just beyond the western perimeter fence see Appendix 2 for location.



Figure 22. The section of the Lyne water to the west of the site would provide ideal habitat for otter. However, no field signs were found within the survey area (200m upstream and downstream of the site).



Figure 23. The small pond retracted significantly in size during the warm dry spell in May and June 2023.

3.9 Habitat Survey - refer to Figure 24

The site is essentially a large garden but only a small portion of the garden has been managed as such, the remainder has been minimally managed; this report focuses on the latter, which is referred to as “the grounds”. The largest area of grassland lies to the north-east of the house and is neutral grassland; best described as semi-improved neutral grassland as the herb component varies in richness and cover. The sward is coarse over much of this area with clumps of cock’s foot *Dactylis glomerata*, Yorkshire fog *Holcus lanatus*, red fescue *Festuca rubra* and common bent *Agrostis capillaris*. The herb cover varies with some areas supporting neutral herbs such as crossword *Cruciata laevipes*, black knapweed *Centaurea nigra*, common sorrel *Rumex acetosa* and meadow vetchling *Lathyrus pratensis* while in other areas the herb cover is very low. A subtle linear valley cuts through the grassland where the conditions are damper and species such as meadowsweet *Filipendula ulmaria* and angelica *Angelica sylvestris* form a herby swathe. Occasional plants of water avens *Geum rivale* were also present as basal leaves tucked into the coarse sward.

Trees have recently been planted around the periphery of the grassland (Figure 25) and a row of poplars is present on the boundary with the Lyne Water valley slope (Figure 26) although it is unclear exactly which side of the boundary these are on. Fruit trees account for the highest number of trees, planted along the access track, but Scot’s pine and oak trees have also been planted along some of the boundaries. Older trees are also present including non-native varieties of birch and Sorbus species. A small area of unimproved neutral grassland is present to the south-east of the house which is contiguous with the grassland in the adjacent field (Figure 27). Red fescue *F. rubra* dominates the sward with common bent *A. capillaris*, giving a finer appearance of the sward but cock’s foot *D. glomerata* is frequent as is Yorkshire fog *H. lanatus*. The herb component here however has a very high cover; at the time of survey devil’s bit scabious *Succisa pratensis* was forming near-dominant patches with the seed heads held above the vegetation giving a very distinct structure. Black knapweed *C. nigra* was also frequent. Other neutral species were present including

ribwort plantain *Plantago lanceolata*, Germander speedwell *Veronica chamaedrys*, tufted hair-grass *Deschampsia cespitosa*, meadow buttercup *Ranunculus acris*, ladies bedstraw *Galium verum* and also species favouring poorer drainage including sneezewort *Achillea ptarmica*, angelica *A. sylvestris* and meadowsweet *F. ulmaria*.

In the neighbouring field, a tussock of prickly sedge *Carex muricata* was found. The grounds to the south of the house were also essentially grassland, with a tall sward which had been planted in areas with birch and an Acer. Given the tree cover however, some of this area has been classified as broad-leaved plantation woodland as per the Phase 1 methodology (Figure 28). Within this overall grassland theme in the grounds, there was a small pond (Figure 29) and areas of tall ruderal vegetation. The pond liner was not secure and there was negligible standing water. The marshy areas remaining supported common spike-rush *Eleocharis palustris* and jointed rush *Juncus articulatus*.

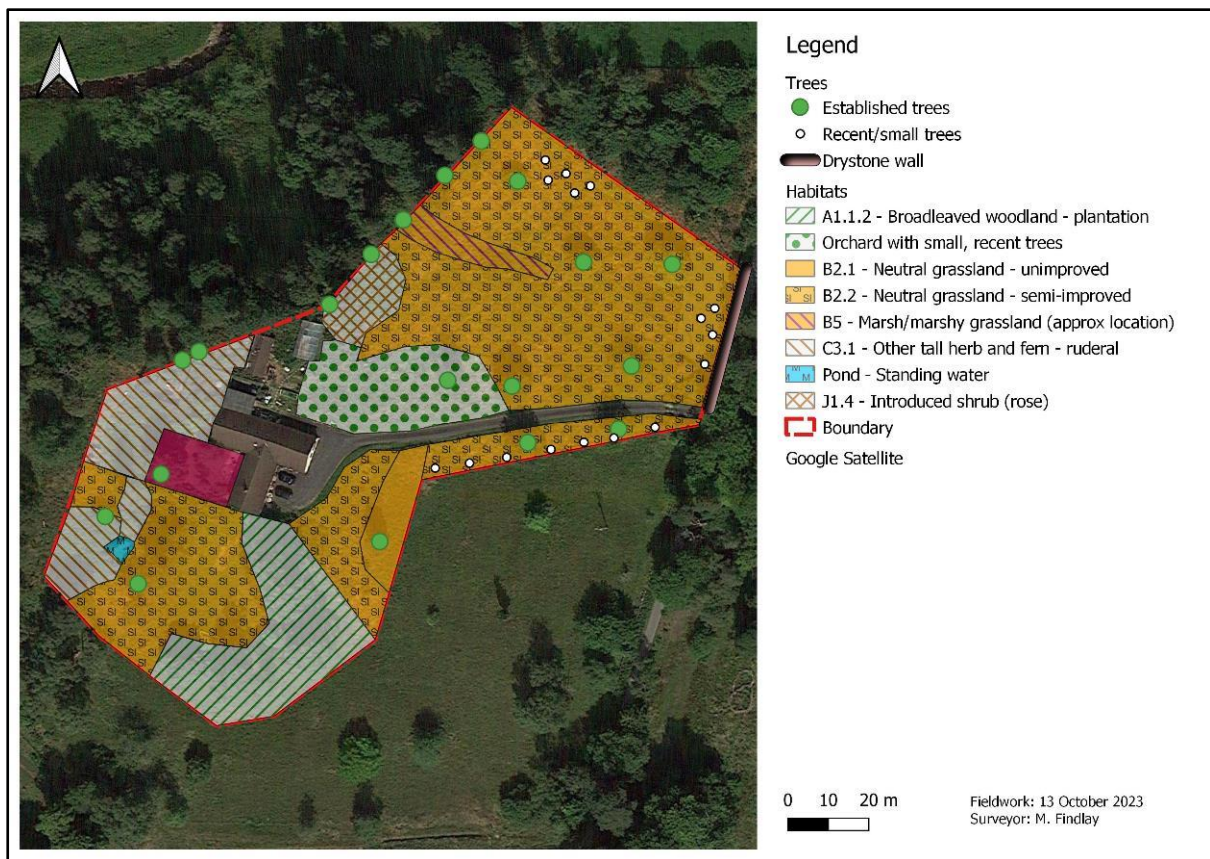


Figure 24. Phase 1 habitats (note pink area which is formal garden).



Figure 25. Trees have been planted around the boundary of the garden grounds.



Figure 26. Row of large poplar trees on boundary with valley.



Figure 27. Species-rich neutral grassland in front of the house.



Figure 28. Wooded area, essentially tree cover over neutral grassland.



Figure 29. Pond, with low water level and exposed liner.

4. Dusk Emergence and Dawn Swarming Surveys

A total of one dusk emergence surveys and one dawn swarming survey were conducted at Tocher Knowe. Throughout all activity surveys only two bat species were recorded in the vicinity of the site: The soprano pipistrelle (*Pipistrellus pygmaeus*) and the common pipistrelle (*Pipistrellus pipistrellus*). Bat activity was very consistently low throughout all surveys and it is estimated that no more than five or six bats were ever present at one time.

4.1 Dusk Emergence Survey: 1st June 2023

During the first emergence survey both soprano and common pipistrelle bats were observed and recorded commuting into the site from the south. It is estimated that during the survey approximately four or five pipistrelle bats foraged over and around the site. However, none of these bats emerged from any of the buildings within the site.

4.2 Dawn Swarming Survey: 15th June 2023

Bat activity was once again low during the dawn survey and comprised small numbers of common and soprano pipistrelles foraging around the site. However, all bats subsequently commuted out of the site to the south where contact was lost. None of these bats were ever observed or recorded investigating any of the buildings within the developmental footprint and no bats entered any of the buildings throughout the survey.

In summary, despite the presence of potential roost sites, no bat roosts were identified anywhere across the buildings within the site and following the results of dusk emergence and dawn re-entry surveys there is no evidence to suggest that bats have ever occupied these buildings.

5. Conclusions and Recommendations

5.1 Bats

No bats or signs of bats were observed during the daylight survey of Tocher Knowe and there is no evidence to suggest that bats were present in the buildings at the time of survey. During the dusk emergence and dawn swarming surveys, no bats were observed entering or leaving the buildings further confirming that no bats are currently roosting within the site. Therefore, there is no reason to suggest that the buildings have any importance for bat conservation and further surveys for bats in relation to the proposed works are not warranted at this time.

However, it is important to note that bats are active in the area and the buildings do provide potential roosts sites. Therefore, any contractors working on the buildings should be made aware of the possibility of finding bats particularly when working on the roof. Although the chances of finding bats during work on the building is considered highly unlikely it is important that anyone working on the building should be aware of what to do in this situation. Because of a slight health risk to humans, bats should not be handled directly without protective gloves. All personnel working on the building should be made aware of the appropriate procedure upon encountering a bat. If any bats are found, work should stop immediately and advice should be sought from NatureScot, or a suitably qualified ecologist, before work restarts.

5.2 Badgers

Although there was no evidence of badger within the site, there are several well used animal trails that cross the site and these could potentially be used by badger. Therefore, it is recommended that the following site guidelines are adhered to during the construction phase:

- No open pipes should be left overnight. Pipes should be blocked with sheets of plywood and sandbags to prevent mammals entering. This applies to pipework which is being installed, and also stored lengths of pipe.
- No open trenches should be left overnight. Trenches should be covered or a means of escape provided for badgers and other mammals. The best method is to use a broad (minimum of 30cm) plank of wood to make a ramp from the trench bottom to the normal surface level. If trenches are to be left undisturbed for a period of time, then it is recommended that they are properly covered with sheets of plywood or similar which are weighted down to avoid badgers from digging setts in the trenches.
- Chemicals should be stored appropriately in secure areas.
- A site walk over should precede each working day to check for mammals or other wildlife on site.
- Food remains should be disposed of at the end of each working day and not left as an attractant to badgers or other wildlife.
- The site should not be floodlit at night.
- Permeability of the site to mammals during construction must be maintained.

- If large mammal holes appear on site during construction, an ecologist should be called in to determine if they are badger holes. Works (including tree felling) within 30m of a sett would require an ecologists input to ensure that a license is obtained if required and that the sett and occupants are managed appropriately.
- The site should not be floodlit at night.
- Permeability of the site to mammals during construction must be maintained.

5.3 Otter

No evidence of otter was found along the stretch of the Lyne Water adjacent to the site and the river is effectively shielded from the site by two steep wooded sloped. The absence of any field signs of otter, in conjunction with the fact that the development will have no impacts on any of the existing habitat along the river, ensures that there will be no impact on resident otters. However, it is recommended that a pre-works inspection is undertaken to ensure that no holts or couches have been created and occupied between the issue of this report and works commencing. Furthermore, construction works should follow good practice to minimise impacts on local wildlife:

- Construction activities will maintain a strict footprint of works, and construction vehicles and equipment will NOT be active on or stored within 10m of the river. This will minimise disturbance to the watercourse.
- Construction works will only be undertaken during daylight working hours. Where artificial light is required, lights will be directed away from the watercourse. During summer months, works may continue later into the evening without the need for artificial lighting.
- Whilst the location of the construction works avoids areas suitable for otter it is important to protect the otter's food resource by avoiding pollution to the watercourses. Construction areas will be left in a safe condition during periods of inactivity, with chemicals and toxic materials stored safely with appropriate bunding in accordance with SEPA's Pollution Prevention and Chemical Guidelines.
- Key measures to further mitigate disturbance to otters on site will include capping all pipes, covering all trenches or providing a means for otter to escape should they enter a trench.

5.4 Aquatic Habitats

The eDNA analysis revealed that great crested newts are not present within the pond. However, this pond clearly provides important habitat for a range of aquatic species and enhances the biodiversity of the site. Therefore, if this pond is to be removed than a pond of similar size and depth should be recreated within the site. Furthermore, any works on the pond should ideally be undertaken in late summer/early autumn when most amphibian species will be absent from the pond.

5.5 Breeding Birds

Active nests for house martin, swallow and wren were all identified within the site. All species of bird are protected when nesting under the Wildlife and Countryside Act 1981, as amended. Furthermore the house martin is currently a red listed species* therefore, mitigation is required to maintain local

numbers of these species and to avoid damage or other adverse impacts on active nests. A full species protection plan is presented in APPENDIX 6.

**The status of all British birds has been analysed by conservation agencies including the RSPB. On the basis of ongoing population trends, species are assigned to one of three lists of UK Conservation Concern. These are the red list, amber list and green list. Although the lists confer no legal status in them they are useful in assessing the significance of impacts and appropriate levels of mitigation that may be required when birds are affected by development or other activity. The Red List comprises species whose populations or range are rapidly declining, (recently or historically), and those of global conservation concern.*

6. Biodiversity Net Gain

The local area supports valuable neutral grasslands and base-rich habitats such as flushes and also semi-natural woodland and these provide a good backdrop to achieve improvements for biodiversity as there is a nearby source of species. As the garden ground is extensive, it is suggested that the most appropriate approach to maintaining and improving biodiversity would be to treat it as two habitat compartments. The woodland/grassland/pond mosaic to the south-west of the cottage has less natural characteristics than the grassland to the north-east. Therefore, it is suggested that this area together with the tall ruderal areas (disturbed ground with stands of raspberry etc), is managed for the tree cover and amenity. Measures to increase biodiversity value are aimed more at creating and providing homes for faunal species, such as erection of bat and bird boxes on the trees and retention of dead wood habitat, both as wood/brush piles beneath the canopy and also retention of dead material in the canopy.

The open grassland area to the front and north-east of the house has value throughout as neutral grassland, diversified by the presence of a linear marshy feature with marshy grassland species. Tree planting is currently in vogue, being seen as an easy way to increase biodiversity. However, there is conflict between the presence of trees and good grassland habitat as trees shade out grassland communities and alter soil composition with leaf litter. The tree planting here currently appears to have little impact, but as the trees mature these are likely to impact on the grassland quality. The temptation to plant more trees should be resisted if maintaining and increasing the value of the neutral grassland is a management aim, indeed, removal of some of the trees while they are still young may be beneficial. Equally, removal of the boundary poplar trees would be beneficial; these are non-native trees and are not wind-firm. Controlled felling would avoid the impact of uncontrolled storm damage; however, the ownership of these trees would need to be ascertained.

Grassland such as this is often managed by grazing, and at Tocher knowe, this may be an option if livestock can be borrowed each year. Grazing intensity (number of animals) and duration would need to be considered as well as the seasonal timing. Year round, low intensity grazing should be avoided. The best grazing period is likely to be late summer and autumn. At approximately half a hectare, the area is quite small (in grazing terms), only one or two animals may be needed for a short period of time, possibly "borrowing" a pony from the neighbouring stables could be an option. However, realistically, grazing is unlikely to be easy to achieve and so cutting would be the next best option. Cutting the grassland once each year, in the late summer/autumn would be optimal but it is crucial that the arisings are raked and collected and not left *in situ* to smother the ground.

Other options to increase the biodiversity of the site include:

- Reinstatement of the pond. The contouring of the pond appeared to be in line with a wildlife pond in that there were shallow shelves and a deeper area, and reinstatement may just require some maintenance of, or replacement of the liner, and
- Creation of drystone wall features, for structure and to provide habitat for lizards, small mammals and lower plants.

APPENDIX 1. Legislation Relevant to Bat Species.

BATS

All species of bats and their breeding sites or resting places (roosts) are protected under regulation 39 of the Conservation (Natural Habitats) regulations 1994 (amended 2007 and 2009) and section 9 of the Wildlife and Countryside Act 1981.

It is an offence to –

- Deliberately capture, injure or kill a bat.
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats.
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time).
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat.
- Intentionally or recklessly obstruct access to a bat roost.

The conservation (natural habitats) Regulations 1994 amendment of 2007/2009 clarifies 'disturbance' of bats as any activity that will impair their ability:

- To survive, breed, or rear or nurture their young.
- In the case of animals of a hibernating or migratory species, to hibernate or migrate.
- To affect significantly the local distribution or abundance of the species to which they belong

If a known bat roost is to be disturbed or damaged for reasons of development, a European protected species licence must be obtained from the Scottish Government Species Licensing Team Landscapes and Habitats Division Rural Directorate before demolition of the buildings may proceed. The Scottish Government requires approximately 6-8 weeks to process the licence application - the exact length of time depends on the complexity of the individual case, and the provision of comprehensive information in the application. The application can only be made once detailed planning consent has been obtained. European protected species licences may be issued for the purposes of:

- Preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.

And in every case, a licence cannot be granted unless:

- There is no satisfactory alternative.
- The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

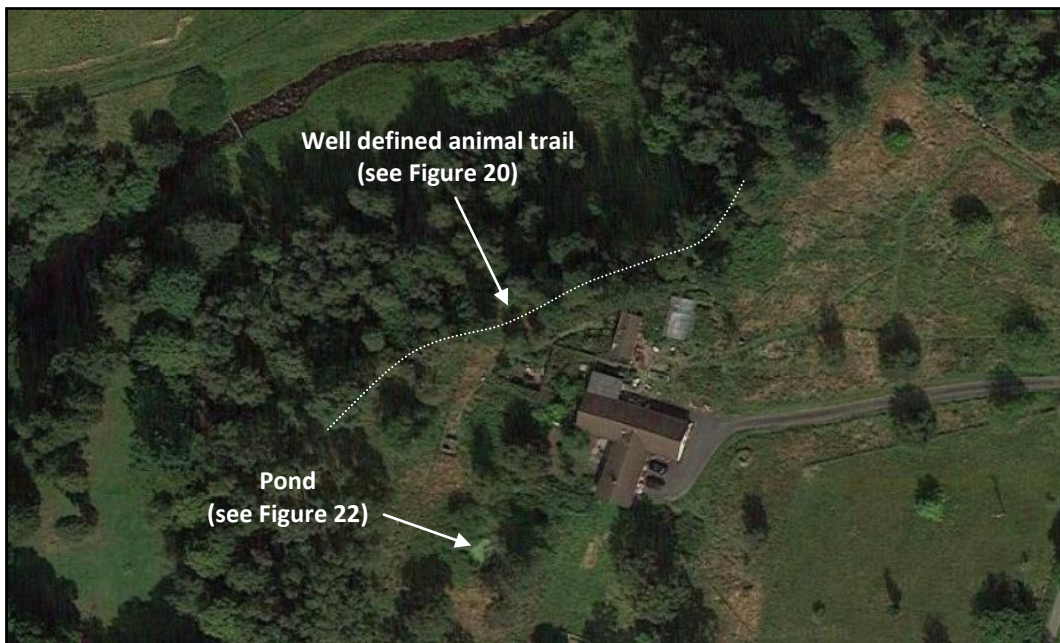
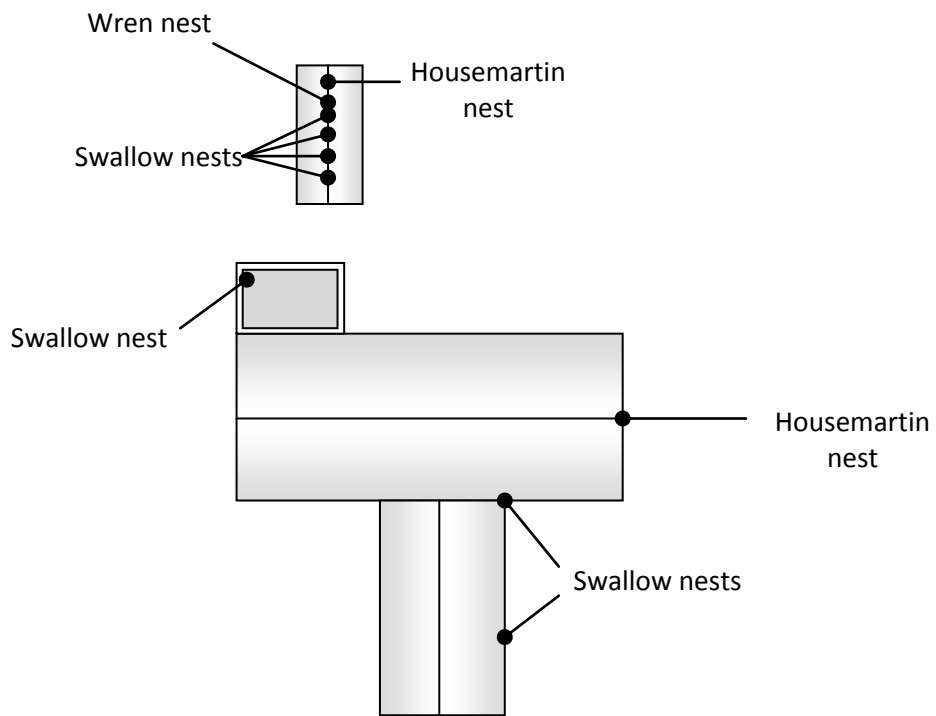
Favourable conservation status' is defined in the Habitats and Species Directive as:

- The sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its population within the territory.

It is assessed as favourable when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long term basis as a viable component of its natural habitats, and the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and:
- There is, or will probably continue to be, a sufficiently large habitat to maintain its populations on a long term basis.

Appendix 2. Evidence of protected species at Tocher Knowe



APPENDIX 3. Additional Site Photographs.



Figure A3.1. There are a number of scattered trees within the site.



Figure A3.2. Copper beech located to the southwest of the site.

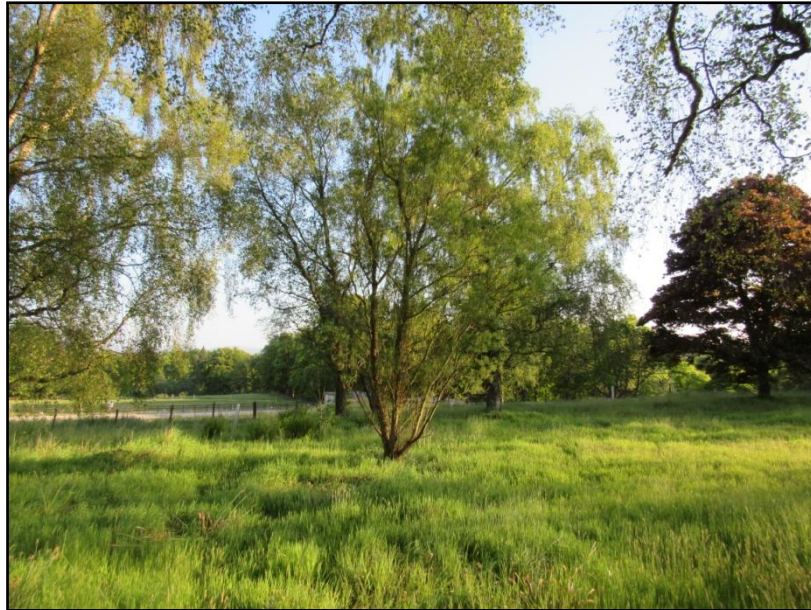


Figure A3.3. None of the trees within the site boundary have any potential to support roosting bats.

APPENDIX 4. SureScreen Scientifics eDNA Report.

Folio No: E18232
 Report No: 1
 Purchase Order: TK001
 Client: The Wildlife Partnership
 Contact: Barry Nicholls

TECHNICAL REPORT

ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS (TRITURUS CRISTATUS)

SUMMARY

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analysing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

RESULTS

Date sample received at Laboratory: 22/06/2023
Date Reported: 30/06/2023
Matters Affecting Results: None

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
5222	West Linton - Tocher Knowe	NT 14159 52814	Pass	Pass	Pass	Negative	0

If you have any questions regarding results, please contact us: ForensicEcology@surescreen.com

Reported by: Jennifer Higginbottom

Approved by: Chelsea Warner



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METHODOLOGY

The samples detailed above have been analysed for the presence of GCN eDNA following the protocol stated in DEFRA WC1067 'Analytical and methodological development for improved surveillance of the Great Crested Newt, Appendix 5.' (Biggs et al. 2014). Each of the 6 sub-sample tubes are first centrifuged and pooled together into a single sample which then undergoes DNA extraction. The extracted sample is then analysed using real time PCR (qPCR), which uses species-specific molecular markers to amplify GCN DNA within a sample. These markers are unique to GCN DNA, meaning that there should be no detection of closely related species.

If GCN DNA is present, the DNA is amplified up to a detectable level, resulting in positive species detection. If GCN DNA is not present then amplification does not occur, and a negative result is recorded.

Analysis of eDNA requires scrupulous attention to detail to prevent risk of contamination. True positive controls, negative controls and spiked synthetic DNA are included in every analysis and these have to be correct before any result is declared and reported. Stages of the DNA analysis are also conducted in different buildings at our premises for added security.

SureScreen Scientifics Ltd is ISO9001 accredited and participate in Natural England's proficiency testing scheme for GCN eDNA testing. We also carry out regular inter-laboratory checks on accuracy of results as part of our quality control procedures.

INTERPRETATION OF RESULTS

- SIC: Sample Integrity Check [Pass/Fail]**
When samples are received in the laboratory, they are inspected for any tube leakage, suitability of sample (not too much mud or weed etc.) and absence of any factors that could potentially lead to inconclusive results.
- DC: Degradation Check [Pass/Fail]**
Analysis of the spiked DNA marker to see if there has been degradation of the kit or sample between the date it was made to the date of analysis. Degradation of the spiked DNA marker may lead indicate a risk of false negative results.
- IC: Inhibition Check [Pass/Fail]**
The presence of inhibitors within a sample are assessed using a DNA marker. If inhibition is detected, samples are purified and re-analysed. Inhibitors cannot always be removed, if the inhibition check fails, the sample should be re-collected.
- Result: Presence of GCN eDNA [Positive/Negative/Inconclusive]**
Positive: GCN DNA was identified within the sample, indicative of GCN presence within the sampling location at the time the sample was taken or within the recent past at the sampling location.
Positive Replicates: Number of positive qPCR replicates out of a series of 12. If one or more of these are found to be positive the pond is declared positive for GCN presence. It may be assumed that small fractions of positive analyses suggest low level presence, but this cannot currently be used for population studies. In accordance with Natural England protocol, even a score of 1/12 is declared positive. 0/12 indicates negative GCN presence.
Negative: GCN eDNA was not detected or is below the threshold detection level and the test result should be considered as evidence of GCN absence, however, does not exclude the potential for GCN presence below the limit of detection.



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APPENDIX 5. Species Protection Plan – breeding birds

Legislation

The Wildlife and Countryside Act 1981 (WCA) provides protection for all birds whilst nesting. There is also enhanced statutory protection to all breeding birds listed under Schedule 1. Recent and significant changes have been made to the protection of wild birds in Scotland by The Nature Conservation (Scotland) Act 2004.

It is an offence to intentionally or recklessly (reckless acts would include disregard of mitigation aimed at protecting birds, resulting in killing, injury, and/or disturbance of any bird or bird resting place) disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

It is an offence to:

- kill or injure any wild bird;
- capture or keep [alive or dead] any wild bird;
- destroy or take the egg of any wild bird;
- sell or advertise for sale any wild bird or its eggs;
- destroy, damage, interfere with, take or obstruct the use of the nest of any wild bird while it is in use or being built.

Further advice is available on the NatureScot website. This Species Protection Plan (SPP) for Breeding Birds includes mitigation to achieve the above aims.

Mitigation Plan

Commencing construction outwith the breeding bird season ensures that the whole site can be actively worked on from the start. The core nesting season is from the beginning of March to the end of July, however some birds may not cease activity at nests until late August or even into September.

Avoidance of the nesting season is the only reliable way of avoiding delays in starting due to nesting birds. Management of nesting birds prior to starting will reduce the risk of nesting birds but will not remove the risk entirely. Risk of nesting birds will increase as the nesting bird season progresses.

If works have to commence during the nesting season, preventative measures and pre-construction monitoring will be required to ensure compliance with the Wildlife and Countryside Act. Additionally, all site workers should be informed of their responsibilities relating to the act and they should be instructed to immediately report any suspected nesting birds on the construction site.

Site Clearance

- Prior to the start of March, remove all last year's remains of long grass and tall herbage. These areas can be ploughed in or rolled flat. The aim is to render the structure provided by last year's growth as unfit for nesting birds.

- Erect bird scarers to give coverage of the working area. There are numerous types available from plastic birds of prey, to motion detector activated sound scarers.
- If works are planned to commence during the nesting season then checks by a suitably qualified ecologist will be required prior to commencement of works to ensure that no nesting birds are present. The checks must be in early morning in the period after the dawn chorus. It is likely that a single visit will suffice at Barony given the simplicity of the site, but if displaying birds are present but no nest area can be located, then further checks may be needed.
- If a nesting bird is found, a suitable buffer area will be taped off as an exclusion zone around the nesting area by the ecologist. This exclusion area will then remain intact until the nesting bird vacates the territory.

During the construction period

- Construction activities may inadvertently create habitat suitable for nesting birds. Oystercatchers frequently move in and occupy areas of bare ground, grey wagtails frequently nest in stored materials and sand martens may move into any piles of aggregate.
- If nesting birds are found on the construction site, a suitably experienced ecologist should be called in for advice. Typically the best approach is to tape off an exclusion zone to prevent damage to the nest area.

To ensure continuity of nesting habitat:

Swallow: To ensure the continued use of the site by this species it is recommended that a total of eight swallow nest cups are erected around the site (see Figure A5.1). Swallows are ideally suited to nest sites located beneath the sheltered overhanging eaves of buildings.

- Fix a nest platform where you would like them to nest, high in the building, out of the reach of cats.
- The nest should be placed at a distance of at least 6cm between the top of the nest and the ceiling.
- Swallows are sociable birds but multiple nests should not be placed at less than 1m intervals.

House martin: To ensure the continued use of the site by this species it is recommended that a total of four artificial house martin nest cups are installed within the site (see Figure A5.2). Boxes should be erected between 3-5m above ground level



Figure A5.1. The nest should be placed inside outbuildings such as sheds, barns or stables leaving a distance of at least 6cm between the top of the nest and the ceiling. You should ensure there is always access for the birds through an open window or sky-light. Swallows are sociable birds but multiple nests should not be placed at less than 1m intervals.



Figure A5.2. These House Martin Nests have been specially designed to appeal to House martins and are constructed from exterior grade plywood and WoodStone, a mixture of FSC wood fibres and concrete. The backing to the nests is exterior grade plywood, making them lightweight and easy to fit, but hard-wearing

Summary of Mitigation Plan

