

Tyrone - Cavan Interconnector

Appendix 7.4
Protected Mammal Report (2019)

SONI

June 2019

Quality information

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The information contained in this report relates to badger setts. Badger are sensitive to disturbance and persecution, and as such the contents of this report and any associated drawings must remain confidential and must not enter the public domain.

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1. Introduction

1.1 Background

AECOM was commissioned by SONI to conduct an updated assessment of protected mammals, particularly badger *Meles meles* and otter *Lutra lutra* along the route of the proposed Tyrone – Cavan Interconnector. This includes proposed temporary access tracks and associated areas.

This document describes the results of the updated assessment to determine any changes to the status of protected mammals within 100 m of the Tyrone – Cavan Interconnector planning application boundaries, focussing particularly on badger and otter.

Previous badger and otter surveys were carried out within 250 m of the Tyrone – Cavan Interconnector, however the reduction in scope is considered appropriate, as these surveys serve as an update to inform on potential impacts specifically on the areas which will be potentially impacted by the Tyrone – Cavan Interconnector (i.e. lands within 100 m of the planning application boundaries of the Tyrone – Cavan Interconnector).

There has been no change to the legislation regarding badger and otter since the Consolidated ES Addendum (2015). Information on the relevant legislation and policy pertaining to badger and otter are presented in the Consolidated ES Addendum (2015).

1.2 Previous Work

The site was initially surveyed in 2005 with an updated survey conducted by AECOM in 2012, details of which are presented in the Consolidated ES (2013).

Thirty-two badger setts were identified during the 2012 surveys. Of these 32 setts, five were abandoned or unoccupied, five were active main sets, 16 were recorded as outliers and three recorded as annexe or subsidiary setts. A further three were not classified.

No direct otter evidence was identified in previous surveys however otters are known to occur in the area, in particular along the River Blackwater (as indicated by CEDaR data; Preston, 2004).

Bats are reported on in a separate appendix (Appendix 7.3). Although not protected under Schedule 5 of the Wildlife (Northern Ireland) Order 1985 (as amended) (the Wildlife Order), Irish hare *Lepus timidus hibernicus*, a Priority Species, were previously assessed in the Consolidated ES (2013). No other Schedule 5 mammal species have been identified in the Tyrone – Cavan Interconnector.

1.3 Site Description

Habitats, and their potential to host protected mammals, have not significantly changed since previous surveys conducted between 2009 and 2012 as presented in the Consolidated ES (2013). Details on habitats are presented in Chapter 7 and Appendix 7.1 of the 2019 Addendum.

1.4 Survey Aims

The survey objectives were to:

- Review previous survey work;
- Identify any protected mammal evidence close to the Tyrone – Cavan Interconnector; and,
- Provide recommendations for further work or mitigation (if required).

2. Methods

The methods used for the data request and the habitat assessment remain unchanged from the previous surveys as described in the Consolidated ES (2013).

2.1 Survey Personnel Experience

Surveys were carried out by Dr Emma Boston (Principal Ecologist), Jenny Jones (Consultant Ecologist), Ashleen Higgins (Consultant Ecologist), Rachel Whyte (Graduate Ecologist) and Scott McCollum (Graduate Ecologist). Assistance was provided by Paul Donaghey (Ecological Placement Student). Direction was provided by Dr Eleanor Ballard and Dr Paul Lynas. Surveyor experience is provided within Appendix 7.2 of the 2019 Addendum.

2.2 Limitations

Survey land access was possible to approximately 70% of the Tyrone – Cavan Interconnector. Some fields were avoided due to the presence of livestock e.g. bulls or suckling calves, however these were either revisited on subsequent days, or boundary hedgerows were surveyed on the other side. In areas where access was not achieved, surveys were carried out from the nearest adjacent vantage point using binoculars, where necessary. Although circa 30% of the Tyrone – Cavan Interconnector was not accessible during these updated surveys, these areas will be subject to pre-construction surveys which will allow opportunity to identify any further mammal evidence.

Despite numerous attempts to access in May and June, the Blackwater River was not fully surveyed for otter evidence as continuous fast flow and high-water levels created unsafe conditions to enter the water and some areas of the riverbanks were avoided due to the presence of dense stands of giant hogweed *Heracleum mantegazzianum*.

3. Results

3.1.1 Badger Survey

In total, 40 badger setts were identified. Of these setts, three are considered to be main setts, with 30 outlier setts and seven setts not categorised. No badger setts were identified within the substation area of the Tyrone – Cavan Interconnector; however, one badger trail was noted.

Table 3.1 details badger setts identified within 100 m the proposed towers, representing setts at risk of potential impacts. None of these setts lie within 25 m of a tower location.

A full list of all badger setts and photographs are presented in Appendix A of this document, along with additional evidence including descriptions of latrines, snuffle holes and push throughs. Badger evidence is shown on confidential Figure 7.1, Volume 4 of this Addendum.

Table 3.1. Badger setts recorded during the surveys within 100 m of towers.

Sett ref.	Nearest Tower	Distance from nearest Tower (m)	Details
B02	T13-T14	85	Sett not categorised, disused, D-shaped hole with rabbit evidence nearby, no badger evidence. Entrance dimensions: A) 35cm W 25cm H. B) 30cm W 20cm H.
B06	T23-T24	53	Partially used sett, not categorised, directly underneath overhead lines, slight smell of fox. Diverges internally, one entrance large enough to accommodate badger: 45cm W 20cm H. Fresh signs of rabbit.
B07	T24-T25	73	Disused sett entrance in hedgerow. Several rabbit holes nearby, no badger evidence. Entrance: 30cm W 30cm H. Not categorised.
B08	T26	74	Main sett with nine entrances. In use with multiple prints (Photograph 1), large recent spoil heap and bedding noted. Sett entrances are very wide and under hawthorn roots. One entrance has become blocked by a rock. Sett entrances are either D or oval shaped. Entrance dimensions: A) 30cm W 26cm H, tunnel direction north with obvious trails. B) 26cm W 22cm H, tunnel direction north, no evidence of badger. C) 20cm W 15cm H, tunnel direction north, no other evidence.

Sett ref.	Nearest Tower	Distance from nearest Tower (m)	Details
			<p>D) 28cm W 27cm H, tunnel direction south, multiple prints at entrance (Photograph 1) bedding in spoil heap.</p> <p>E) 55cm W 40cm H, tunnel direction south.</p> <p>F) 100cm W 30cm H, tunnel splits into four tunnels, entrance facing south.</p> <p>G) 27cm W 25cm H, no other evidence.</p> <p>H) Obscured by vegetation, 20cm W 15cm H, no evidence.</p> <p>I) Obscured by vegetation, 26cm W 15cm H, no evidence.</p> <p>Large amount of snuffle holes, and trails circa 4 latrines in the immediate area of sett. Prints identified outside the sett entrance (Photograph 2).</p>
B09	T27	98	<p>Outlier sett with two entrances and clear path between. Evidence of both badger and rabbit at entrances. Dimensions:</p> <p>A) 30cm H 30cm W, D-shaped tunnel direction east.</p> <p>B) 30cm H 30cm W, D-shaped tunnel direction east.</p>
B16	T54	84	<p>Partially used outlier sett with one entrance. Dimensions: 30cm W 20cm H no other badger evidence tunnel direction north west.</p>
B17	T54	66	<p>Partially used outlier sett with one entrance. Dimensions:35cmW, 28cmH. Roughly oval shaped. Spoil heap small and not recent, no badger hair or prints found. No bedding noted in spoil.</p>
B20	T59	38	<p>Possible main sett with six entrances, all well used with eastern tunnel direction. Large spoil heaps with bedding and badger hairs noted at all entrances. Entrance dimensions:</p> <p>A) 30cm W 20cm H, D-shaped.</p> <p>B) 25cm W 15cm H, D-shaped.</p> <p>C) 30cm W 25cm H, oval shaped.</p> <p>D) Not accessible due to dense vegetation, circular entrance with spoil and bedding noted.</p> <p>E) Not accessible due to dense vegetation, large and D-shaped entrance.</p> <p>F) 35cm W 25cm H, D-shaped entrance with clear trails to other entrances.</p>
B23	T73	85	<p>Accurate measurements not available, circa 35cm W 25cm H, tunnel direction west. A few smaller rabbit holes nearby. Trails noted in vicinity. outlier sett with two entrances in steep bank under hedgerow. Outlier sett.</p>
B24	T73	83	<p>Partially used outlier sett entrance, tunnel direction east. Bedding noted in steep bank under hedgerow. Accurate dimensions not obtained due to location, dimensions circa 30cm W 20cm H, close to rabbit holes.</p>
B27	T85	52	<p>Sett with three entrances approx. 20cm H 30cm W in bank with small spoil heaps. No badger evidence noted. Considered not currently used by badger. Located within a hedge and a stream. Directly under overhead lines.</p>
B29	T87	92	<p>Partially active outlier sett with one entrance recent spoil, but entrance obscured by brambles at circa 1.5m, in bank. Entrance approximately, 30cm W 25cm H.</p>
B33	T97	78	<p>Well used outlier sett with one entrance in earth bank tunnel going south, not categorised, close to B37.</p> <p>Dimensions: 25cm W 20cm H, badger hair caught on wire fence.</p>
B34	T97	84	<p>Outlier sett with one entrance in earth bank tunnel going south, not categorised, close to B36.</p> <p>Dimensions: 30cm W (narrowing to 20cm W) 21cm H, tunnel slopes upwards.</p>
B35	T97	65	<p>Potentially an old collapsed badger sett. Not in use.</p>
B37	T100	67	<p>Partially used outlier sett in hedgerow with one entrance 20cm H 30cm W.</p>

Sett ref.	Nearest Tower	Distance from nearest Tower (m)	Details
B38	T100	57	Partially used outlier sett in hedgerow with one entrance, 20cm H 30cm W, fresh spoil at entrance opens into large chamber.

3.1.2 Otter Survey

The 2012 survey did not find any direct evidence of otters. Studies completed by Quercus (Preston, 2004) indicated that otters are present in the Blackwater River. It is considered likely that otters are present, in low numbers, in tributaries of the Blackwater that are more than 2 m wide.

The 2019 surveys identified two potential holt locations and old otter spraints. Evidence was restricted to one area, within several small streams between T67 and T68. Table 3.2 presents otter evidence found within the Tyrone – Cavan Interconnector. Photographs of evidence are shown in Appendix A of this report. Locations of otter evidence are displayed in Figure 7.1, Volume 4 of this Addendum.

Due to Health and Safety considerations, the Blackwater River was not fully accessed for survey, despite numerous attempts in May and June. The banks of the river were walked as far as possible, and no evidence of otter was noted. However, the topography of the unaccessed reach, moderately flat banks with few mature trees, renders the presence of otter structures unlikely.

Table 3.2. Otter evidence recorded during surveys.

Otter ref.	Tower number	Evidence	Notes
OT01	T67	Potential holt	Path/slide present but not well used. Dimensions: 29cm W x 22cm H. Narrows and rounds slightly internally. Faces east and bends to the south internally. No other evidence.
OT02	T67	Potential holt	Dimensions: 22cm W and 22cm H widens internally. Bare earth at entrance. Smell of either fox or fish, no obvious droppings but possible old spraints on rocks below. Facing east. No other evidence.
OT03	T67	Spraint	Three spraints on rock. Very old and degraded.
OT04	T67	Spraint	Single spraint on rock. Old.
OT05	T67	Spraint	Three spraints on rock. Very old and degraded.
OT06	T67	Spraint	Three possible spraints on rocks. No smell. Dried up. Old.

3.1.3 Other Protected Mammals and Notable Species

3.1.3.1 Other protected mammals

No suitable habitat was noted for other protected mammal species such as red squirrel *Sciurus vulgaris*, pine marten *Martes martes* or other species likely to occur and they are not considered further in this document.

3.1.3.2 Irish Hare

In the previous surveys undertaken by AECOM, Irish hare were spotted in five locations, with five individuals spotted in one location. During the 2019 surveys, hares were spotted in four locations. Table 3.3 presents incidental sightings of hare along the route of the Tyrone – Cavan Interconnector. Both Irish hare and brown hare *Lepus europaeus* are known to occur in County Armagh. Sightings of hare were from a distance therefore distinction between Irish hare and brown hare cannot conclusively be determined. Irish hare is a Northern Ireland Priority species.

Table 3.3. Hare sightings.

Closest tower	Comment
T89	Hare spotted near proposed T89.
T72	Hare spotted in field east of proposed T72.
T63	Hare spotted in field east of proposed T63.
T62	Two hares chasing each other in field just outside of Drumhillery.

4. Discussion

4.1 Badger

Overall the site is considered to have moderate level of badger activity. In total, 40 setts were identified, eight more than the 32 recorded in 2013. Some new setts were discovered whilst some previously found setts were reclassified as rabbit burrows and other setts were not relocated, indicating the ephemeral nature of badger evidence.

As previously found in the Consolidated ES (2013), the majority of badger setts were found to be remote from the Tyrone – Cavan Interconnector.

No setts were found to lie within 25 m of any tower locations. However, 17 setts lie beyond this distance but within 100 m of the tower locations, including two main setts. Dependant on the engineering techniques employed in the foundations of each tower, NIEA will be consulted on a sett by sett basis to ensure no disturbance to badger is created. Sett closure will be avoided where possible, but should this be necessary, it will be carried out under derogation licence between 1 July and 30 November in any year.

Seven intermittently used outlier setts were found within 25 m of access tracks. However, due to the time-bound, non-intrusive nature of the works, no impacts are predicted. NIEA will be consulted on a sett by sett basis to ensure no disturbance to badger is created.

As badgers are mobile species, a pre-construction badger survey will be conducted prior to the commencement of works, to ensure that all badger setts within 100 m of the Tyrone – Cavan Interconnector planning application boundaries are accounted for.

4.2 Otter

Otter evidence was limited to the watercourses between T67 and T68, Two potential otter holts were noted between T67 and T68. These have been classified as potential due to a lack of otter evidence (i.e. spraints) at the entrance, however, otter spraints were noted close to these potential holts.

Otter are assumed present in the Blackwater River, however the topography of the unassessed reach renders the presence of otter structures unlikely. Furthermore, notwithstanding the oversail, the closest tower location to the unassessed reach is circa 98 m, and the closest access track is circa 30 m. Moreover, the height of the water over an extended period also indicates that holts would unlikely exist here.

Otter and their holts are protected under Schedule 5 of the Wildlife Order, and the NIEA advises that otter holts require a 30 m protection zone, whilst natal dens require a protection zone of 150 m; however, potential holts noted are not considered natal dens due to their open location. As described in Chapter 5 of the Consolidated ES (2013), there are no intrusive works proposed within 30m of the Blackwater. The proposed stringing works over the river have been previously described and will not involve groundworks. It is considered that the nature of habitats in the vicinity of the Blackwater River preclude the occurrence of natal dens, as natal dens are in secluded areas, particularly woodland, where there is good cover, protection from disturbance and potential predators, and away from areas of flooding / high water levels. It is considered that the nature of habitats in vicinity of the Blackwater River preclude the occurrence of natal dens, as natal dens are in secluded areas, particularly woodland, where there

is good cover, protection from disturbance and potential predators, and away from areas of flooding / high water levels.

No impacts are predicted to occur.

4.3 Other Protected Mammals and Notable Species

No impacts are predicted to any other protected mammals.

5. Mitigation Measures

The mitigation measures identified in the Consolidated ES (2013) remain unchanged as a result of these updated surveys.

6. Residual Impact Assessment

The residual impacts identified in the Consolidated ES (2013) remain unchanged as a result of these updated surveys.

7. Conclusion

The number of badger setts reported in this latest survey has increased by eight since the last badger survey, as reported in the Consolidated ES (2013). However, whilst a number of setts remain located within 100 m of tower locations, no setts are located within 25 m of them.

No other impacts are expected on any other protected mammals.

On that basis, the conclusions of the Consolidated ES (2013), Addendum (2015) and Technical Report (2017) remain unchanged as a result of these updated surveys.

8. References

DAERA Planning and Environment (2017a) Badgers. Advice for planning officers and applicants seeking planning permission for land which may impact on Badgers. DAERA, Belfast.

DAERA Planning and Environment (2017b) Otters. Advice for planning officers and applicants seeking planning permission for land which may affect otters. DAERA, Belfast.

Harris, S., Creswell, P., and Jefferies, D. (1989) Surveying Badgers. An occasional publication of the mammal society – No 9. Mammal Society, London.

NIEA (2011) Badgers and Development.

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NIEA (2017) Otter Survey: NIEA Specific Requirements.

Preston, J., Prodöhl, P., Portig, A., and Montgomery, I. (2004) Otter Survey of Northern Ireland 2001/2002. Report for the Environment and Heritage Service (DoE), Belfast.

The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended).

The Wildlife (Northern Ireland) Order 1985 (as amended).

Wildlife and Natural Environment Act (Northern Ireland) 2011.

Appendix A Photographs

8.1 Badger Evidence



Photograph 1: Badgers prints in spoil heap at B06.



Photograph 2: Sett entrances at B06.



Photograph 3: Badger hair caught on wire fencing.

Table A.1. Photographs of badger setts

Sett ref. Photograph

Sett ref.	Photograph
B01	
B02	
B03	

Sett ref. Photograph



B04



B05



B06



Sett ref. Photograph

B07



B08



Sett ref. Photograph

B09



B10



B11



B12



Sett ref. Photograph

B13



B14



B15



B16



Sett ref. Photograph

B17



B18



B19



B20 Main sett by T59-

B21 No image available.

B22



B22 No image available.

Sett ref. Photograph

B23



B24



B25



B26



Sett ref. Photograph

B27



B28



B29



B30



Sett ref. Photograph

B31



B32



B33



Sett ref. Photograph

B34



B35 No image available

B36 No access to area, no image taken

B37



B3



Sett ref. Photograph

B39



B40



8.2 Otter Evidence

Table A.2. Photographs of otter evidence.

Ref. Photograph

OT01



OT02



Ref. Photograph

OT03



OT04



OT05



OT06



Appendix B Badger Evidence

Table B.1. Evidence of badger.

Ref.	Evidence	Description	Tower location
PT01	Push through	Badger and fox hair on fence.	Substation
PT02	Push through	Badger and fox hair caught on fence.	T3-T4
L01	Latrine	Possible dung pit with single dropping.	T4
B01	Main sett	Main sett in hedgerow. Six entrances, all tunnel directions south east. Recent spoil heaps with bedding, hair and clear trails. Entrances oval - D-shaped. Entrance dimensions: A) 40cm H 30cm W B) 40cm H, 40cm W C) 30cm H, 30cm W D) 30cm H, 40cm W partly obscured by twigs E) 50cm H, 30cm W, very large spoil heap with obvious trail to other entrances.	T6
L02	Latrine	Latrine associated with B01.	T6
PT03	Push through	Push through.	T10
PT04	Push through	Push through with badger hair.	T10
B02	Sett	Sett not categorised, disused, D-shaped hole with rabbit evidence nearby, no badger evidence. Entrances: A) 35cm W 25cm H B) 30cm H 20cm W	T13-T14
PT05	Push through	Well used by badger.	T19
PT06	Push through	Single badger hair caught on fence.	T19
PT07	Push through	Push through with lots of badger hair.	T19
L03	Latrine	Single dropping in latrine.	T19
B03	Sett	Active outlier sett in hedgerow. Bedding identified in spoil heap (not recent), clear trails leading down to watercourse. Entrance: 40cm W 35cm H.	T20
B04	Sett	Partially used outlier sett with three entrances: A) 20cm W 30cm H, leaf litter inside, badger claw marks near entrance. B) 40cm W 35cm H, bedding and clear trail. C) 25cm W 30cm H, leaves in tunnel, rabbit evidence.	T20
PT09	Push through	Push through with badger and fox hair.	T20
PR01	Push through	Badger print in fox scat.	T20
PT10	Push through	Push through into woodland badger hair caught on fence.	T20
S01	Snuffle hole	Snuffle hole along mammal trail in woodland.	T20

Ref.	Evidence	Description	Tower location
PT08	Push through	Push through between fences.	T20
L04	Latrine	Along mammal trail in woodland.	T20
PT11	Push through	Push through with badger hair caught on fence.	T21
PT12	Push through	Push through opposite PT11.	T21
PT13	Push through	No hair present.	T21
PT14	Push through	Through hedgerow, no hairs.	T21
B05	Sett	Active sett not categorised with three entrances in hedgerow likely in use by rabbit. Entrances: A) partially used, 20cm W 25cm H, in use by rabbit, B) disused hole under root, circa 20cm W 20cm H rabbit evidence at entrance, C) D-shaped entrance 20cm W 30cm H, large spoil heap at entrance, rabbit evidence at entrance.	T21
L05	Latrine	Located in hedgerow with hair and single dropping.	T23-24
PT15	Push through	Push through identified with badger guard hair caught on wire.	T23-T24
B06	Sett	Partially used sett not categorised directly underneath overhead lines slight smell of fox. Diverges internally one entrance large enough to accommodate badger 45cmW 20cmH fresh signs of rabbit.	T23-T24
PT16	Push through	Push through, not well used, badger hair identified.	T23-T24
PT17	Push through	Push through with badger hair caught on wire fence.	T23-T24
B07	Sett	Disused outlier sett directly underneath overhead lines. Dimensions 30cm W 30cm H, several rabbit holes nearby, no evidence of badger.	T24-T25
B08	Main sett	Main sett with nine entrances. In use with multiple prints, large recent spoil heap and bedding noted. Sett entrances are very wide and under hawthorn roots. One entrance has become blocked by a rock. Sett entrances are either D or oval shaped. Entrances: A) 30cm W 26cm H, tunnel direction north with obvious trails. B) 26cm W 22cm H, tunnel direction north, no evidence of badger. C) 20cm W 15cm H, tunnel direction north, no badger evidence. D) 28cm W 27cm H, tunnel direction south, multiple prints at entrance, bedding in spoil heap. E) 55cm W 40cm H, tunnel direction south. F) 100cm W 30cm H, tunnel splits into four tunnels entrance facing south, G) 27cm W 25cm H, no other evidence. H) obscured by vegetation, 20cm W 15cm H, no other evidence. I) obscured by vegetation, 26cm W 15cm H, no other evidence. High number of snuffle holes, and trails, circa 4 latrines in the immediate area of sett. Prints identified outside the sett entrance.	T26
S05	Snuffle hole	Multiple snuffle holes 1-6m from latrine L02.	T26
L08	Latrine	Old.	T26
S03	Snuffle hole	Fresh snuffle holes.	T26
S06	Snuffle hole	Fresh snuffle holes circa 6m from latrine.	T26

Ref.	Evidence	Description	Tower location
S02	Snuffle hole	Fresh snuffle holes.	T26
S04	Snuffle hole	Fresh snuffle holes.	T26
S07	Snuffle hole	Fresh snuffle holes.	T26
L06	Latrine	Located in dry ditch along field boundary.	T26
PT18	Push through	Guard hair noted on wire.	T26
B09	Sett	Outlier sett with two entrances and clear path between. Evidence of both badger and rabbit at entrances. Entrances: A) 30cm H 30cm W, D-shaped, tunnel direction east. B) 30cm H 30cm W, D-shaped, tunnel direction east.	T27
PT19	Push through	Push through, badger guard hair caught on wire.	T42
PT20	Push through	Push through, badger guard hair caught on wire.	T42
S08	Snuffle hole	Snuffle hole.	T42
PT23	Push through	Well-used push through.	T43
L09	Latrine	Single badger dropping in latrine.	T43
B10	Sett	Two entrances identified, no recent use. Entrances: A) 25cm W 20cm H, possibly narrowing internally, facing northwest. B) 20cm H 20cm W, facing west.	T43-T44
L11	Latrine	Three dung pits.	T43-44
PT22	Push through	Push through with badger guard hair caught on wire.	T43-44
B11	Sett	Partially used outlier sett with one entrance in woodland, no direct badger evidence, 30cm W 20cm H, rabbit burrows adjacent.	T44
B12	Sett	Partially used outlier sett with one entrance in woodland, no direct badger evidence, 30cm W 20cm H, rabbit burrows adjacent.	T44
PT25	Push through	Partially used push through with badger hair.	T44-T45
PT24	Push through	Well used push through in hedgerow with badger hair.	T44-T45
PT26	Push through	Push through with badger hair.	T45
S10	Snuffle hole	Snuffle hole.	T45
L12	Latrine	Latrine in hedgerow.	T45
PT27	Push through	Push through with badger hair.	T45
S09	Snuffle hole	Snuffle hole.	T45-T46
S10	Snuffle hole	Snuffle hole.	T45-T46

Ref.	Evidence	Description	Tower location
L12	Latrine	Latrine under hedgerow.	T45-T46
PR02	Print	Badger footprint in tire track on lane.	T46
PT 28	Push through	Push through.	T51
B13	Sett	No access possible, partially used outlier sett, approximately 20cm W 15cm H, tunnel direction east.	T53-T54
B14	Sett	Partially used outlier sett under deadwood and and bramble. Badger hairs noted at entrance, tunnel direction north. Dimensions circa 30cm W 20cm H, rabbit evidence nearby.	T53-T54
B15	Sett	Partially used outlier sett under hedgerow no other badger evidence, tunnel direction north. Dimensions 30cm W 20cm H.	T53-T54
B16	Sett	Partially used outlier sett with one entrance. Dimensions:30cm W 20cm H, no other badger evidence tunnel direction northwest.	T54
B17	Sett	Partially used outlier sett with one entrance. Dimensions: 35cm W, 28cm H. Roughly oval shaped. Spoil heap small and not recent, no badger hair or prints found. No bedding noted in spoil.	T54
PT29	Push through	Push through.	T54-T55
PR03	Print	Badger print near Killylea Road.	T54-T55
PT30	Push through	Push through with badger hair.	T54-T55
PT31	Push through	Push through.	T54-T55
B18	Sett	Well used outlier sett in woodland, 35cm W 25cm H, no direct badger evidence.	T55-T56
B19	Sett	Well used outlier sett in woodland, 35cm W 25cm H, no direct badger evidence.	T55-T56
L13	Latrine	Latrine noted.	T55-T56
S11	Snuffle hole	Snuffle hole.	T55-T56
PT32	Push through	Push through with badger hair caught on wire.	T55-T56
B20	Possible main sett	Possible main sett with six entrances, all well used and facing west. Large spoil heaps with bedding and badger hairs noted at all entrances. Entrances: A) 30cm W 20cm H, D-shaped. B) 25cm W 15cm H, D-shaped. C) 30cm W 25cm H, oval shaped. D) not accessible due to dense vegetation, circular entrance with spoil and bedding noted. E) not accessible due to dense vegetation, large and D-shaped entrance F) 35cm W 25cm H, D-shaped entrance with clear trails to other entrances.	T59
PR04	Snuffle hole	Number of badger prints in soft soil moving in a western direction.	T59
PT33	Push through	Push through with badger hair.	T60
L14	Latrine	Latrine with dropping.	T60
L15	Latrine	Two droppings, not fresh.	T60
L16	Latrine	Two droppings.	T60
L17	Latrine	Single dropping.	T60-T61
L18	Latrine	With two old droppings near riverbank.	T60-T61

Ref.	Evidence	Description	Tower location
B21	Sett	Sett noted but not assessed as outside the working area.	T63
B22	Sett	Active badger sett noted in roadside verge under hedge. 30cm W 20cm H, trail leading south on far side of the road.	T65-T66
B23	Sett	Accurate measurements not available, circa 35cm W 25cm H, tunnel direction west. A few smaller rabbit holes nearby. Trails noted in vicinity. Outlier sett with two entrances in steep bank under hedgerow.	T73
B24	Sett	Partially used outlier sett entrance, tunnel direction east. Bedding noted in steep bank under hedgerow. Accurate dimensions not obtained due to location, dimensions circa 30cm W 20cm H, close to rabbit holes.	T73
B25	Sett	Outlier sett with one entrance hole. 25cm wide, roughly oval shaped. Accurate dimensions not obtained as sett entrance within hedge. Tunnel bends sharply north. No spoil heap, no hair or prints, no bedding. Considered to be used by other species many small rabbit holes noted and a very strong smell of fox nearby.	T73
B26	Sett	Outlier sett with one entrance, dimensions: 30cm W 20cm H. Spoil heap is recent with no bedding or badger hairs found.	T77
L19	Latrine	Latrine noted.	T79
S12	Snuffle hole	Snuffle hole in dry ditch shaded by boundary hedgerow.	T83
B27	Sett	Three entrances all 20cm H 30cm W, no direct badger evidence. Considered not likely to be used by badger. Located within a hedge and a stream. Directly under overhead lines.	T85
B28	Sett	Partially active outlier sett with two entrances. Trails are limited between holes. A) faces north 35cm W, 25cm H B) faces west D-shaped 35cm W, 25cm H	T87
B29	Sett	Partially active outlier sett with one entrance recent spoil, but entrance obscured by brambles at circa 1.5m in bank. Entrance approximately 30cm W 25cm H.	T87
PR05	Print	Possible badger print.	T89
PR06	Print	One badger print in soft mud.	T89
L20	Latrine	Latrine noted.	T92
PR07	Print	Badger print in mud track.	T92
PR08	Print	Badger print.	T92
B30	Sett	Single hole in embankment under hawthorn hedge likely disused. No evidence of badger. Field trails limited. Difficult to access, circa 30cm W 15cm H. Directly underneath proposed lines.	T93-94
B31	Sett	Likely rabbit warren in hedge, one entrance large enough to accommodate badger. D-shaped 35cm W 20cm H, no recent spoil heap, no bedding. Rabbit evidence throughout area.	T95
PT34	Push through	Push through with badger hair caught on fence.	T95
B32	Sett	Outlier sett partially used. Grassy hole in hedge near rabbit hole. 30cm W 20cm H appears to narrow. High number of rabbit evidence in area.	T95-T96
L21	Latrine	Latrine with two fresh droppings, visible trails leading to latrines with several other pits and snuffle holes in the area.	T97
PT35	Push through	With badger hair caught on fence.	T97
PT36	Push through	With badger hair caught on fence.	T97
PT37	Push through	With badger hair caught on wire.	T97

Ref.	Evidence	Description	Tower location
B33	Sett	Sett with one entrance in earth bank all facing south, not categorised, close to B37. Dimensions: 25cm W 20cm H, badger hair caught on wire fence.	T97
B34	Sett	Sett with one entrance in earth bank all facing south, not categorised, close to B36 Dimensions: 30cm W (narrowing to 20cm W) 21cm H, tunnel slopes upwards.	T97
B35	Sett	Potentially an old collapsed badger sett. Not in use.	T97
B36	Sett	Badger sett noted from roadside. No measurements made, no access granted during time of surveys.	T97
PT38	Push through	Push through.	T97
R01	badger	Dead badger noted on Doohat Road.	T99
PT39	Push through	Push through with badger hair on fence, by side of the Derrynoose Road.	T100
B37	Sett	Partially used outlier sett in hedgerow with one entrance 20cm H 30cm W, active.	T100
B38	Sett	Partially used outlier sett in hedgerow with one entrance 20cm H 30cm W, fresh spoil at entrance opens into large chamber.	T100
PT40	Push through	Push through with badger hair caught on wire.	T101
B39	Sett	Outlier sett entrance high in hedgerow/ bank large spoil, clear paths. No other badger evidence. Entrance 35cm W 25cm H, tunnel leading east.	Crossbane Road
B40	Sett	Outlier sett well used under blackthorn shrubs. Large recent spoil, no other evidence. Oval shaped entrance 35cm W 30cm H.	Crossbane Road

