

File Note	
Site name	Hugmore Lane
Site address	Land off Hugmore Lane, Wrexham, LL13 9YE
Client	Ms. E. Snowdon, App Chem Ltd.
Survey date	5 th November 2015
Surveyors name	Amy Campion, Arbtech
Survey details	Badger survey and assessment of all land on and within 30m of the site boundary

Background and survey methodology

A badger survey was completed on the 5th November 2015 by Amy Campion, to survey for badger field signs. This survey was commissioned because the Preliminary Ecological Appraisal conducted in September 2015 by Cheshire Ecological Services (CES) recommended it. This survey area included the site itself and 30m beyond the site boundary. The survey was conducted in good weather conditions.

A walkover survey for badgers was conducted across the site. This includes a search for a number of characteristic field signs of badgers and most importantly a search for any badger setts on the site in all accessible areas beyond the site.

The field signs searched for were as follows:

a. Badger Setts

Most badger holes/tunnels also have a distinctive shape as well as size, being generally wider than they are tall, with a flattened bottom. This gives them a “D” shape (on its side). Tunnels excavated by foxes or rabbits tend to be rounder or oval in shape, and taller than they are broad. However, there is a lot of variability and in some cases holes are used by more than one species. The tunnels excavated by badgers are approximately 30cm in diameter, certainly no smaller than 25cm in diameter. Rabbit burrows, on the other-hand can be quite large at their entrances, soon narrow to a diameter of about 15cm. In Britain, the badger is well studied and, several categories of setts have been determined. Every badger family group (“clan”) has one main sett. These are occupied continuously and are used for breeding; they are usually large, well-established setts which have been excavated by several generations of badgers and are vital to survival of that clan. These setts can become very substantial over time: setts with a dozen to 20 or more entrances are fairly normal but can grow up to setts with

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50-100 entrance holes. Below ground there are hundreds of metres of networked tunnels, created by the excavation of many tonnes of earth.

In addition to the main sett, most clans also have one or more additional secondary setts within their territories. These secondary setts fall into three categories - annexe setts, subsidiary setts, and outlier setts. Secondary setts are less important to the badgers than main setts, but they are useful nonetheless, especially if the main sett is disturbed. Disused setts may be taken over by rabbits or used by foxes; both of these species will also co-habit with badgers in occupied setts.

Badgers are extremely powerful diggers and the nature of excavated material at sett entrances is often diagnostic. Badgers are able to excavate much greater quantities of material than rabbits and foxes and the nature of the excavated material is often much coarser even containing rocks. Sometimes softer rocks are even physically marked by the badger claws. Spoil is excavated out backwards from the hole and fresh excavations are a sign of occupation. In clay soils the excavated material often contains badger hairs. On occasions the bones of badgers, that have presumably died underground, are found in the excavated material.

b. Bedding Material

Badgers use bedding material within their setts- various types of plant material. Characteristic field signs associated with bedding material include old bedding material cleaned out of the sett; bundles of fresh material stored by the sett (a very clear indication of occupation) trails of bedding material dropped on the way to the sett.

c. Tracks and badger paths

Badger footprints are diagnostic. They consist of a broad, kidney-shaped pad with five toes lined up in front. The prints of the front feet are larger than those of the back feet, and the imprints of the ends of the claws are further away from the toes of the front feet as the claws are much longer than those on the hind feet. Sometimes the fifth does not show up on a print but the orientation of the other four toes is still rather characteristic. A typical adult print is about 5.5 cm (+/- 1cm) wide and the hind paws are slightly narrower. On clear ground there will often be an overlap between the front and rear paw print – characteristic of the badger's walk.

Badger paths are usually fairly obvious and represent regularly walked paths by the badger to a point that vegetation is suppressed. Other field signs are often associated with these paths and at certain times of year it is possible to get an idea of if they have been recently used by signs such as freshly crushed plants or new footprints.

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d. *Scratching Posts*

Badger setts are usually associated with scratching posts-typically tress but often also artificial structures such as fence posts, the bases are criss-crossed with badger claw marks.

e. *Badger hairs*

The hairs from the badger's backs and sides are very diagnostic and cannot be confused with other native mammals. They are white or whitish (although may be stained yellow in sandy areas), with a black band towards the tip. They are approximately 7 - 10 cm long. The black band measures 1 - 2 cm and the white tip is also approximately 1cm in length. The hairs can be straight or quite curly. The hairs are quite coarse unlike those of foxes or rabbits. They are oval in cross section and do not roll smoothly between finger and thumb of a surveyor. Hairs are often found trapped on wire fences where badgers cross between land parcels.

f. *Signs of foraging*

Badgers typically make "snuffle" marks where they are winning soil invertebrates. These are conical holes about 10 -14cm wide with spoil generally in all directions. They are often just off badger paths. It is sometimes hard to distinguish badger holes from larger rabbit scrapes. Badgers also excavate ant and wasp nest particularly in the late summer. They will also excavate rabbit holes in order to obtain young rabbits.

g. *Dung and latrines*

Badger droppings tend to look like those of dogs in size and shape, but they are more variable in appearance because of their catholic diet. When the diet is principally composed of earthworms the droppings are quite soft and muddy; while other foods leave more clearly identifiable traces such as the wing cases of beetles, the husks of grain, and the stones or pips of fruits and berries such as yew berries and blackberries – dung is often very purple when blackberries are in fruit.

Badger latrines are small pits (often referred to as dung pits), which in appearance are not unlike snuffle holes. Badger latrines are very diagnostic. No other native animal in Britain deposits its droppings in pits in the same manner as badgers. Felines dig pits for their droppings, but they cover them up after use, while badgers leave their droppings exposed. Foxes conversely site their droppings on prominent places such as tussocks, stumps etc.

Results

The only suitable habitat on site comprised a tree lined boundary with a man-made bund at the rear and sides (north and south elevations) of the site, and the boundary of the neighboring farm. The rest of the site largely consists of hard standing and buildings.

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The surrounding landscape on the west and south elevations consists of roads, the east elevation was a farmer's field and the north east elevation is an adjacent building/farm. The farmland areas are flat and show no suitable features or signs of badgers. The boundary of the farmland to the east consists of a wooden fence with wiring on the bottom slats, the surveyor walked the length of this fencing to check for hair, runs, scratch marks and other signs – none were observed. The land on the opposite side of the road to the site consists of houses and/or fields making it unlikely that badgers would cross the road to the habitat on either sides. In the eastern corner of the site the trees have a scrub understorey, but there were no signs of badger activity; there is also a bund but no sett has been made on the slope of the bund. There was a small mammal run observed on the south elevation on the boundary of the site but this was too small to be made by a badger.

Conclusions and recommendations:

No further surveys are necessary; this survey concludes that the site has no setts or foraging signs were recorded and it is unlikely that badgers utilise this site on a regular basis. The resources on the site are unlikely to comprise an important part of a family group's territory. The loss of the tree-line, bund and grassland is unlikely to result in a significant impact on badgers if these are due to be removed. Based on the findings of this survey, it can be concluded that the proposed works will not disturb badgers whilst they are occupying a sett. There are badger records within 1km, details of this are available upon request via Cheshire Ecological Services.

Photographs:



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