

Midland Metro

G1.3 Mammal Surveys

Signs of mammals were recorded throughout the route corridor during the Phase 1 survey by Carter Ecological Ltd on 13th June 2002 and suitable habitats for protected mammal species, principally bats, water vole, otter and badger identified.

The Phase 1 survey identified the need for additional water vole and bat surveys, which were subsequently undertaken on 3rd and 4th September 2002.

G1.3.1 Bat Survey

Phase 1 Bat Survey

The Phase 1 bat survey was limited to daytime assessment of potential roost sites and foraging areas. For potential roost sites this involved an examination of trackside trees, bridges and tunnels and other structures along the route. For foraging areas an assessment was made regarding the suitability of habitats along and alongside the route. These judgements were based on much previous experience by the surveyor of bat roosting sites and feeding habitats.

Follow Bat Survey

Sites that had been identified as providing potential roost sites for bats were examined in daylight in September 2002. This involved an examination of trackside trees and man-made structures (bridges and tunnels) along the route. Two sites were surveyed at dusk using bat detectors to detect bats leaving potential roost sites.

Bats use several features of mature and senescent trees for roosting and these include the following:

- cracks where large branches have split or broken;
- crevices and cracks in small branches;
- woodpecker holes and rotted boss holes;
- fissures and splits;
- gaps behind loose bark; and
- dense ivy cover.

In general, older trees are likely to contain more of these features than younger ones. Species such as *Quercus* spp (oak), *Fraxinus excelsior* (ash) and *Pinus sylvestris* (Scots pine) are particularly favoured.

Bats will regularly use man-made features in buildings, tunnels, bridges and similar structures as roost sites. Along the proposed route suitable structures include disused tunnels and bridges. Features include:

- crevices in brickwork;
- cavities behind retaining walls;
- drainage conduits; and
- behind ivy cover.

As bats are generally small animals relatively minor cracks in trees and masonry and small gaps in airbricks can provide a roost site or entry to a roost site for a bat.

Bats will forage wherever there are likely to be sufficient numbers of flying insects. Within the route corridor, several areas are considered likely to be of value to feeding bats. These are mostly associated with canals and other wetland areas. Some areas identified as being of potential value to foraging bats were surveyed with bat detectors around and after dusk on 3rd and 4th September 2002.

G1.3.2 Water Vole and Otter

Phase 1 Water Vole Survey

Watercourses and ponds adjacent to and crossed by the route were judged as to their suitability for water voles and, where access was possible, were also searched for signs of the species. Typical signs of water vole include footprints, burrows, runs, feeding remains and latrines (clusters of droppings used as territorial markers).

Signs of otter presence were sought simultaneously with the water vole survey (see below). In addition to signs of otter and water vole, those of mink and brown rat were also recorded, as water vole is often absent on watercourses where these species are present.

Follow-up Water Vole Survey

All watercourses and ponds identified during the Phase 1 survey as being suitable for water vole were surveyed on 4th September 2002.

Each watercourse within the survey area was searched for signs of water vole, as described in Strachan (1998) (5) such as footprints, burrows, runs, feeding remains and droppings. Where water vole territories exist their droppings are deposited at specific latrines that are usually quite easy to find.

Signs of otter presence were sought simultaneously with the water vole survey. In general, otters have very large territories and leave few signs and so it can be very difficult to determine their status in an area. The presence of their spraints (droppings) is often the only sign of otter presence. These are normally deposited on prominent sites at the water's edge where they are likely to be found by other otters. Tracks, holts (breeding dens)

and couches (above ground laying-up sites) were also sought, using methods described in Ward (1994) ⁽¹⁶⁾.

G1.3.3 Badger

The purpose of the badger survey was to identify badger setts and signs of activity in the survey area. Surveys for paths, latrines, footprints and feeding signs were undertaken, using methods outlined in Harris et al (1989) ⁽¹⁷⁾.

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