Goldsworth Park Bat Survey Report

Surrey Bat Group was approached at the end of 2017 by Gerry Smeesters, Manager of the Natural Goldsworth Park (NGP) project, who asked if we could help to answer three questions:

1) Do bats reside in or on the periphery of North Meadow?
2) Is there any other form of ecology on our site that is essential in attracting bat activity and therefore that we should be mindful to preserve?
3) Is there anything we could do with our habitat that would encourage bats?

Gerry pointed out the proximity of Tracious Copse – an area of ancient woodland – and Horsell Common to the site. As we had been planning for some time to carry out bat surveys on Horsell Common, we were keen to find out more about possible links between these areas and Goldsworth Park, as well as investigating the bat fauna of the park itself. After conducting a walkover survey of the site and surrounds, we therefore designed protocols for two types of survey based on bat detectors, which pick up the ultrasound calls used by bats for navigating and catching their insect prey.

The first survey involved NGP volunteers walking a set route (transect) around North Meadow, carrying a bat detector connected to a recording device so that we could analyse the calls later to determine bat species. The transect included the edges of the site, part of the lakeside and the path through the middle of the woodland at the south-east end of the site, and it was walked at least once in July 2018 and again in September 2018, starting at sunset, on fine nights so that bats would not be deterred from flying. In September the volunteers also walked a circuit around the lake recording bat calls.

Goldsworth Park, Woking, showing areas surveyed

The second survey was designed to compare bat activity in a well lit area of the Meadow with a dark area along the strip of woodland connecting the Meadow with Tracious Copse. Some bat species, such as pipistrelles, will happily forage near lights, whereas others, notably those in the genus *Myotis*, are very light-shy. We hypothesised that the former would be found at both sites, while the latter would mainly be found at the darker site, with the woodland edge perhaps acting as a commuting route from the Common towards the Meadow. This survey was done by leaving out static bat detectors, which record bat activity continuously from dusk to dawn, for several nights during July and September –

one in Claydon Road (blue star on map), which overlooks the Meadow, and one at the rear of the (unlit) garden of a house on Tresta Walk (red star on map).

Overall we identified at least seven bat species using the Goldsworth Park site: as only 17 species breed in the UK, this represents quite a rich bat fauna. The species recorded were common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*P. pygmaeus*), Nathusius' pipistrelle (*P. nathusii*), brown long-eared bat (*Plecotus auritus*), noctule (*Nyctalus noctula*), serotine (*Eptesicus serotinus*), and *Myotis* species. There are several *Myotis species*, which are not easy to separate based on their ultrasound calls. However, those recorded during the transect surveys were confined to the lakeside areas, and the characteristics of the calls suggest that these were from Daubenton's bat (*M. daubentonii*), which specialises in foraging over water bodies and has been recorded on the lake before. This is one of the light-shy groups and it was noticeable that it was not recorded elsewhere on the Meadow, and that most activity was concentrated at the south-east and north-west ends of the lake, away from the meadow. Similarly, as predicted, although a few *Myotis* calls were recorded by the static detector by the Meadow, far more were recorded by the one in the darker area: see Table 1.

Table 1 – Numbers of *Myotis* passes recorded at the two static detector locations on a selection of nights.

Date	***Claydon Road***	***Tresta Walk***
06-Jul	1	16
12-Jul	1	12
13-Jul	4	6
06-Sep	5	34
07-Sep	3	45
Total	14	113

The *Myotis* calls recorded here were particularly interesting as they were likely from more than one species, possibly including the rare Alcathoe bat (*M. alcathoe*): we hope to carry out trapping surveys in Tracious Copse next year to try to confirm this and hopefully even identify some roosts. So we answered Gerry's questions as follows…

1) Bats may or may not roost on North Meadow but they certainly use it extensively for foraging and other activities such as mating (lots of pipistrelle social calls were recorded during the autumn mating period). Many of the species detected, such as pipistrelles and serotines, typically roost in buildings, but Daubenton's bats typically roost in woodland; it is likely therefore that they use mature trees in nearby wooded areas during the day and commute through the meadow to reach the lake, which forms an essential foraging resource.

2) Woodland, grassland and water are all important foraging habitats for bats, and the large mature trees towards the north-west end of the meadow may be used for roosting: all of these resources should be conserved for bats and other wildlife. In particular, plants that attract night-flying insects will benefit bats, and lists of these can be found on the Bat Conservation Trust website. But bear in mind also how many of our bats use buildings, often in crevices under hanging tiles, in soffit boxes etc., without being noticed: do be mindful of this if considering extensions or repairs.

3) Reducing nocturnal lighting around the Meadow and lake would be very beneficial: the current lighting may not deter the commoner species but will certainly discourage the rarer, light-shy ones. It probably also provides a barrier to such species commuting between the lake/meadow and woodland roosts, yet one of the key objectives in maintaining habitats to support our beleaguered wildlife is ensuring connectivity between habitat patches. And again, don't forget your own patch – have security lights on motion sensors, and keep outside lighting turned off at night, especially if your garden backs onto a water body, woodland or hedge.

Lynn Whitfield and Ross Baker