HEDGEHOG SURVEY ON MITCHAM COMMON

Report – 2023

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Working to Protect the Common and its Wildlife

Funded by: Mitcham Common Education Trust

Contents

Introduction

The West European Hedgehog *(Erinaceus europaeus)*, one of Britain's favourite animals, population has declined dramatically in recent years with around a third of the national population lost since the millennium. Some of the reasons for decline include habitat fragmentation, fewer invertebrates, road traffic and a changing climate. In 2020, hedgehog were listed as 'Vulnerable to Extinction' on the UK red list for mammals[1]. In 2022, data from the State of Britain's Hedgehogs[2] suggested a stable urban population that might be recovering, which may be as a result of local action in urban areas.

There is a lack of knowledge about the occurrence and size of existing hedgehog populations within London, which can be a key problem with conservation efforts in this part of the country. Therefore, this survey was created to provide current knowledge of the hedgehog presence or absence in Mitcham Common.

Previous survey summary

In 2022, the first Hedgehog citizen science survey was carried out on Mitcham Common. This was planned and carried out by Emma Onyejekwe, who is a member of the Friends of Mitcham Common, and was funded by the Mitcham Common Education Trust.

This was the initial phase of the survey, therefore, it only focused on three of the sub-sites; Golf Course, Mill House and Bidder's Pond. The survey used two different methods; Footprint Tunnels and Spotlighting. The survey showed presence of hedgehogs in all three of the sub-sites surveyed.

During the survey, a small group of eleven volunteers was formed, training was provided and data was collected. A report[3] was produced, which included habitat management recommendations that were suggested during the consultation for the draft Mitcham Common Management Plan 2023-2028[4]. Some of these recommendations were already observed, agreed in principle or noted. With two of the recommendations leading to amendments to the Maintenance Task Prescription.

Survey summary

This phase 2 survey was created to survey the other subsites to determine hedgehog presence and also re-survey last year's subsites in order to confirm continued presence of hedgehogs in those areas. The survey was once again, planned and carried out by Emma Onyejekwe and funded by the Mitcham Common Education Trust. This survey was designed to be a community-based research project/Citizen Science Survey.

The aims of this survey:

- To find out if hedgehogs are present/absent in the various areas of the Common
- To engage volunteers, the local community and other stakeholders in the project to promote positive actions that can benefit the conservation of hedgehogs and other wildlife in the Common and urban environment.

Division of Mitcham Common into survey zones

Mitcham Common is a large site, at 182 hectares, and is spilt into seven sub-sites.

1. Bidders Pond (approximately 25 hectares)
2. Mill House (approximately 21 hectares)
3. Golf Course (approximately 51 hectares)
4. Seven Islands Pond (approximately 46 hectares)
5. One Island Pond (approximately 20 hectares)
6. Gunsite (approximately 13 hectares)
7. Mill Green (approximately 6 hectares)

Volunteer involvement

The group of eleven volunteers formed during the initial survey in 2022, were joined by an additional five volunteers this year. This included a diverse range of volunteers, comprising members of the Friends of Mitcham Common, a group of people passionate about the maintenance of the Common, and other interested members of the local community. All volunteers were invited to a WhatsApp group, where they were given updates on the survey project and given links to resources to help raise awareness on hedgehogs (via Hedgehog Street).

Volunteers were asked to sign up to the various survey dates and methods. Overall volunteering hours for field work, ranged from 1hr 20mins to 25hrs 40mins, with an average of 6hrs 40mins (Note: This does not include the project leader).

Training

All volunteers were invited to a talk on hedgehog ecology and reasons for their population decline. The talk was held in The Mill House Ecology Centre and fourteen people attended. This included some of the survey volunteers, interested members of the community and the warden on Mitcham Common. The volunteers who took part in the field surveys all received a volunteer handbook, which included details on how to carry out the survey method, health and safety protocol, risk assessment and emergency procedure.

Data collection

During the survey the ‘what3words’ app was utilised to mark the precise location of the footprint tunnels and where the hedgehog sightings were located. All data was recorded in paper format during the survey and then uploaded electronically and transferred into a excel spreadsheet. Using the UK Grid Reference Finder, the ‘what3words’ were converted into a ten-figure grid reference.

Survey methods

Method 1 - Footprint tunnels:

Hedgehogs leave very distinct footprints which can be used to determine the species' presence. Footprint tunnels are simple, made up of plastic triangular tunnels with a removable insert to which A4 paper is attached. A vegetable oil and charcoal ink is painted on either side of a dish of bait (Spikes Semi-Moist Hedgehog Food). As a hedgehog moves through the tunnel, it walks on the ink and leaves footprints on the paper which can then be identified. Tunnels were set up across a site alongside linear features, which are favoured by commuting and foraging hedgehogs, and monitored daily for three consecutive days.

Guidance for this method was sought by People's Trust for Endangered Species (PTES) guidance leaflets[5,6]

Photo 1 - Footprint tunnel

Photo 2 - Footprint tunnel

Method 2 – Spotlighting

This method consists of night time surveys using bright (up to 370 lumens) torches along a pre-designated route to locate a hedgehog. Hedgehogs can also be located by sound, so volunteers were instructed to keep noise to a minimum, and to listen out for rustles in the undergrowth, and/or the noises made during courtship or fighting. Hedgehogs typically 'freeze' when they hear the sounds of a potential predator approaching. This survey method did not include handling or disturbance to hedgehogs.

All volunteers were given a torch, high vis jacket, safety whistle and lanyard (with key contacts) and followed a designated route (See Appendix 2).

Guidance for this method was sought by PTES guidance leaflet[5] and the Royal Parks Foundation Hedgehog Hero Surveys.

Photo 3 -During spotlighting survey.

Results

Method 1 – Footprint tunnels

As this method was carried out in 2022 on the Mill House and Golf Course sub-sites, these areas were not included in this survey.

The results from this method showed that hedgehogs are present on One Island Pond and Seven Islands Pond. This method also showed signs of other mammals, as some tunnels were disturbed by foxes and/or dogs (footprints, bite marks and fox urine) and also showed some rodent/shrew footprints. Examples of these can be seen in Appendix 3.

Table 1 below gives information on the footprint tunnels. Appendix 1 shows maps of the placement of the footprint tunnels with these results.

Sub-site	Number of tunnels placed	Date of placement	Date of Collection	Weather during survey	Hedgehog footprints
Bidder's Pond	5	26/07/23	29/07/23	Mix of rain and sun, heavy rain at times. Average Temp = 19˚C	No
One Island Pond	5	27/07/23	30/07/23	Mix of rain and sun, heavy rain at times. Average Temp = 19˚C	Yes 2/5 tunnels
Gunsite **Mill Green**	5 2	02/08/23	05/08/23	Rain throughout week. Average temp = 18˚C	No
Seven Island Pond	10	09/08/23	12/08/23	Mix of sun and cloud. Average temp = 20˚C	Yes 1/10 tunnels

Table 1 - Data collected from footprint tunnels

Photo 4 - Project leader with footprint tunnel

Photo 5 - Hedgehog footprints

Method 2 – Spotlighting

This method was carried out in 2022 on the Mill House & Bidder's Pond and Golf Course sub-sites, which showed a presence of hedgehogs on both sites. These sites were re-surveyed this year to confirm continued presence of hedgehogs. The One Islands sub-site was not included in this method, as during the footprint tunnel method the grass was noted to be too tall, horses were on the grass and there were multiple people hanging around the pond. Therefore, it was deemed unsuitable for the night time survey.

The results from this survey showed that hedgehogs are still present on the Mill House and Golf Course sub-sites. During this method other mammals were spotted; foxes, rabbits and a bat, along with a mouse, toads and toadlets.

Table 2 gives you some information about spotlight surveys. Appendix 2 shows maps of the routes at each sub-sites.

Sub-site	Route distance (Km)	Number of volunteers (including project leader)	Date	Timings	Sunset	Weather during survey	Hedgehog sightings
Mill house and Bidder's Pond	2.50	5	25/08/23	**Start** = 20:00 **Finish** = 22:30	20:03	**Start** = Cloudy, 18˚C, 60% humidity, wind gust 19mph **Finish** = Partly cloudy, 16 ˚C, 78% humidity and wind gusts of 12mph	None on 25/08/23 One on 26/08/23 At 23:36, on Grass <10cm, by torch, walking
Seven Islands Pond	3.20	5	26/08/23	**Start** = 20:00 **Finish** = 22:30	20:00	**Start** = Partly Cloudy, 16 ˚C, 78% humidity, wind gust 14mph **Finish** = Partly cloudy, 13˚C, 79% humidity and	None

						wind gusts of 12mph	
Golf Course	3.91	5	01/09/23	**Start** = 20:48 **Finish** = 23:31	19:47	**Start** = Partly cloudy, 20˚C, 75% humidity, wind gust 10mph **Finish** = Partly cloudy,misty, 17˚C, 81% humidity and wind gusts of 9mph	Two – 1) 21:33, woodland, by torch, walking 2) 23:07, grass <10cm, torch, still
Gunsite	1.22	3	02/09/23	**Start** = 20:30 **Finish** = 23:30	19:45	**Start** = Cloudy, 21˚C, 72% humidity, wind gust 15mph **Finish** = Clear, 18˚C, 86% humidity and wind gusts of 10mph	None

Table 2 – Data collected from spotlighting

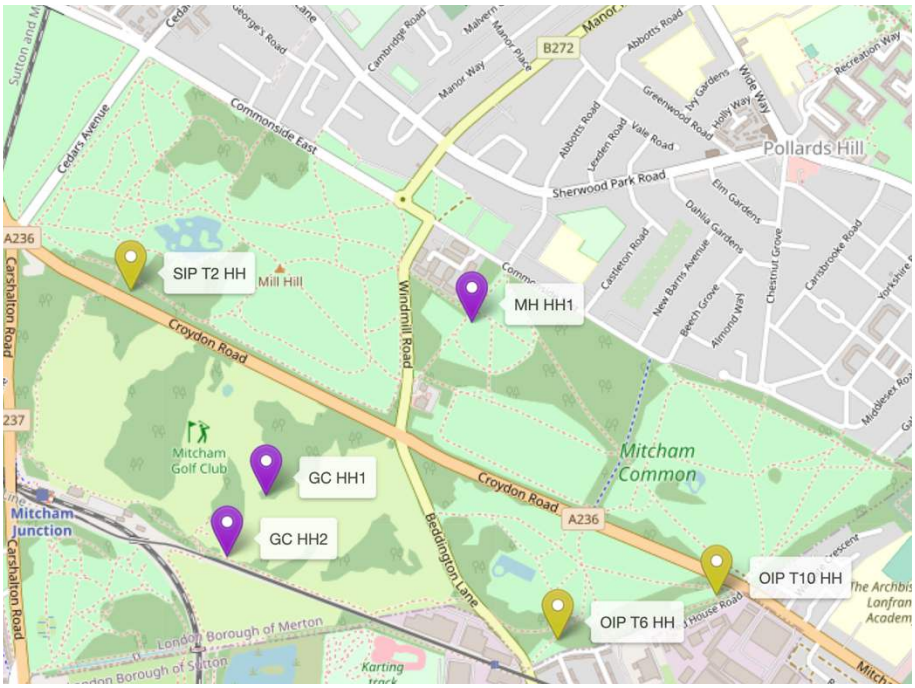
These sightings have been logged on the Big Hedgehog Map and the Greenspace Information for Greater London CIC (GiGL).

Photo 6 – Hedgehog on Golf Course sub-site

Photo 7 – Hedgehog on Mill House sub-site

Overall results

The survey showed hedgehogs are present on One Islands Pond, Seven Islands Pond, Mill House and Golf Course and absence on Bidder's Pond, Gunsite and Mill Green.



= Hedgehog sighting

= Hedgehog Footprints

Sightings =
TQ 29241 68016
TQ 28696 67468
TQ 28782 67609

Footprints =
TQ 28458 68068
TQ 29458 67296
TQ 29497 67567

Figure 1 - Map of Mitcham Common with overall results

Discussion

Results show that hedgehogs are present on four of the sub-sites of Mitcham Common. However, the weather may have had an impact on survey results. The survey was carried out at the same time as the previous year, however, the weather was very different. Summer of 2022, experienced extreme temperatures during a heat wave leaving the sub-sites very dry (including the streams in the Gold Course) likely impacting hedgehog food availability. The 2023 summer, was extremely wet in comparison, with areas left boggy and streams high on the Golf Course sub-site. De-construction work had also been undertaken on a temporary road on the Bidder's Pond sub-site, which may have caused disturbance to Hedgehogs in this area.

The sub-sites where hedgehogs were recorded are isolated by busy A and B roads; A236 Croydon Road, B272 Windmill Road and Beddington Lane. Specific surveys could be useful to see if hedgehogs are crossing these roads, this could be determined by

noting sightings of any road casualties. Existing citizen surveys like PTES Mammals on the Road could be utilised for this and records could be obtained. Two of the sub-sites (Golf Course and One Islands Pond) are also in close proximity to the Transport for London (TFL) Tramlink, which passes through Mitcham Junction Tram Stop and Beddington Lane Tram Stop. A survey could be used to see if hedgehogs are using the tram sidings as a potential green corridor.

Research has suggested that around 90 hectares[7] is needed to support a minimum population of hedgehogs. As the sub-sites are smaller than this, connecting these areas with other greenspaces would be a key element for the survival of hedgehogs in this area. Possible areas that could be connected include the Mill House & Bidders Pond sub-sites (approx. 46ha), Sherwood Recreation Ground (1.4ha), Mayfield Recreation Ground (0.5ha) and Croydon Cemetery (17ha) and nearby residential gardens. This could create an area of approximately 136ha, as shown on figure 2. This area would include allotments on Mayfield Road and Hadley Road (where there has been past hedgehog sightings). These greenspaces could be connected by the creation of a Hedgehog Highway, by allowing a 13cm by 13cm gaps in fences that can allow hedgehogs to pass freely between gardens. Mitcham Common is part of The Wandle Valley Regional Park, which also includes Beddington Farmlands and Beddington Park. This area of 485 hectares, forms one of the largest contiguous green spaces in South London and would provide the necessary connectivity to support hedgehogs.

Figure 2 - Map of the surrounding greenspaces by the (1) Mill House & Bidder's Pond sub-sites 2) Sherwood Recreation Ground 3) Mayfield Recreation Ground 4) Croydon Cemetery 5) Mayfield Road Allotments 6) Hadley Road Allotments

Conclusion

It is encouraging to see evidence of hedgehogs across Mitcham Common. Knowing where they are present could aid habitat management plans to help conserve hedgehogs on the Common, in order to continue to provide a suitable environment where they can thrive. Repeated annual surveys could be carried out on the Common to confirm continued presence or another method could be used to gain information on the population size, health and behaviour of the hedgehogs. This data could aid conservation strategies and trends for the UK hedgehog population. Hedgehog surveys could also be carried out in the surrounding greenspaces to gain further information on the presence of hedgehogs in this area. Surveys would also promote positive actions, like Hedgehog Highways, which will benefit the conservation of hedgehogs and other wildlife present in the Common and the urban environment.

By engaging members of the local community during this citizen science survey, it has not only given volunteers the skillset to survey hedgehogs and knowledge to help them, but has also allowed them to connect with their local greenspace. This is vital when promoting local conservation action and could lead to a greater benefit to the hedgehogs in this area.

Acknowledgements

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The author would like to say a special thanks to all the volunteers that engaged and took part in this survey.

References

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4. Mitcham Common Conservators (2023) Mitcham Common Management Plan 2023-2028. Available at: https://mitchamcommon.org/wp-content/uploads/Mitcham-Common-Management-Plan-2023.pdf

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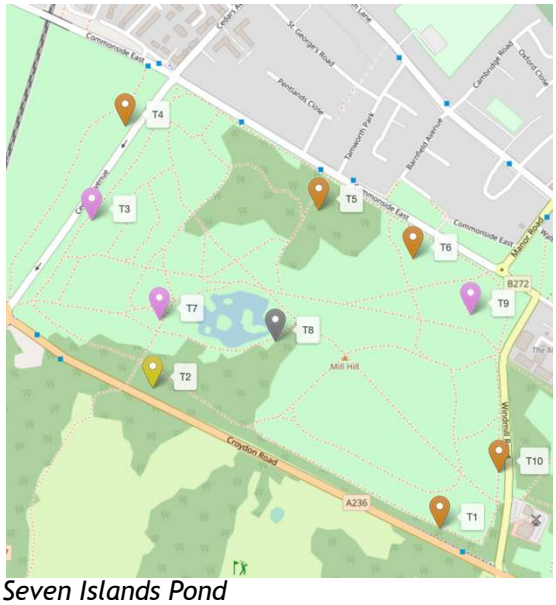
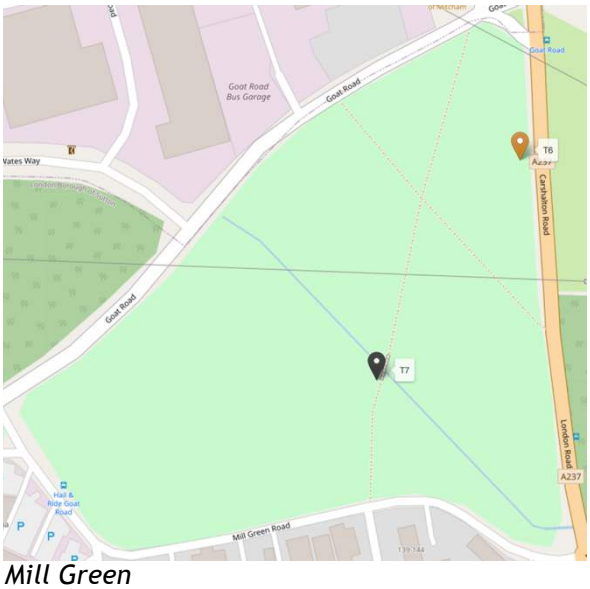
6. People's trust for endangered species & British Hedgehog Preservation Society (2015). Guidance for detecting hedgehogs using tracking tunnels and footprint guide, version 2. Available at: https://ptes.org/get-informed/publications/guidance-leaflets/

7. Moorhouse, T. (2013) Population Viability Analysis of Hedgehogs in Rural and Urban Habitats. Oxford, UK: University of Oxford

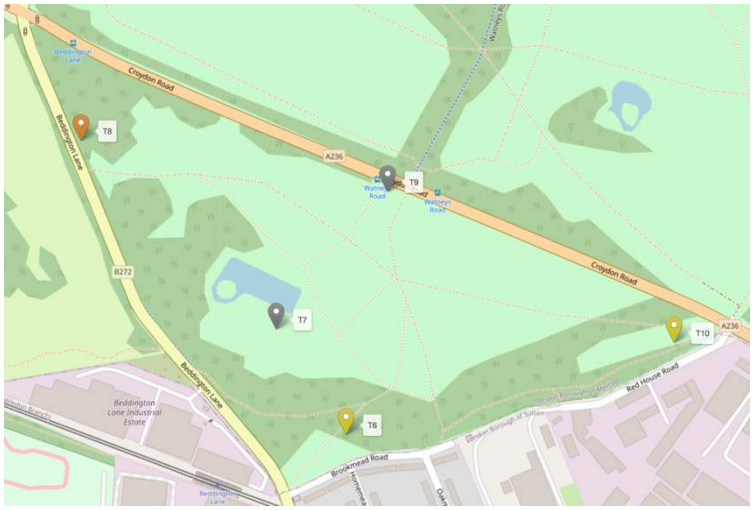
Appendix 1 – Footprint Tunnel Locations and Results



Seven Islands Pond



Mill Green



One Islands Pond

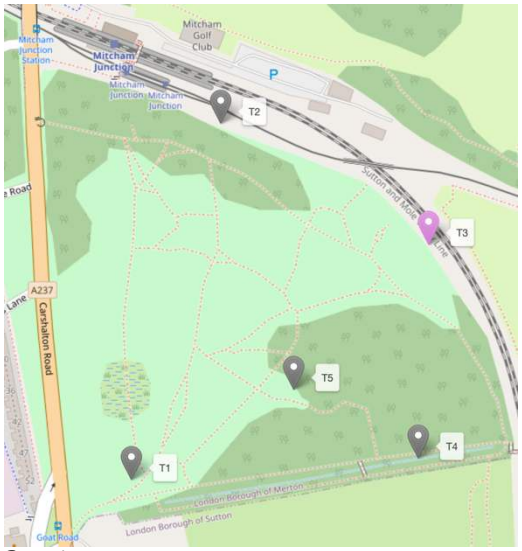
= Hedgehog footprints

= Rodent/Small Mammal footprints

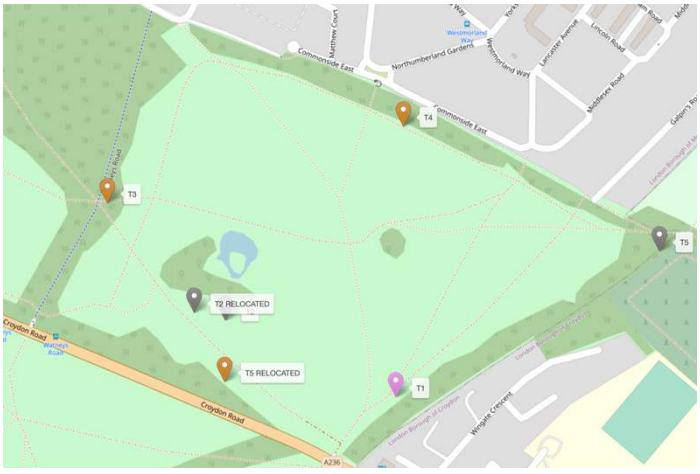
= Fox footprints/disturbance signs

= No footprints

= Removed due to disturbance



Gunsite

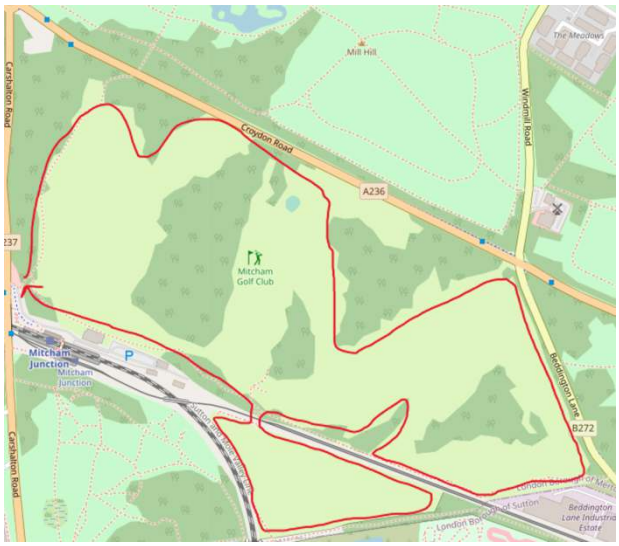


Bidder's Pond

Appendix 2 – Spotlight Walking Routes

Seven Islands Pond

Gunsite



Golf Course

Mill House & Bidder's Pond

Appendix 3 -

Hedgehog footprints

Fox footprints

Rodent or Shrew footprints