HEDGEHOG SURVEY ON MITCHAM COMMON

Report – 2022

Emma Onyejekwe RVN APVN (Wildlife)

Friends of Mitcham Common

Working to Protect the Common and its Wildlife

Funded by: Mitcham Common Education Trust

Contents

Introduction

One of Britain's favourite animals, the Hedgehog *(Erinaceus europaeus)*, has declined dramatically in recent years with around a third of the national population lost since the millennium. In 2020, hedgehog were listed as 'Vulnerable to Extinction' on the UK red list for mammals[1]. Hedgehog populations are declining in both rural and urban areas. Some of the reasons for decline include habitat fragmentation, fewer invertebrates, road traffic, refuse and a changing climate. Urban areas can be a refuges for hedgehogs, in gardens and green-spaces. In the recent State of Britain's Hedgehogs[2] the data suggest a stable urban population that might be recovering, which may be as a result of local action in these areas.

There is a lack of knowledge about the occurrence and size of existing populations within London, which can be a key problem with conservation efforts. In The Ecological Survey of Mitcham Common[3] sixteen hedgehog corpses were found across the Common. There has been sightings of hedgehogs in the last few years, that have been logged on the Big Hedgehog Map[4] and National Biodiversity Network (NBN) Atlas[5].

Project summary

The aims of this survey:

- To find out if Hedgehogs are a) present/absent in the various areas of the Common and b) whether they are abundant or scarce
- 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.

A community-based research project

The survey involved fieldwork which relied on a dedicated team of volunteers.

The survey methods included:

- Method 1 = Footprint tunnels - systematically placed throughout the Common to assess broad patterns of distribution.
- Method 2 = Spotlighting - surveyors systematically search for hedgehogs throughout the Common for 2-3 hours after dusk on specific days to detect hedgehogs.

Division of Mitcham Common into survey zones

Mitcham Common is a large site, at 182 hectares, and is spilt into seven sub-sites. These sub-sites will act as the survey zones. However, this initial phase of the survey only focused on three of the sub-sites; Golf Course (approximately 68 hectares), Mill House and Bidder's Pond (70 hectares). These subsites have been selected based on recent public sightings of hedgehogs, data from the NBN Atlas[5] and a past survey[3]

Survey design

This project was planned and carried out by Emma Onyejekwe, who is a member of the Friends of Mitcham Common. The project was funded by The Mitcham Common Education Trust.

Volunteer involvement

A small group of eleven volunteers was formed, which included members of the Friends of Mitcham Common, a group of people passionate about the maintenance of the Common, and other interested members of the public.

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).

Training

All volunteers were invited to a talk that discussed Hedgehog ecology and reasons for their population decline. The talk was held in Sherwood Park Hall and seven volunteers attended.

There were six volunteers who took part in the field surveys and they 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 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 six-figure grid reference.

Survey methods

Method 1 - Footprint Tunnels:

Hedgehogs leave very distinct footprints. Collecting footprints of foraging mammals can be used to determine the species' presence. Footprint tunnels are simple, 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 Crunchy Dry Hedgehog Food). As a hedgehog moves through the tunnel, it leaves footprints on the paper which can easily be identified.

Tunnels are set up across a site alongside linear features, which are favoured by commuting and foraging hedgehogs, and monitored for five continuous days. Each day the tunnels are checked to see whether they've been visited by hedgehogs, and replaced with bait and footprint papers when necessary.

On Saturday 23rd July, ten footprint tunnels were set up on the Golf Course sub-site (figure 1) and removed on Thursday 28th July. On Saturday 6th August, six footprint tunnels were set up on Mill House sub-site and one on the Bidders Pond sub-site (figure 2) and were removed on Thursday 11th August. The weather during this method was dry with an average temperature of 21°C.

Guidance for this method was sought by People's Trust for Endangered Species guidance leaflets[6,7].

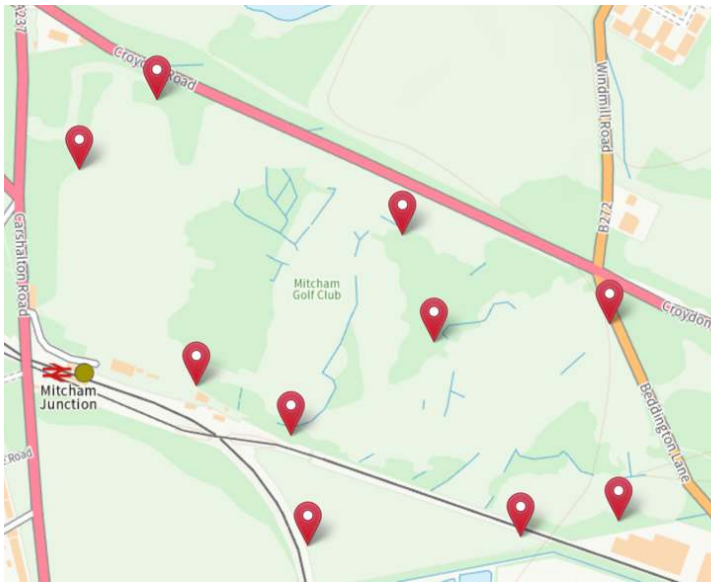

Figure 1 - Golf Course sub-site

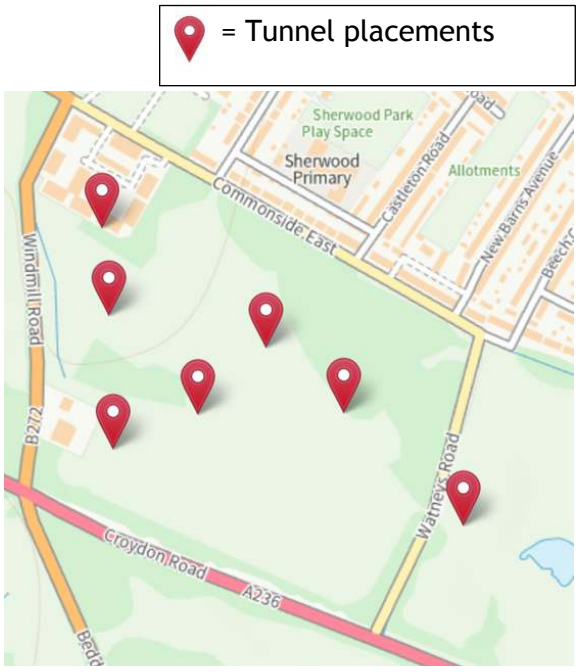

Figure 2 - Mill House & Bidder's Pond sub-sites

Method 2 – Spotlighting

This method consists of night surveys using bright 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. Data are then recorded when a hedgehog has been spotted. This method did not include any handling or disturbance to the hedgehogs.

All volunteers were given a torch, high vis jacket, safety whistle and lanyard (with key contacts) and followed a designated route (figures 3 & 4). Two night-time surveys were carried out from 8pm to 11pm. The first survey took place on the Mill House and Bidder's Pond sub-sites on Friday 2nd September. The second survey took place on the Golf Course sub-sites on Sunday 4th September. The weather during this method was dry with passing clouds and an average temperature of 21°C.

Guidance for this method was sought by People's Trust for Endangered Species guidance leaflet[6] and the Royal Parks Foundation Hedgehog Hero Surveys[8].

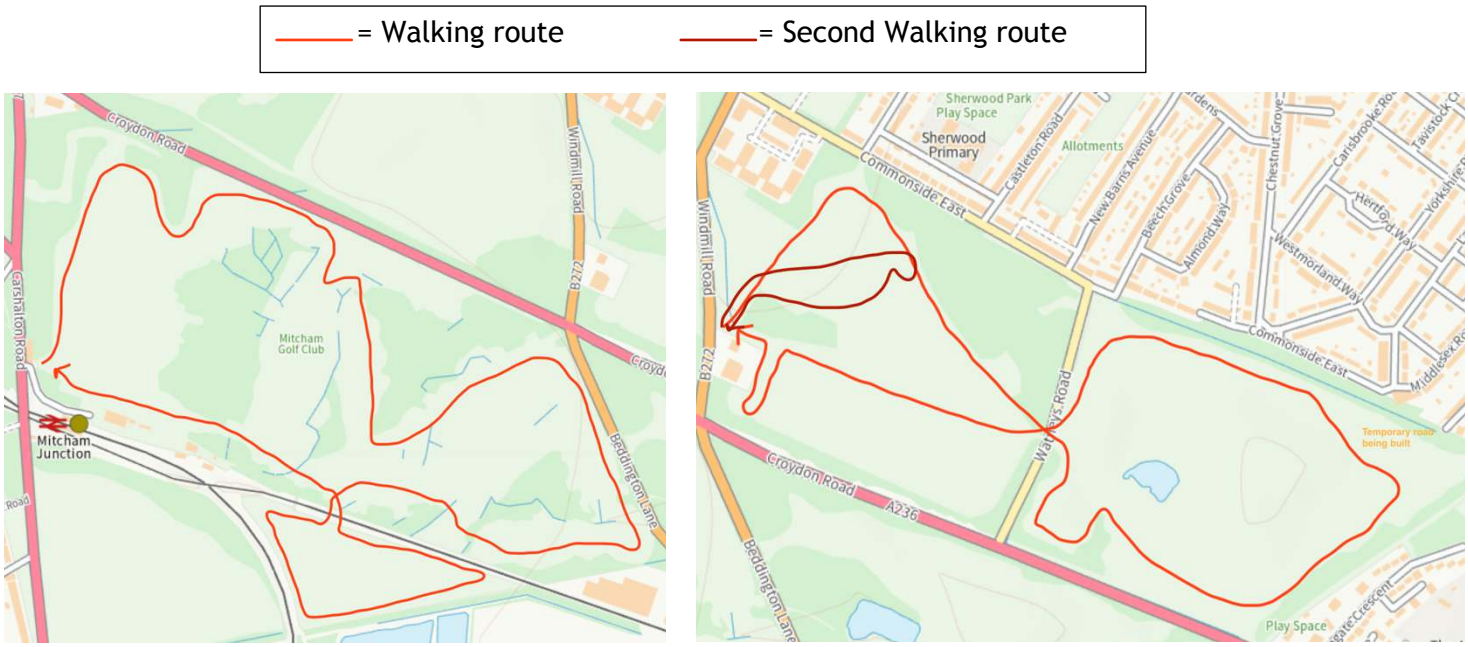

Figure 3 - Golf Course sub-site

Figure 4 - Mill House & Bidder's Pond sub-sites

Results

Method 1 – Footprint tunnels

Golf Course sub-site:
Hedgehog footprints were recorded on three of the ten tunnels placed (figure 5) on this sub-site. In one location (grid ref: TQ288676) foot prints were detected on three consecutive days. There was also evidence of fox footprints and potentially a bird as well. There was some disturbance on the placements of the tunnels, which is thought to be from foxes or domestic dogs, as they were slightly moved and chewed.

Mill House & Bidder's point sub-sites:
Hedgehog footprints were recorded on one of the six tunnels placed (figure 6) and these footprints were detected for two consecutive days. There were also rodent footprints recorded on one of the tunnels placed.

Method 2 – Spotlight

Golf Course sub-site:
Four hedgehog sightings were observed during this night survey (figure 5). All four hedgehogs were found by torch light. Three were found still in grass less than 10cm tall and one was found walking/climbing on a dry stream bank. The hedgehogs were located ay 21:40, 21:56, 22:10, 22:45.

Mill House & Bidder's Pond sub-sites:
Two hedgehog sightings were observed during this night survey (figure 6). One hedgehog was found by sound in woodland area at 20:50 and the other was found by bare soil by torchlight at 22:37.

All hedgehog sightings were recorded on the Big Hedgehog Map[4] after the survey had been completed.

= Hedgehog footprints in tunnel

= Hedgehog sighting

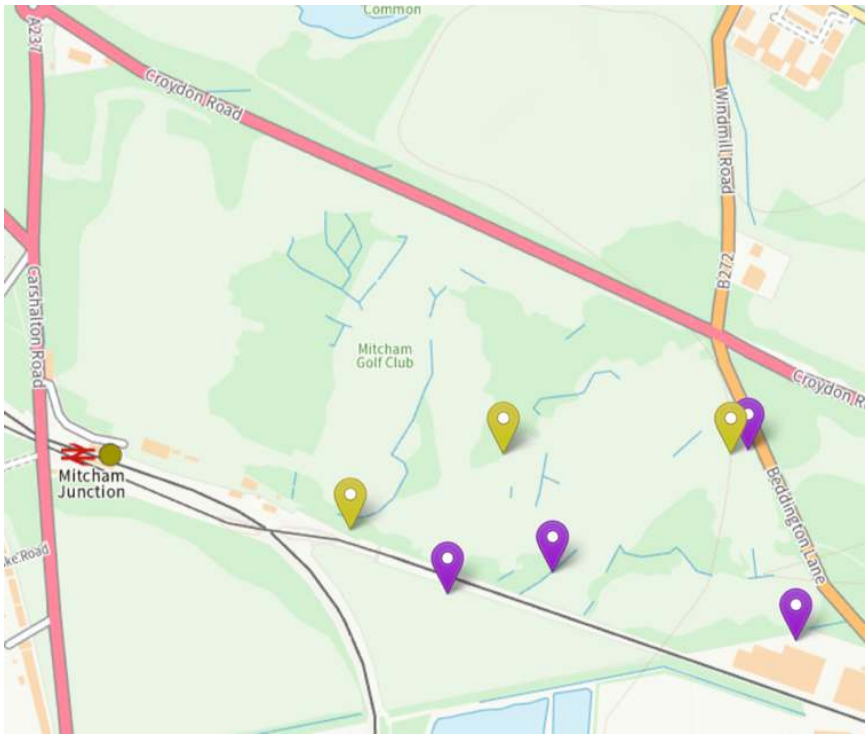

Figure 5 – Golf Course sub-site

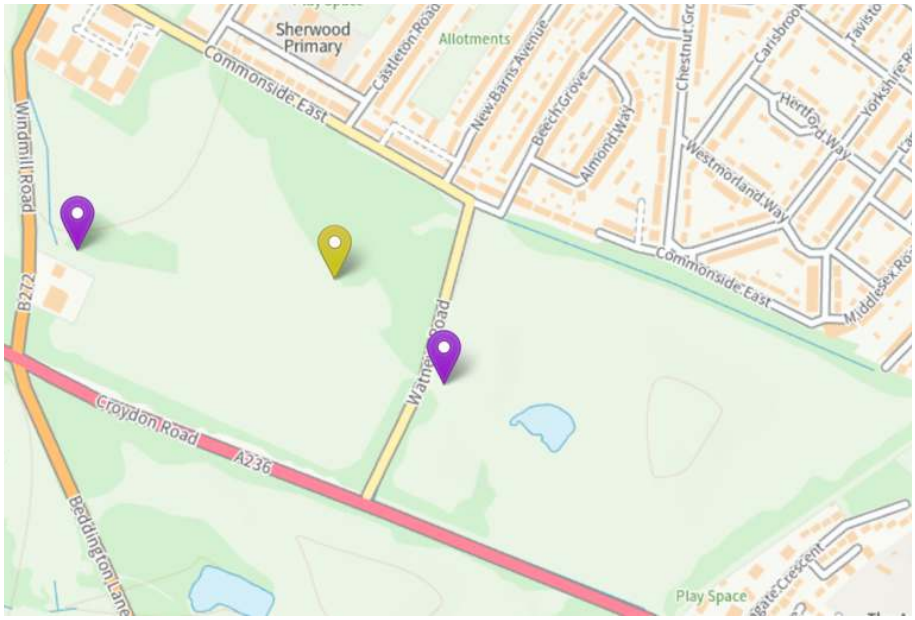

Figure 6 – Mill House & Bidder's Pond sub-sites

Grid references of footprints found	Grid reference of sightings located
TQ288676	TQ291676
TQ291676	TQ291673
TQ286675	TQ288674
TQ294678	TQ287674
	TQ296677
	TQ291678

Discussion

Results show that hedgehogs are present on Mitcham Common. Hedgehogs were recorded on the Golf Course sub-site, where vast areas of land (approximately 68 hectares) are heavily managed. Streams on site were dry due to the heat wave experienced this late summer, but a sprinkler system was present across the Golf Course which could be attractive to hedgehogs. During the night survey on the Mill House & Bidder's Pond sub-sites, construction work had been undertaken to build a temporary road on the Bidder's Pond sub-site (roughly marked on figure 4). This may have caused a disturbance to the hedgehogs in this area and also limited the extent of the survey in this area.

The proximity to residential houses with gardens and Croydon Cemetery (figure 7) by the Mill House & Bidder's Pond sub-sites could provide a connectivity corridor for hedgehogs. Last year, two hedgehogs were sighted on the allotment in Hadley Road. This could suggest that hedgehogs are travelling from the Mill House sub-site. In order to determine if hedgehogs are present or using these residential areas or Croydon Cemetery, a survey or questionnaire could be designed for the local neighbourhood.

Although the Golf Course sub-site, is surrounded by three busy roads (Croydon Road, Carshalton Road and Beddington Lane), Hedgehogs could be using the rail and tram sidings to reach Beddington Farmlands. A future survey could be designed to include One Island Pond sub-site, Gunsite sub-site and Beddington Farmlands, incorporating the rail and tram sidings.

A survey in 2020[9], carried out by ZSL London, recorded four sightings, via camera trap, of hedgehogs in Beddington Park. Research has suggested that space of around 90 hectares[10] is needed to support a minimum population of hedgehogs, whereas Beddington Park is only 59 hectares. Connectivity between Beddington Park and Mitcham Common would achieve this. 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. As Hedgehogs have been sighted in these areas (figure 8) this could be a good piece of connective land to support hedgehogs.

As marking was not carried out, it is not certain that the hedgehog sightings on the Golf Course sub-site and on the Mill House & Bidder's Pond sub-sites were individual records rather than multiple sightings of the same individual hedgehog. However, due to the timings of the sightings it is not likely to be the case. Marking surveys would need to be undertaken to determine the approximate population size.

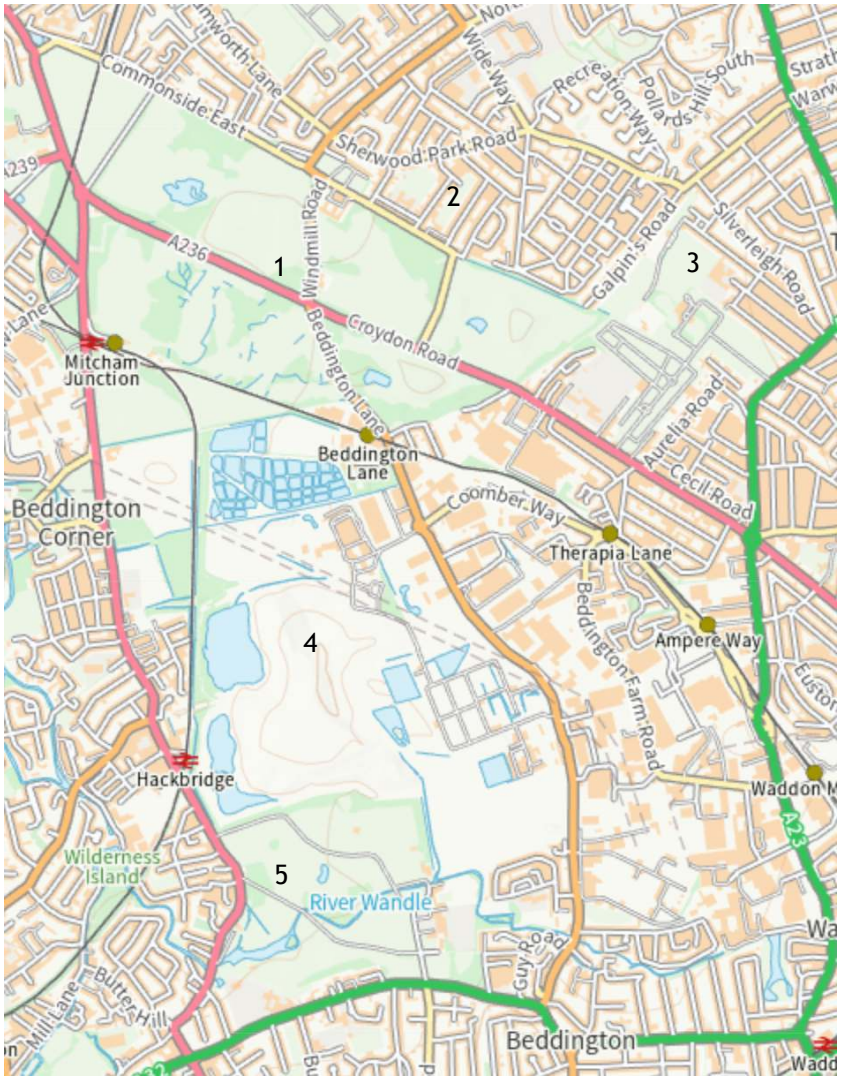

Figure 7 - Map of the surrounding areas by Mitcham Common

1 = Mitcham Common (182ha)
2 = Hadley Road Allotment
3 = Croydon Cemetery (17ha)
4 = Beddington Farmlands (161ha)
5 = Beddington Park (59ha)

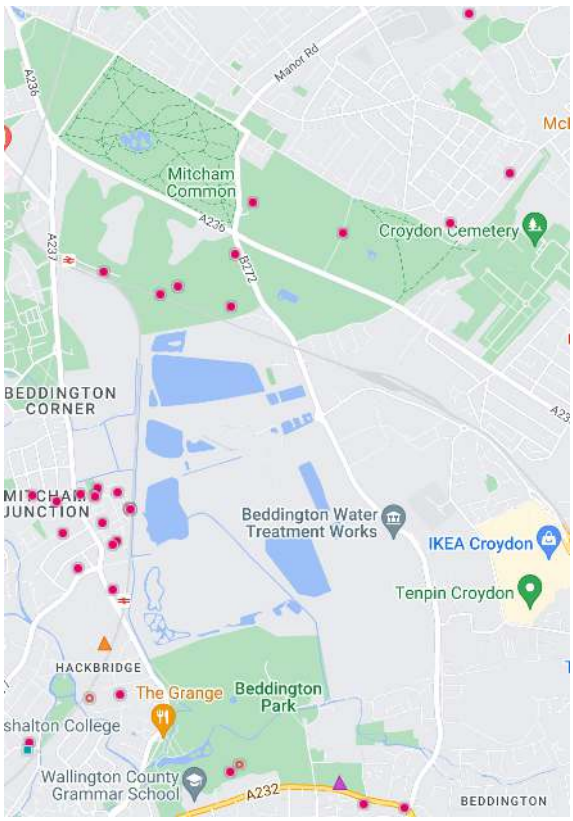

Figure 8 - Big Hedgehog Map (pink circles are hedgehog sightings)

Conclusion

It is encouraging to see evidence of hedgehogs of hedgehog on the Common. By using these survey methods we were able to achieve one of our aims, to show that hedgehogs are present across all three sub-sites surveys. It is difficult to determine if they are abundant in these sub-sites, as the hedgehogs were not marked and the methods used can only determine if they are presence/absence.

Following this survey, a phase 2 survey could be designed to gain some more useful information about the hedgehogs on the Common (For example; population size, sex, health and behaviour) and further surveys of the rest of the subsites to determine if they are also present in other areas. Repeated annual surveys may then take place to monitor the hedgehog population on the Common and advise habitat management to help conserve hedgehog in and around the Common. This data could be passed on to other organisations (eg. Hedgehog Street and ZSL London Hogwatch) and be used in the UK Hedgehog population counts to inform population trends over the years.

This project engaged volunteers and will hopefully also engage the local community and other stakeholders to promote positive actions that benefit the conservation of hedgehogs and other wildlife present in the Common and urban environment.

Recommendations

Following the research undertaken by the People's Trust for Endangered Species (PTES) & British Hedgehog Preservation Society (BHPS)[11,12] and by Prof John Gurnell, Dr Nigel Reeve and the Royal Parks Foundation[8], the following habitat management recommendations have been made. Along with some personal recommendations.

1) Fallen leaves and structures such as log piles, should remain on site, along with areas of suitable undergrowth, brambles and tussocky grass in order to retain and enhance habitat suitability for nesting.

2) Any areas that are to be cut, should have an initial cut with a strimmer or brush-cutter at a minimum height of 20cm (8 inches) which should protect the majority of nests. The area should be searched for nests and if a nest is found no further cutting should take place.

3) One third of undergrowth should be retained uncut in any one year to maintain a suitable nesting habitat. This will not only help protect hedgehogs, but other wildlife, such as mice, voles and frogs.

4) Hedgehogs forage predominantly within 5 metres of cover and short grass can be attractive foraging site. Therefore, a matrix of grassland and scrub habitat can be important to hedgehogs and this should be considered when re-establishing acid grassland.

6) For any sightings of an injured hedgehog or hedgehog out in the day contact should be made with Wildlife Aid Foundation in Leatherhead, the nearest wildlife rescue. For sightings of dead hedgehogs, thought to have died from disease, can be reported to Garden Wildlife Health (www.gardenwildlifehealth.org). Which is a collaborative project working to monitor the health and identify disease threats to British Wildlife based at ZSL.

7) Work with local authorities on the control and clearance of roadside fly-tipping and regular litter-picking throughout the common. Litter and fly-tipping can be a potential hazard for hedgehogs as it can result in injury, death and disturbance to nesting sites.

8) Collaboration with local authorities and the Wandle Valley Regional Park to establish a green connectivity corridor to support hedgehogs.

9) Training on Hedgehog ecology and management, which can be provided by PTES and BHPS to help with the management of the Common. Training on hedgehog first aid could also be considered for the grounds staff at Mitcham Golf Club.

Note: These recommendations have also been suggested for the consultation draft for the Mitcham Common Management Plan 2023-2028

Acknowledgements

This project would have not been possible without the permission from the Mitcham Common Conservators and the funding from the Mitcham Common Education Trust.

The author would like to say a special thanks to the following people for all their help and advice during this project; Norman Jones, Grace Johnson, Kate Scott-Gatty, Dr Nigel Reeve and Gwen Brassine. The author would also to say thank you to all the volunteers that engaged and took part in this project.

References

1. Mathews F. & Harrower C. (2020) Regional Red List of British Mammals. Mammals Society. Available at: https://www.mammal.org.uk/science-research/red-list/.

2. Wembridge, D., Johnson, G., Al-Fulaij, N. & Langton, S. (2022) The State of Britain's Hedgehogs 2022. People's trust for endangered species & British Hedgehog Preservation Society. Available at: https://www.hedgehogstreet.org/state-of-britains-hedgehogs-2022/

3. Morris, R.K.A (1984) The Ecology of Mitcham Common. Available at: https://mitchamcommon.org/natural-history/

4. People's trust for endangered species & British Hedgehog Preservation Society. The Big Hedgehog Map. Available at: https://bighedgehogmap.org/

5. National Biodiversity Network (NBN) Atlas. Available at: https://nbnatlas.org/

6. People's trust for endangered species & British Hedgehog Preservation Society (2021). Guidance for surveying hedgehogs. Available at: https://ptes.org/get-informed/publications/guidance-leaflets/

7. 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/

8. Gurnell, J., Reeve, N., Bowen, C. & The Royal Parks Foundation (2015) A Study of Hedgehogs in The Regent's Park, London – May and September 2014. Appendix 9 Habitat management recommendations, pp. 119-122. The Royal Parks Foundation, London. Available at: https://www.royalparks.org.uk/managing-the-parks/conservation-and-improvement-projects/hedgehogs/hedgehog-research-reports

9. Carbone, C. and Scott-Gatty, K (2020) London HogWatch. Sutton Camera Traps Surveys: Beddington Park and surrounding gardens and allotments. June – July 2020. ZSL Institute of Zoology

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

11. People's trust for endangered species & British Hedgehog Preservation Society. Helping hedgehogs on your land. Farmers leaflet. Available at: https://ptes.org/get-informed/publications/guidance-leaflets/

12. People's trust for endangered species & British Hedgehog Preservation Society. Hedgehog ecology and land management. HEMP leaflet. Available at: https://ptes.org/get-informed/publications/guidance-leaflets/