

Committee(s)	Dated:
Hampstead Heath Consultative Committee Hampstead Heath, Highgate Wood and Queen's Park Committee	9 November 2015 23 November 2015
Subject: Hedgehogs on Hampstead Heath – trial monitoring	Public
Report of: Superintendent of Hampstead Heath	For Information

Summary

This report details a trial hedgehog monitoring scheme, which took place in Golders Hill Park during September 2015.

Golders Hill Park appears to be an important area for hedgehogs and the methods used in the trial were successful in confirming their presence.

The methods used in the trial will be repeatable by suitably trained volunteers.

Recommendation

Members are asked to:

- Note the contents of this report.

Main Report

Background

1. An Essential Action in Hampstead Heath's Management Plan Part I is to 'Manage the Heath to protect and enhance populations of plants and animals protected by law, identified as being Priority Species in national and local Biodiversity Action Plans, or identified in subsequent management planning as being worthy of protection.' The hedgehog is listed as a Priority Species in the 2007 United Kingdom Biodiversity Action Plan.

The west-European hedgehog (*Erinaceus europaeus*) is unmistakable as Britain's only spiny mammal. It is native and locally common across Britain, only being absent from some Scottish Islands, wetland areas and pine forests.

2. An Environment Agency (2007) and BBC Wildlife magazine poll (2013) revealed the hedgehog as the most popular wild animal in Britain.
3. Trends from two long-running mammal surveys show that hedgehog numbers are in national decline in both rural and urban areas. A quarter of the hedgehog population is believed to have been lost between 2001 and 2011. A recent 2014 'Living with Mammals' update by the People's Trust for Endangered Species (PTES) showed that this declining trend in hedgehog numbers is continuing.

4. It is believed that the rate of this decline is unsustainable.
5. It is important to know where hedgehogs are, so that they can be considered in any management scheme and positive actions taken to protect this enigmatic mammal.
6. This report details a trial monitoring scheme begun in September 2015 and reviews the known status of hedgehogs across Hampstead Heath.

Current Position

7. Prior to this survey, only occasional records of hedgehogs had been made across Hampstead Heath. These records and anecdotal evidence over the last 20 years indicate that a sustaining population may be present on the Heath and surrounds.
8. In 2014, hedgehog records were made from the Heath Extension, Tumulus Field, and Bird Sanctuary areas as well as at Golders Hill Park. This perhaps indicates that hedgehogs are widespread across Hampstead Heath. However, as no systematic recording has been taking place, it is very difficult to know whether these are isolated records or whether hedgehogs will continue to survive on Hampstead Heath.
9. In 2015 two records were received from members of the public of very young hedgehogs discovered during daylight hours, which is unusual and perhaps indicates a nest abandonment or adult loss. However, as the records were only separated by a few days, it is possible that they were of the same individual. These records do, however, indicate breeding success. Hedgehogs can breed anytime between May and September, with a litter of between two to six hoglets.
10. An initial trial was undertaken by the Heath Ecology Team, with the aim of assessing the presence of hedgehogs and gaining an understanding of the techniques used in hedgehog monitoring. A further aim was to begin to understand which areas or features of the Heath are being used by hedgehogs.
11. The trial took place over two nights in September 2015. Three different monitoring methods were used – mammal footprint traps, spotlighting and wildlife camera traps.
12. Footprint tunnels are a non- invasive and statistically robust method for detecting the presence of mammals in an area and were initially developed at Nottingham Trent University. They consist of simple plastic triangular tunnels (Figure 1) with an internal tracking plate of ink strips and A4 paper to record footprints. Mammals are attracted by bait placed in the centre. The mammal enters the tunnel and leaves behind a set of footprints, which can then be identified.



Figure 1: Mammal footprint trap in situ.

13. Eight mammal footprint traps were set up around Golders Hill Park on 9 September and collected again in the early morning of 10 September.
14. Hedgehog footprints were detected in five of the tunnels and small rodent footprints found in a sixth (Figure 2). Two of the traps in the longer grass areas of the 'Dell' and 'Orchard' were without prints.

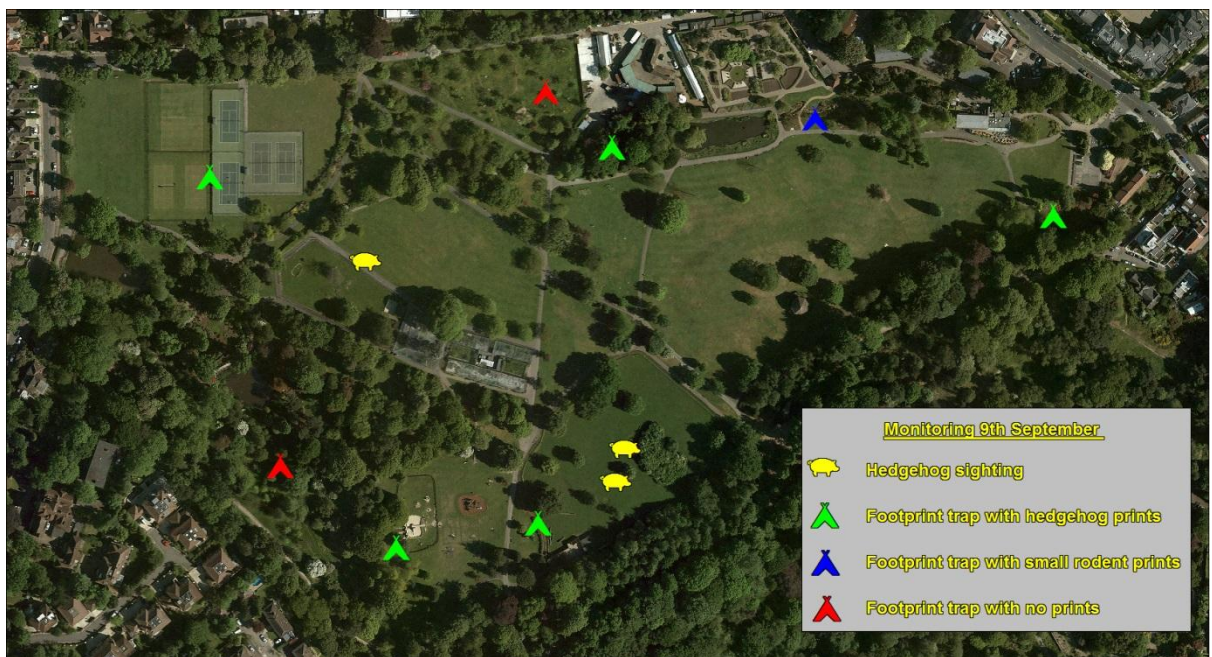


Figure 2: Hedgehog monitoring at Golders Hill Park 9th/10th September 2015

15. The traps reveal that hedgehogs are indeed present in the Park and visit various areas. Although it's not possible to assess populations from footprint traps, the size and numbers of footprints in a couple of the tunnels indicate that more than one individual was visiting the traps (Figure 3).



Figure 3: Hedgehog footprints in mammal tunnel trap.



Figure 4: Close view of small rodent footprints (left) and the hand-like footprints of a hedgehog (right).

16. This initial footprint trapping was supplemented by spotlighting, which involves the use of a torch for finding individuals after dark. On the initial survey night (9 September), spotlighting was carried out between 9-11pm and resulted in three hedgehog sightings, with at least two separate individuals.
17. Wildlife cameras were also placed to record the activity around a couple of the footprint traps. An individual hedgehog was recorded inside a trap, with a second nearby outside. The cameras also picked up a number of fox visits, as well as a late night human interloper which highlights potential camera security issues despite being located in a locked park.



Figure 5: Still image captured from a video of a fox, taken using a wildlife camera.

18. Spotlighting was repeated on 29 September between 8pm-10pm, with the aim of identifying individual hedgehogs. When located, hedgehogs were weighed, sexed where possible, and tagged with a piece of Blu Tac to ensure repeat counts weren't made, after which the hedgehogs were observed to ensure they continued their normal behaviour.



Figure 6: Adult hedgehog spotted during hedgehog spotlighting.

19. Sexing, whilst visually straightforward, becomes slightly more complicated due to the hedgehog's natural propensity to curl up. With what can only be described as gentle jigging, it is usually possible to overcome this problem. Male hedgehogs

have a penis close to where a navel would be expected to be, while females (figure 7) have two openings close together near the base of the tail.



Figure 7: Female hedgehog

20. Nine individual hedgehogs were identified via a combination of sexing, weighing and tagging. Hedgehogs have large ranges and will travel up to 3km in a night, visiting different areas at different times. These sightings probably only represent a small proportion of the total number using the Park for foraging. Figure 8 maps ten sightings, though it is unclear whether one of these represented a different individual.

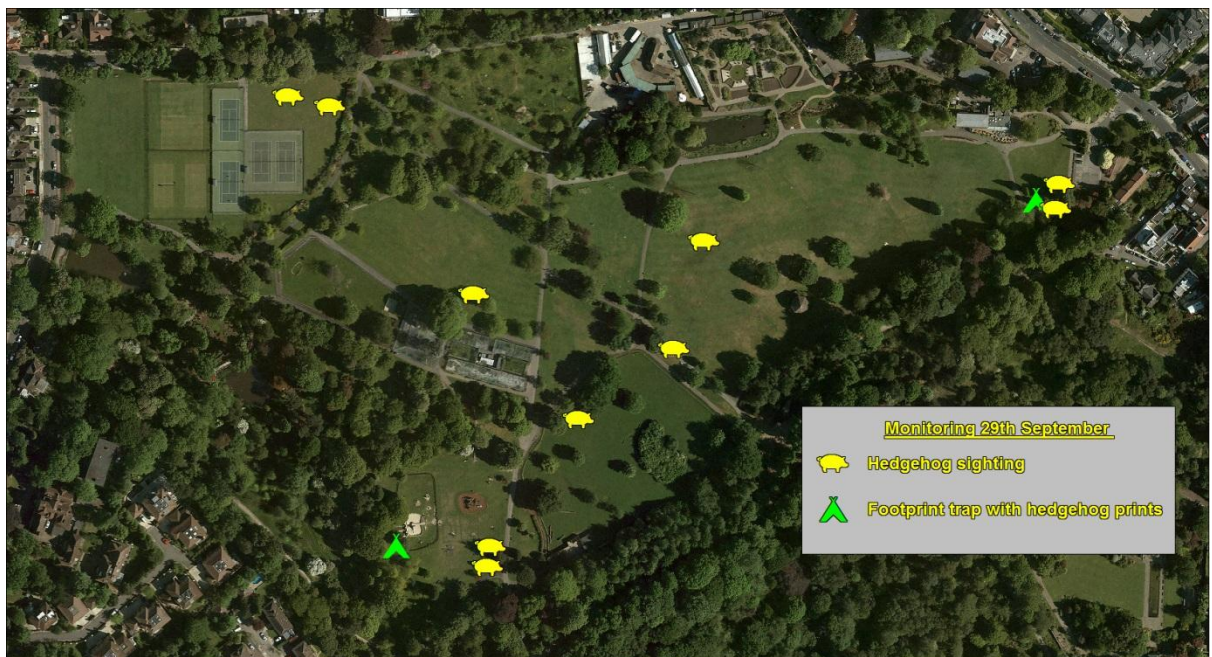


Figure 8: Map of hedgehog monitoring results from Golders Hill Park on 29 September 2015

21. All the individuals were seen foraging on short, regularly mown grass, apart from an individual seen observed in the slightly longer grass of the deer enclosure. Hedgehogs are insectivores, with beetles, caterpillars and earthworms making up a significant proportion of their diet.
22. Of these nine individuals, the weights ranged from 440g (which was a late-born young hedgehog) to a female weighing 1kg. The young hedgehog was at the lower weight range (450g is considered the minimum weight for winter survival) but still had some weeks to build up fat reserves. The remaining recorded hedgehogs were all 735g or above, a healthy weight for hibernation. An adult hedgehog generally weighs between 600g and 1.5kg, although occasionally up to 2kg. Weight varies according to the season, with peak weight being achieved in the autumn before hibernation.
23. It is not possible to age hedgehogs from obvious physical features but wild hedgehogs may live five to six years. Until recently the maximum reported age was 10 years old (a captive female hedgehog in 2005 was found to be 15 years old). In reality, however, the average is likely to be much lower, with many hedgehogs not surviving their first winter.
24. Whilst it is currently impossible to gauge the population status across Hampstead Heath, Golders Hill Park appears to have a large number of individuals that use the area for foraging. The Park thus appears to be an important area for hedgehogs and from anecdotal evidence, the same may be true for the Parliament Hill area.
25. These records will allow the City of London Corporation to begin to build up a database of any core hedgehog areas on the Heath. This may then be important in guiding habitat management works, and how these mammals may best be protected in the future.
26. The Royal Parks and Zoological Society of London began a major monitoring and research programme in Regents Park in 2014, which has been repeated in 2015. A report detailing recommendations and findings from this research will be published in spring 2016, which will help guide any future monitoring on Hampstead Heath.
27. The main initial focus of any scheme set up on Hampstead Heath will be to establish where hedgehogs may be present or indeed absent, and try to identify habitats or areas which may be important, particularly for foraging.
28. The future of any hedgehog monitoring scheme on Hampstead Heath is likely to be dependent on volunteer involvement. Any scheme will further aim to train and inspire local people to take an interest in hedgehog preservation, as well as encouraging a greater interest in urban wildlife conservation. Any future scheme will also be applicable to Queen's Park and Highgate Wood.
29. The Heath Ecology Team has learnt important information from this monitoring trial, not just from the number of hedgehogs seen but also in the practical application of hedgehog monitoring methods. Some of the hedgehogs weighed in at the upper limit of our equipment.

Proposals

30. It is proposed that a new programme of monitoring hedgehogs across Hampstead Heath is initiated, with volunteers being trained to carry out the majority of this monitoring.

Corporate & Strategic Implications

31. The work supports the City Together Strategy theme ... “protects, promotes and enhances our environment”.

32. It also links to the Open Spaces Department Plan through the Strategic Aim to “adopt sustainable working practices, promote the variety of life (biodiversity) and protect the Open Spaces for the enjoyment of future generations”, and the Improvement Objective to “ensure that measures to promote sustainability and biodiversity are embedded in the Department’s work”.

33. This monitoring also helps fulfil an Essential Action in the Part 1 Management Plan, namely:

NL8 Manage the Heath to protect and enhance populations of plants and animals protected by law, identified as being Priority Species in national and local Biodiversity Action Plans, or identified in subsequent management planning as being worthy of protection.

Implications

34. The City has a legal duty under the Hampstead Heath Act 1871 to maintain the natural aspect of the Heath.

35. There are no financial or risk implications for this report. Any recommended actions carried out will be undertaken using the Superintendent’s Local Risk Budget.

Conclusion

36. Hampstead Heath is currently believed to have a population of hedgehogs which have been present for at least the past 20 years. It is unknown how large the population is but hedgehogs may be widespread. Golders Hill Park appears to have a large number of individuals that actively forage across the site.

37. Management practices that may enhance the breeding and feeding opportunities of this mammal should continue.

38. Monitoring of this species should continue from this trial and it is anticipated that volunteers will be engaged in 2016 to carry out some of this monitoring.

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