

# Newsletter

Winter  
2017/18

## Thorndon Bat Project

Graham Hart  
reports

In 2017 I set up the Thorndon Bat Project. Thorndon Country Park, near Brentwood, is largely owned and managed by Essex County Council but also includes land acquired by The Woodland Trust. The site is a beautiful mosaic of different woodland types, lakes, ponds, grassland and mature hedgerows, with links to neighbouring countryside typical of south Essex. The views towards the Thames and Kent are magnificent.



The lake at Thorndon Country Park  
{Graham Hart}

I have been running the nearby Weald Project for a few years now, so why did I want to set up another project at Thorndon? Over the years there have been a number of bat walks and one-off surveys there, which have given us an insight into its potential as a bat hot spot and the site was already included as a priority for the inaugural year of our new Woodland Bat Project in 2016. However, the park is so large and varied in its landscape and habitats I felt it was deserving of even closer attention and would support a people-based project like Weald.

There had already been a number of workshops on assessing trees for bat roost potential at Thorndon and so I knew there was interest in the park from other bat workers. Hand-held detector surveys began in April 2017 and we surveyed every month until October. The park is divided into North and South and I decided we would concentrate efforts in the South for the first year. The main priority for the first few years will be to find out whether barbastelles, an elusive woodland specialist, are using the site. They have already been recorded at nearby Weald. However, I was also hoping to gain a more detailed picture of all bat activity at Thorndon, as well hunting down some of those elusive tree roosts!

As with the Weald Project, I also wanted to focus on inclusiveness and open this project up to all members no matter what their experience. When I started bat work, there wasn't anywhere to go on a regular basis to learn about bats in the field (or woods!), pick up the basics of bat detectors and learn how to do a survey. It's for this reason that I wanted try to do a bit of everything during the course of the first year at Thorndon. So, as well as transects, we also completed zonal surveys and roost emergence surveys (standing and looking at a tree to see if bats emerge!). Sometimes though, we would just stand by the lake and enjoy watching large numbers of bats fly around us as they fed along the lake margins.

We had some wonderful moonlit summer evenings watching them. Most frequently encountered were soprano pipistrelle, in great numbers. They have roost(s) close to the lake and we were often treated to some frenzied activity. Common pipistrelles were always around and we also recorded brown long-eared bat. Daubenton's were regularly seen, with one individual spending a very cold spring evening feeding over the lake when no other bats were active! We were regularly treated to watching noctules foraging over the lakeside trees before dark, with some very good views. We now have records of Leisler's bat and serotine too.

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**Deadline for next issue, Spring 2018: 15th April 2018. [pathatch@live.co.uk](mailto:pathatch@live.co.uk)**

Although we did not find any barbastelles, we were delighted with our first records of Nathusius' pipistrelle. We are moving to the north of the park this year, so there is plenty still to discover. I'm sure we will be treating ourselves again to the bat frenzy at the lake too!

So you will see that our new project embraces many facets of bat survey work and it is this variety, especially at a new location like Thorndon Country Park, that keeps me motivated as Project Officer for the Bat Group. I really enjoy sharing my love of bats with others so I am grateful to all those members who came out last year. Special thanks must go to Geoff Clack and Jenny Wrayton, who cut their bat teeth at Weald and have taken very active roles in helping there and now at Thorndon too.

If you are interested in coming along and taking part in the Thorndon Bat Project, please e-mail Graham Hart at [wealdbats@essexbatgroup.org](mailto:wealdbats@essexbatgroup.org).



The lake by night  
{Graham Hart}

## Horses, beetles and bats

Jenny Wrayton delves deeply  
into dung

Last year, after a workshop on potential roost features in trees, I started talking to Pat about my loan pony. Little did I know he was Pat 'hatching' a plan to look for serotine bats. Pat rather cautiously asked if I would mind looking through some dung to see if it contained any beetles, flies or other delicious meals for our favourite friends. Given that I often find myself in a field full of horse dung, albeit at the end of a fork, I could hardly say no.

Livestock grazing is limited in south east Essex and we hoped that horse pasture may offer a source of food for bats and, in particular, serotine, which has a known association with cow pasture and dung fauna. We discussed how chemical wormers are given to horses to kill parasitic worms. Studies have shown that these chemicals are still active after excretion and harm dung fauna. I found a whole range of wormers on offer with varying degrees of toxicity. I was relieved to find that the wormer I use was at the less toxic end of the scale. Our livery yards now send a sample of the dung to a laboratory and only prescribe a wormer at an egg count of 150/200 eggs/gram or for tapeworm, which is not picked up in the test. This allowed us to halve the number of wormers given (from four to two) and made me even more hopeful of finding some beetles.

I started by investigating the serotine's diet; they feed on butterflies, moths, flies and beetles, both grubs (spring) and adult beetles (summer and autumn). A report by Robinson & Stebbing showed that beetles can form a large proportion of the serotine's diet; with beetles in 96.1% and flies in 14.7% of faeces examined. Kervyn & Libois found that serotine became dependent upon the dung beetle (*Aphodius* species) in late summer.

I then looked into the use of dung by beetles. Studies show most adults occur in fresh to relatively fresh droppings, with the larvae present in droppings that are one or two weeks old. In summer, *Aphodius* beetles hatch after three to five days, pupae form after eight to 30 days and adults emerge after 30 days. Most British dung beetles, including *Aphodius*, live, eat and breed in or just beneath dung. *Onthophagus* and other larger species tunnel into the ground, bringing dung into a brood chamber.

An internet search revealed an interesting article that found serotine roosts in Sussex clustered in areas with more arable and improved grassland. Another study suggested roosts were located within 440 metres of broadleaf woodland. I decided to have a look at the land around the two livery yards I frequent (see maps below).

Within 3.9 kilometres of the sites (a suggested average commuting distance for serotine) was a mix of broadleaf woodland, arable farmland, horse pasture and urban land. And I also discovered that a serotine was recorded in the local area in 2016 following the deployment of static detectors as part of the woodland project by Bat Group members Graham and Sorrel.

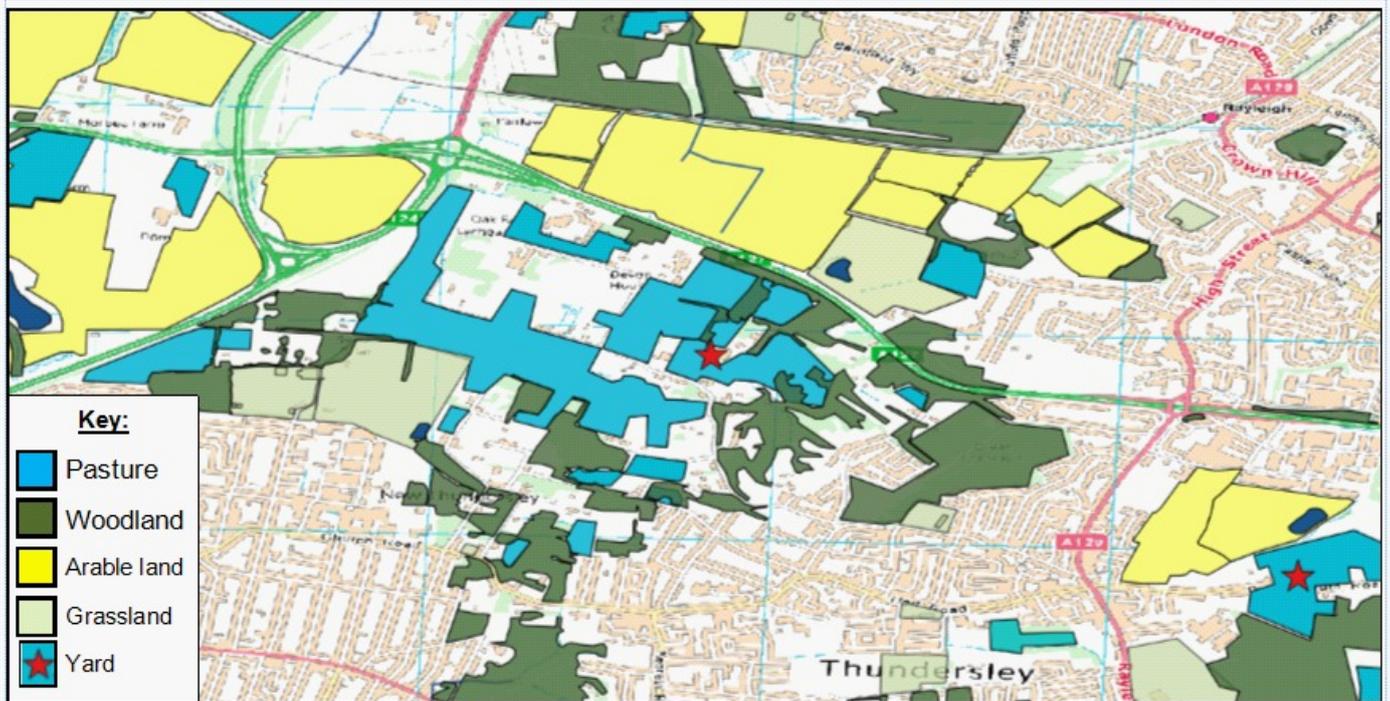


Figure 1: Broadleaf woodland, arable land and grassland around site A

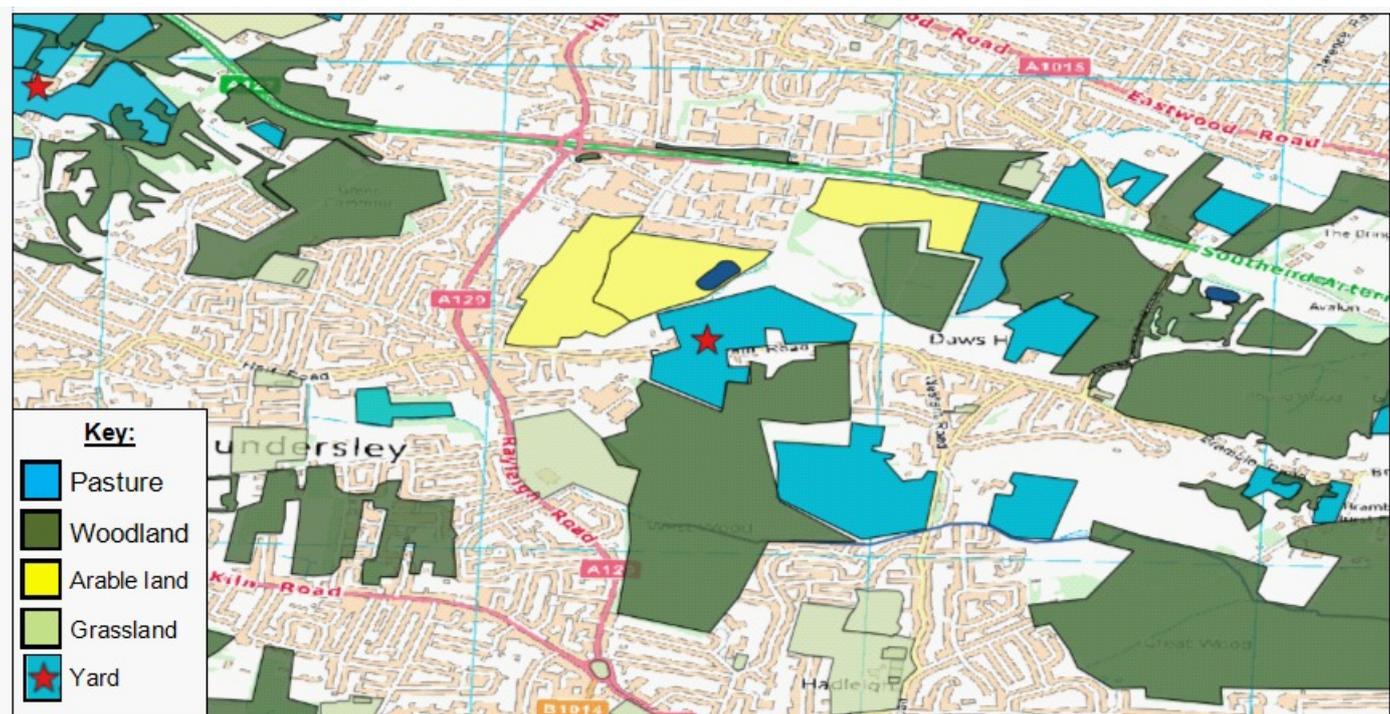
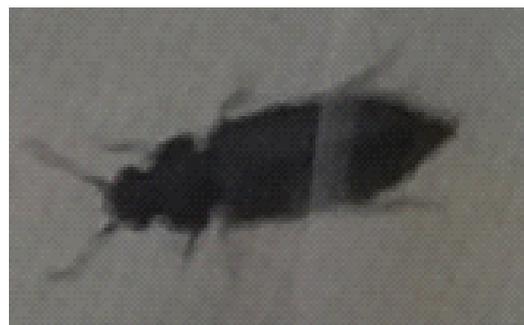


Figure 2: Broadleaf woodland, arable land and grassland around site B

I was soon overwhelmed by the number of potential keys for identifying beetles, let alone the beetles themselves. I carried out the first dung search in April - success! A juicy beetle larva! As spring progressed into summer, My greatest success came in June, when the density of adult dung beetles recorded was 103 beetles/kg. The maximum number of adult flies recorded was 90 flies/kg in May. In fact, dung fauna was present in all but one month (when the dung had begun to dry out before sampling) between April and November 2017.

Only two beetle larvae were found, one at each site. The disturbance and compaction of material on the muck heap is one plausible reason for low numbers, as is the rapid removal of dung from the fields. Having identified these potential problems before the study I was pleased to find any larvae at all.



Hanski estimated that 0.5 *Aphodius* beetles per dropping represented an 'underpopulation' with a serious risk of extinction. Both sites exceeded this threshold. Numbers can reach hundreds or even thousands per pat, at which point the dung is degraded so quickly it becomes unsuitable for larvae. These numbers were not observed at either site.

I wanted to know if the numbers I found could feed a serotine, so I estimated the amount of dung present using the average defecation rate of horses, number of horses and time spent in the field. I related this in general terms to the requirements of foraging bats. If a 25 gramme serotine was required to consume a third of its body mass in prey, it would require approximately 700 insects of the size encountered at the sites. The calculated dung fauna failed to reach this level on two occasions at site B.

Not content with almost weekly bat surveys with Essex Bat Group, I carried out four detector surveys at the two livery yards, in addition to time spent generally at the sites. Serotine were not recorded at either site in 2017.

However, both sites are frequently used by bats and I have enjoyed watching them feed over the muck heaps and pasture. I even got my boyfriend involved. He excitedly told me there had been five bats feeding over the muck heap at the same time. I wonder if we can beat that record in 2018.

I also discovered a commuting route of common and soprano pipistrelles between the horse pasture and fishing lake as a stream of bats flew past.

In conclusion, I would like to think that the current manure management and chemical wormers used at these sites does not exclude use by dung fauna.

Bats feed over the muck heaps with relative consistency. The estimated dung fauna levels suggest that these sites could be used by bats in conjunction with other feeding sites.



P'Thanom creates a new roost  
(Daniel Hargreaves)

# ThaiBats!

## Supporting bat conservation in South East Asia

I have been fortunate enough to travel in search of bats to several tropical countries of South and



Two painted bats in their leafy roost

Central America and the Caribbean. During these trips we help to find new species for the areas we visit and sometimes engage in further research, such as radio tracking and locating roosts. Contributions of funds and equipment are generally made to local bat workers. Daniel Hargreaves' regular trips to Thailand are slightly different. There is less trapping of bats, as local species distribution is relatively well known, and an emphasis on visiting sites with important roosts and helping encourage their conservation by site owners.

One such person is rice farmer P'Thanom. He and his extended family farm the flatlands of Khon Kaen province, where the huge patchwork of small rice paddies have been found to be home to the painted bat (*Kerivoula picta*). This species was thought to be declining in rainforest habitat elsewhere in Thailand, and finding it here, in such an intensively managed landscape, long cleared of forest, was something of a surprise. Being an unusually colourful bat, its presence attracted the attention of international media. Being a forest species surviving in a man-made habitat, it also brought Japanese researchers to the area and came to the attention of our Mr Hargreaves. Since then Daniel has included the farm in his ThaiBats trips, which gives the family some income and so encourages them to value their bats.

The painted bats roost under the leaves of banana trees, favouring the ends of the leaves as they die back, wither and droop, forming a cosy shelter. So the local farmers help the bats by occasionally breaking the ends of leaves, ensuring a constant supply of roost sites. And of course the rice paddies provide plenty of insect prey for the bats.

Painted bats are unusual in spending their time in pairs throughout the year. The farmers tend to find one roost containing a pair of bats close to each of their numerous irrigation ponds.



A painted bat photographed in a makeshift studio made of mosquito netting



Happy rice farmers and conservationists!  
The Peung family and their batty visitors

The Peung family made us very welcome. Having showed us their bats, kept us safe from king cobras and brought us lunch among the paddy fields, they treated us to a huge evening meal. We bought some of the silk material hand-made at home by Mrs Peung, everyone thanked one another profusely and we left contented.

So nice to see small-scale eco-tourism having a positive impact on local communities and bat conservation.



# Committee members and other contacts



## EBG Committee

Ella Barnett	Events Secretary	events@essexbatgroup.org
Frances Donovan	Minutes Secretary	chad2giles@yahoo.co.uk
Graham Hart	Vice-Chair & Projects Officer	thehart@btinternet.com
Pat Hatch	Chair & Newsletter Editor	pathatch@live.co.uk 07548 220589
Nathan Jenkinson	Publicity Officer	publicity@essexbatgroup.org.ok
Roger & Sylvia Jiggins	Joint Secretaries	r.jiggins@btconnect.com
Kate Mann	Committee Member	ktam.1303@gmail.com
Helen Miller	Membership Secretary	membership@essexbatgroup.org
Andrew Palmer	Treasurer & Fundraising Officer	arpalmer@talk21.com
Tim Sapsford	Conservation & Records Officer	records@essexbatgroup.org

## Other Contacts

**Bat Care Network** (to report a grounded bat): See EBG website for contact phone numbers

**Bat Care Network** (other enquiries): batcare@essexbatgroup.org

**Hanningfield Roost Counts**: hannersbats@gmail.com

**Woodland Project**: woodlandbats@essexbatgroup.org

**Weald Project/Thorndon Project**: wealdbats@essexbatgroup.org

**Nathusius' Pipistrelle Project**: pathatch@live.co.uk

**Other enquiries**: enquiries@essexbatgroup.org

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## Membership Form

You can use this form to renew your membership  
or recruit a friend

Send to: Helen Miller, 176 Abbotsbury Road, Morden SM4 5JS

Yes, I would love to become a member of EBG for 2018 / 2019 / 2020 (delete as appropriate)

Name \_\_\_\_\_ Address \_\_\_\_\_

Email \_\_\_\_\_ Telephone \_\_\_\_\_

Using e-mail means we can send your newsletter and correspondence electronically, saving on postage and stationery so more of your membership money is used for bat conservation. Your e-mail address will not be passed on to any other organisation or used for any other purpose.

How did you hear about EBG? (internet, local bat walk, EWT, friend etc): \_\_\_\_\_

Please tick as appropriate:

Standard membership of the group is just £5 for 1 year

or £12 for 3 years

Group / organisation membership is available for a minimum subscription of £30

I would also like to make a donation of £\_\_\_\_\_

I enclose a cheque for £\_\_\_\_\_ made payable to Essex Bat Group

If you wish to pay by BACS please contact Helen at membership@essexbatgroup.org