

Monthly Report



May 2018



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Founder/Coordinator



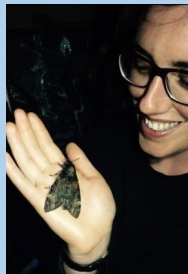
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Bat Team News

New projects underway at ABC

By Rebecca Hazlewood, Research Assistant

It's been a busy month for us here across the organisation, with a lot of exciting changes taking place. Our field team from Vwaza Marsh have returned to Lilongwe to complete some priority projects for the Urban Research Team.

This month's newsletter will give an introduction to some of these projects, including our roost monitoring programme, our bat box studies and our new bat discovery trail which we'll keep you updated on in the coming months. We are also delighted to have had a visit from two highly experienced bat ecologists from Kent Bat Group in the UK. We've included an article on what they got up to whilst here, including getting involved

In our recent Bi-annual Progress Workshop (Figure 1) and wildlife conflict training workshop.

Last but not least, our new Conservation Research Centre and Head Quarters, based at Kumbali on the edge of Lilongwe City is also taking shape, and we've been busy setting up our new accommodation, research lab and office. Away from the hustle and bustle of central Lilongwe, it's a pleasure to regularly hear hyaena whooping and bush babies screaming when we get home from a night's survey work. Our new base will give us the space we need to grow and develop our research programmes, including a laboratory for our university students, and more space to host events and workshops for external stakeholders. The new office to be fully up and running in the next month.



Figure.1 The ABC team at our bi-annual AGM event in Lilongwe

Urban (Lilongwe) project news

Bat box trials underway

By Hannah Daniels, ABC Volunteer

African Bat Conservation have launched a new project investigating how bats use purpose built roosting boxes at two sites in Lilongwe (Figure 3). The bats found in boxes will be ringed to enable us to understand the social interactions between bats. For example, to see whether the bats use many different boxes, or whether they have set social groups and exhibit box fidelity.

Thirty boxes have been put up around Lilongwe Wildlife Trust's Wildlife Centre, and thirty in the woodlands around our new Conservation Research Centre at Kumbali.

Initial box checks at the Wildlife Centre, a month after they were put up, found many nesting bushbabies (Figure 2) the occasional dormouse and mouse, but no bats. We quickly realised that we needed to adapt the entrance slot to reduce access to non target species. In the UK, best practice suggests that 15mm is the optimum entrance



Figure 3. Bat boxes at the Lilongwe Wildlife Centre. Photo credit Brett Leggat

width for bat boxes, and any wider sees reduced usage. However, the bat species found in the UK are very different to Malawi, and with no published literature on bat boxes being used in Africa, finding the optimal box design for Malawi's bat species may take some trial and error. The first step is to try and exclude other small mammals. The boxes at the Wildlife Centre have since been modified, making the entrance 15mm wide. This should see better uptake by bats, and restrict bushbabies from accessing the boxes. Box checks will be happening on a fortnightly basis, and we are excited to see how the modifications work, and which bat species we will find first!

The bat boxes at the Wildlife Centre will also be used as a part of the new Interpretive Bat Discovery Trail funded by British Ecological Society, which will guide visitors around the centre, pointing out elements of the natural environment used by bats, teaching visitors about their ecology, conservation and the ecosystem services they provide. The Bat Discovery Trail will be live by next month, so watch this space!



Figure 2. Bat intern Mo is taken by surprise by a bushbaby when carrying out checks. Photo credit: Nick Plumb

Urban (Lilongwe) project news

ABC Roost Monitoring Programme

By Abi Robinson, Research Assistant

African Bat Conservation are commencing a new stage of an exciting new programme, changing the way we approach roost monitoring. Alongside the trapping surveys that we carry out, roost surveys are vital for determining bat population trends across seasons and allow us to understand species specific roosting preferences e.g. in bat species commonly found in urban areas (Figure 4).

This information is crucial for informing roost and bat population management and planning as well as mitigating human-wildlife conflicts. We are establishing a new protocol for roost inspection and emergence surveys. An important aspect of this will be the introduction of a traffic light system that will allow us to determine how important a roost is depending on factors such as: the species present, type of roost and how much conflict the bats have with humans. This will enable us to prioritise roosts for long-term monitoring given limited resources, a schedule that will involve surveying individual roosts at least twice per season (wet and dry).

This month we have already identified priority roosts, including a university site that has many buildings and bat roosts. We have conducted roost inspections and emergence surveys on this site and identified many areas of conflict with students who live in the buildings. Over the next couple of months we intend to continue surveying and involve our community outreach and engagement officer to create some

awareness as to the importance of bats to the students.



Figure 4. *Mops condylurus* a bat commonly found roosting in the built environment. Photo credit Nick Plumb

Farmers Market Success

The farmers market at Woodlands is a great way for the African Bat Conservation team to reach out to the local community in Lilongwe. On the last Saturday of each month we have a stall selling bat boxes, for people to buy and put up in trees in their gardens, to provide roosts for bats. This month we sold five boxes, but perhaps more importantly, we had meaningful engagement with a variety of people. By talking about roosting places for bats with people, we were informed of potential new bat roosts. These will be surveyed to find out what kind of roost they are and which species of bat are using the spaces, providing vital information for our roost monitoring project, finding out which bat species are roosting in the city.

Urban (Lilongwe) project news

Kent Bat Group visit ABC

By Nick Plumb (Intern)

This month ABC was visited by members of the Kent Bat Group in England, Brett and Katheryn Leggat. Brett and Katheryn are active and key members of the Kent Bat Group and professional bat licensed ecologists in the UK. They conduct a variety of bat related work and leading many research projects undertaken by Kent Bat Group. We were thrilled to be able to share with them the work we do here and learn from their expertise. They came during a busy period, with plenty of activities for them to get stuck into.

We carried out three bat capture surveys while they were here during which 19 individuals and 7 species were caught including the little epauletted fruit bat (*Epomorphorus labiatus minor*), little free tailed bat (*Chaerephon pumilus*), yellow bellied house bat (*Scotophilus dinganii*), Vesper (A), Sundevall's leafnosed bat (*Hipposiderous caffer*) (figure 5), Angolan freetail bat (*Mops condylurus*) and Wal-



Figures 6 and 7. Katheryn weighing and handling one of the Dormice. Photo credit Brett Leggat.

berg's epauletted fruit bat (*Epomorphorus wahlbergi*). They also came along on some bat box checks at the Wildlife Centre. While searching through the bat boxes dormice were discovered! (figures 6 and 7). We took photos and morphometric measurements in hopes of identifying them. Unfortunately, it is very difficult to identify dormice species in Africa due to a high level of overlap between the phenotypical features. As well as dormice, bushbabies were found in bat boxes which was an unexpected development. As a result, the bat boxes have been adjusted so that they are more suitable to the bat species present in Malawi.



Figure 5. *Hipposiderous caffer* captured on a survey at Kumbali. Photo credit Nick Plumb.

Urban (Lilongwe) project news

ABC Bi-annual Progress

Workshop

In mid May we held a bi-annual project progress workshop where each member of staff presented their progress this year and the plans for their upcoming projects. This included Rebecca Hazlewoods's presentation about our new Bat training course to gain bat handling experience for bat licences and a presentation on the upcoming research projects being con-

ducted by our Masters and PhD students. shared understanding of our goals for the coming year.

During the afternoon, Matt Town (ABC Research Manager) led a Human Bat Conflict training workshop, teaching the team how to deal with bat-human conflicts. Matt presented the team with human bat conflict scenarios and we split into groups to workshop methods of dealing with any problems that may arise. An example would be a roost of many bats in a hospital which required a complete exclusion due to health risk and hygiene considerations, although



Figure 8. Matt ABC Research Manager discussing options for conflict mitigation with Katheryn and Brett from Kent Bat Group during the workshop.

ducted by our Masters and PhD students. Abigail Robinson presented on our new approach to roost monitoring, focusing on emergence surveys, to establish a priority system and new protocols. Andrew Mcvinnish revealed his guano project, investigating the use of guano as fertiliser. Emma presented on ICLEI project results of monitoring urban biodiversity and some of our future plans for CRA. It was a great opportunity to hear from all members of the team, including the partner projects from Carnivore Research Malawi on their current research projects building a

this was an extreme situation as exclusions are a last resort. Katherine and Bret from Kent Bat Group UK, provided their experience to assist with the workshop (figure 8) Katherine said of her time with ABC, "We've had a wonderful week seeing what the ABC team get up to. It's been a real eye opener learning about some of the challenges faced in Malawi, especially for bats, but it's certainly reassuring to see how committed the team is to tackling those challenges and making a real difference to conservation. We just hope that ABC continues to receive the support needed to enable the organisation to keep going with these invaluable efforts in future."

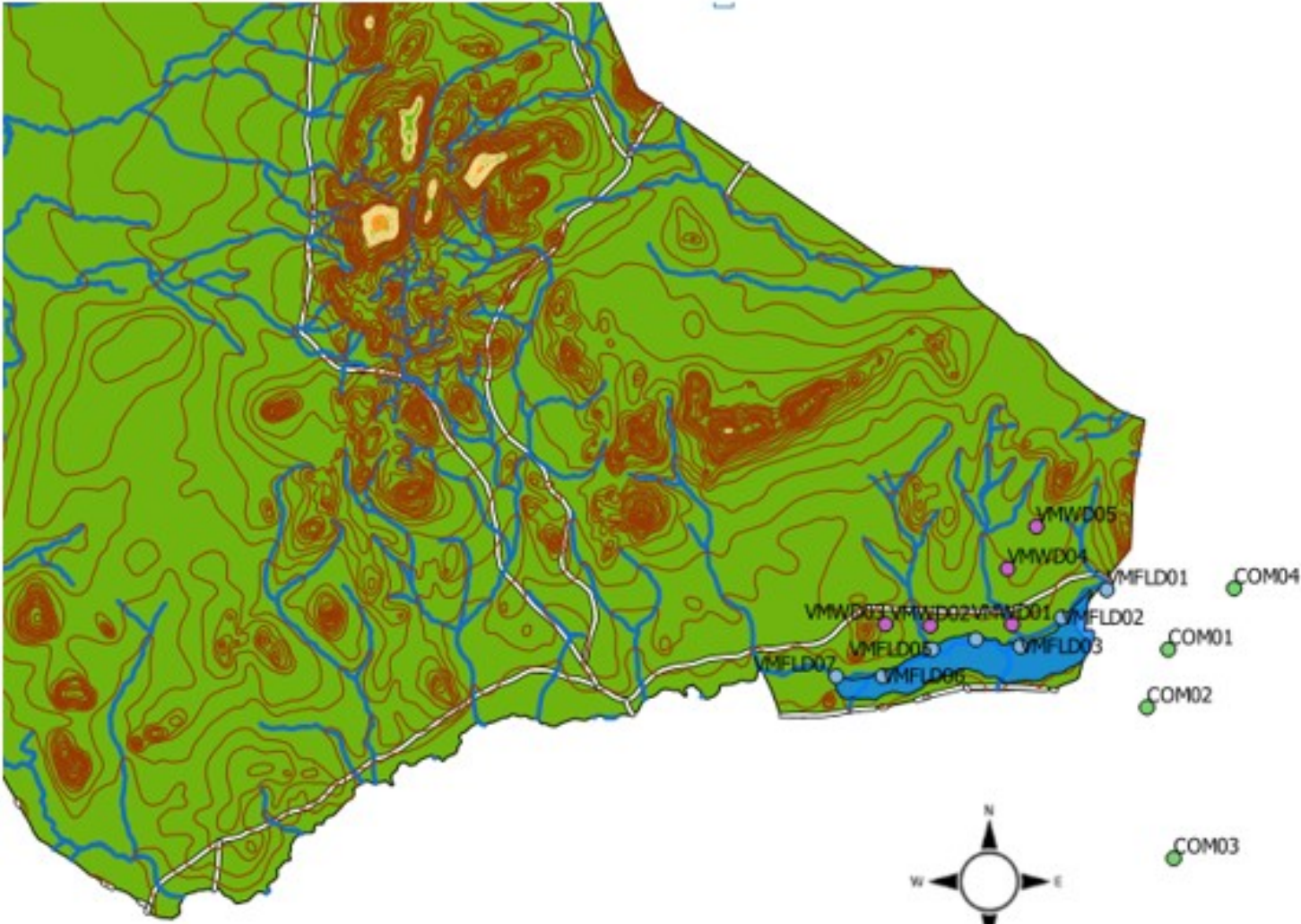
ABC Bat Species List

No	Latin Name	Common Name	Locations Caught				
			Liwonde Park	Lilongwe	Nyika NP	Vwaza Marsh WR	Other
1	<i>Chaerephon</i> sp.	Free-tailed bats		X			
2	<i>Chaerephon ansorgei</i>	Ansorge's free-tailed bat	X				
3	<i>Chaerephon pumilus</i>	Little free-tailed bat	X			X	
4	<i>Eidolon helvum</i>	Straw-coloured fruit bat		X			X
5	<i>Epomophorus crypturus</i>	Peters's epauletted fruit bat	X	X		X	X
6	<i>Epomophorus labiatus</i>	Little epauletted fruit bat	X	X		X	
7	<i>Epomophorus wahlbergi</i>	Wahlberg's epauletted fruit	X	X		X	X
8	<i>Epomops dobsonii</i>	Dobson's epauletted fruit bat		X		X	
9	<i>Eptesicus hottentotus</i>	Long-tailed serotine	X				
10	<i>Glauconycteris variegata</i>	Variegated butterfly bat	X			X	
11	<i>Hipposideros caffer</i>	Sundevall's leaf-nosed bat	X	X		X	
12	<i>Hipposideros gigas</i>	Giant leaf-nosed bat	X				X
13	<i>Hipposideros ruber</i>	Noack's leaf-nosed bat	X				
14	<i>Kerivoula lanosa</i>	Lesser woolly bat				X	
15	<i>Laephotis botswanae</i>	Botswana long-eared bat	X				X
16	<i>Lissonycteris goliath</i>	Harrison's soft-furred fruit bat					X
17	<i>Mimetillus thomasi</i>	Thomas's flat headed bat	X				
18	<i>Miniopterus</i> sp.	long-fingered bats	X				
19	<i>Mops condylurus</i>	Angolan free-tailed bat	X			X	X
20	<i>Mops niveiventer</i>	White-bellied free-tailed bat		X			X
21	<i>Myotis bocagii</i>	Rufous myotis	X	X		X	X
22	<i>Myotis tricolor</i>	Temminck's myotis	X				X
23	<i>Myotis welwitschii</i>	Welwitsch's myotis	X				
24	<i>Neoromicia</i> sp.*	Pipistrelles	X	X		X	X
25	<i>Neoromicia nana</i>	Banana bat	X	X		X	

ABC Bat Species List

No	Latin Name	Common Name	Locations Caught				
			Liwonde NP	Lilongwe	Nyika NP	Vwaza Marsh WR	Other
26	<i>Neoromicia rendalli</i>	Rendall's serotine	X			X	
27	<i>Nycteris grandis</i>	Large slit-faced bat	X				
28	<i>Nycteris hispida</i>	Hairy slit-faced bat				X	
29	<i>Nycteris macrotis</i>	Large-eared slit-faced bat	X				
30	<i>Nycteris thebaica</i>	Egyptian slit faced bat	X			X	
31	<i>Nycticeinops schlieffeni</i>	Schlieffen's twilight bat	X			X	
32	<i>Pipistrellus sp.*</i>	Pipistrelles	X	X	X	X	X
33	<i>Pipistrellus rueppellii</i>	Ruppell's pipistrelle	X			X	
34	<i>Rhinolophus clivosus</i>	Geoffroy's horseshoe bat		X			
35	<i>Rhinolophus fumigatus</i>	Ruppell's horseshoe bat	X			X	
36	<i>Rhinolophus hildebrandtii</i>	Hildebrandt's horseshoe bat	X			X	
37	<i>Rousettus aegyptiacus</i>	Egyptian rousette	X				
38	<i>Rousettus lanosus</i>	Hairy rousette			X		
39	<i>Scotoecus hindei/albigula</i>	Dark-winged lesser house bat	X	X		X	X
40	<i>Scotophilus dinganii</i>	Yellow-bellied house bat		X		X	X
41	<i>Scotophilus leucogaster</i>	White-bellied house bat	X				
42	<i>Scotophilus viridis</i>	Green house bat	X	X			
43	<i>Scotophilus nigrita</i>	Giant yellow house bat	X				
44	<i>Tadarida aegyptica</i>	Egyptian free-tailed bat					X
45	<i>Tadarida ventralis</i>	Giant free-tailed bat					X
46	<i>Taphozous mauritanus</i>	Mauritian tomb bat	X	X		X	
47	<i>Triaenops afer</i>	African trident bat	X				X

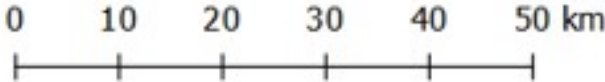
BMP Sites in Vwaza Marsh



Legend

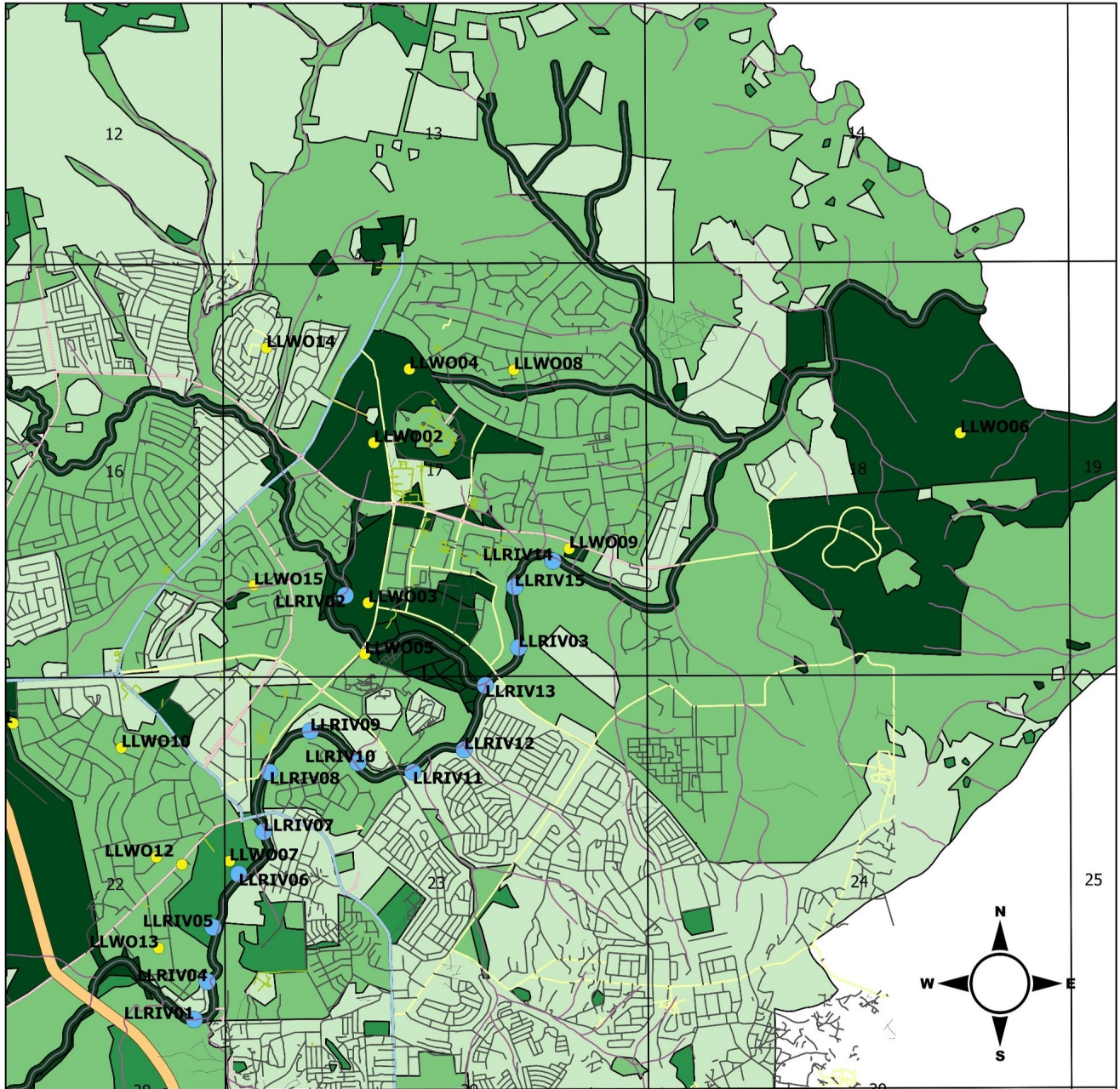
BMP Sites

- Community
- Floodplain
- Woodland
- lake kazuni
- Vwaza marsh wildlife reserve



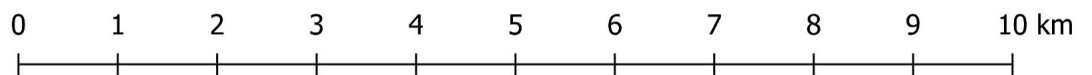
BMP Sites in Lilongwe

Urban Bat Project BMP sites

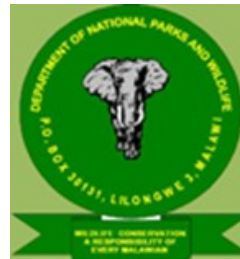


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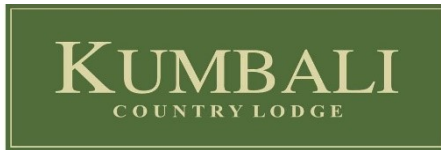
- River sites
- Garden sites
- Priority
- High
- Medium
- Low



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