CD Ecology

In Partnership with Fixing and Linking Our Wetlands (FLOW) Project and CD Ecology

Slindon Village Pond

Preliminary Bat Scoping Survey (Ground Inspection)

for Slindon Parish and South Downs National Park

Christopher Drake

CD Ecology

December 2020

Slindon Village Pond, Slindon Parish

Acknowledgements

Ordnance Survey (OS) License

The maps created in this document have used, by kind permission of CDC, the following OS licence:

(C) Crown Copyright 2018, Ordnance Survey 100018803

Chichester District Council, Pallant House, 1 East Pallant, Chichester, West Sussex PO19 1TY

Acronyms and abbreviations

Name	Acronym
Area of Outstanding Natural Beauty	AONB
Ecology Training UK Ltd	ETUK
Bat Conservation Trust	BCT
West Sussex County Council Highways	WSCCH
Cabinet Office Briefing Room	COBR
Arun District Council	ADC
South Downs National Park	SDNP
Department for Environment, Food & Rural Affairs	DEFRA
Environment Agency	EA
Fixing and Linking our Wetlands	FLOW
Geographical Information System	GIS
Slindon Parish Council	SPC
National Trust	NT
Natural England	NE
Operation Watershed	OW
Sussex Biodiversity Records Centre	SxBRC
West Sussex County Council	WSCC

Executive Summary

This preliminary Bat scope survey at Slindon Village Parish Pond system took 3 days to complete. The surveyor Christopher Drake has 3 years' experience surveying bats at ground level and has completed 'Surveying Trees for Bats', Health and Safety with Bats' and 'Architectural terms for bats in buildings' courses with Ecology Training UK Ltd.

The preliminary survey requires the surveyor to access the trees around Slindon Village pond for roost potential. Under the 1981 Wildlife and Countryside Act, that Ground inspection – Licenced Bat Workers are not required to have a licence (unless endoscope is used)[1]

When surveying a tree for roost features we are looking for: • Woodpecker holes; • Rot holes; • Hazard beams; • Other vertical or horizontal cracks and splits (such as frost cracks) in stems or branches; • Partially detached platey bark; • Knot holes arising from naturally shed branches, or branches • Previously pruned back to the branch collar;

[1] EtUK Ltd

Contents

1. Introduction

Legislative Framework for Bats in the UK All UK bat species and their roosts are protected under EU and UK law. Bats are protected under - • Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). • Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended) (Habitats Regulations), Schedule 2 of the Habitats Regulations defines "European protected species of animals" Bats are afforded further protection through: • Countryside and Rights of Way Act, 2000 which adds additional enforcement, making offences arrestable, increasing time limits for some prosecutions and increasing penalties[2].

Bats are FULLY protected and this means you may be committing a criminal offence if you: • Deliberately take , injure or kill a bat • Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats. • Damage or destroy a place used by bats for breeding or resting (roosts) (even if bats are not occupying the roost at the time) • Possess or advertise/sell/exchange a bat of a species found in the wild in the EU (dead or alive) or any part of a bat. • Intentionally or recklessly obstruct access to a bat roost.

Bonn Convention As a signatory to the Bonn Convention (Agreement on Migratory Species in Europe), the UK is also required to protect their habitats, requiring the identification and protection from damage or disturbance of important feeding areas. Legislative Framework for Bats in the UK This means that habitat used for foraging and commuting by bats is also afforded protection.

Natural Environment and Rural Communities Act (NERC Act) 2006, This requires due consideration be given to biodiversity and its potential enhancement when considering proposed developments. Seven bat species are listed as species of principal importance under Section 41 of the NERC Act. Species listed are - • Barbastelle bat, (Barbastella barbastellus); • Bechstein`s bat (Myotis bechsteinii); • Noctule (Nyctalus noctula); • Soprano pipistrelle (Pipistrellus pygmaeus) • Brown long-eared (Plecotus auritus); • Greater horseshoe (Rhinolophusferrumequinum); • Lesser horseshoe (Rhinolophus hipposideros).[3]

.

[2] EtUK Ltd

[3] Bat-Advice-Service-contract-summary-vFeb-2020.pdf (bats.org.uk)

2. Discussion

2) Legal Interpretation of a bat roost

In this interpretation, a bat roost is "any structure or place which any bat uses for shelter or protection". Because bats tend to reuse the same roosts, legal opinion is that the protection of bat roosts are considered to apply regardless of whether bats are present or not. There is currently no guidance on when a roost ceases to be protected if it is not used by bats.

2.1) Licensing Requirements

Licence of Proposed Works If planned works would constitute an offence, they may only be carried out under a European Protected Species Mitigation licence EPSML from Natural England, Natural Resources Wales, Scottish Natural Heritage. Bat Low Impact Class Licence BLICL- WML-CL21 Is a new class licence that Natural England introduced to cover works to bat roosts of low conservation value for common bat species. BUT - BLICL – DOES NOT COVER TREE ROOSTS

Licence for Survey Works Works or mitigation activities involving interference with bats or bat roosts must be carried out by a licensed bat worker. Class licences • a) Level one – to survey bats by observation only (licence WML-CL17) • b) Level two – to survey bats using artificial light, endoscopes, hand and handheld static nets (licence WML-CL18) • c) Level three - to survey bats using artificial light, endoscopes, hand and handheld static nets, mist nets and acoustic lures (licence WML-CL19) • d) Level four - to survey bats using artificial light, endoscopes, hand and handheld static nets, harp traps and acoustic lures (licence WML-CL20)

2.2) Bat Ecology and Trees

All bats can be seen foraging around trees and some over water. However, there are only two bats which do not roost in trees. These are Grey Long Eared and Greater Horseshoe Bat.

So, that leaves us with the remaining bat species roosting in trees • Alcathoe bat - Myotis alcathoe • Barbastelle - Barbastella barbastellus* • Bechstein's bat - Myotis bechsteinii* • Brandt's bat - Myotis brandtii • Daubenton's bat - Myotis daubentonii • Leisler's bat - Nyctalus leisleri • Brown long-eared bat - Plecotus auritus • Nathusius' pipistrelle -

Pipistrellus nathusii • Natterer's bat - Myotis nattereri* • Noctule - Nyctalus noctula* • Common Pipstrelle, - Pipistrellus pipistrellus • Soprano Pipistrelle, - Pipistrellus pygmaeus

2.3) Potential Roosting Features (PRF)

From the ground, we will be looking for the following potential features in the trees around the pond. **• Woodpecker holes; • Rot holes; • Hazard beams; • Other vertical or horizontal cracks and splits (such as frost cracks) in stems or branches; • Partially detached platey bark; • Knot holes arising from naturally shed branches, or branches • Previously pruned back to the branch collar**;

Wood Pecker Holes--- are associated with pre-existing hollow stems (rot and fungus). Maternity roosts for Bechstein's, Daubentons, Leislers and Noctule have been recorded within woodpecker holes.

Rot Holes---Butt-rot is decay at the base of the tree typically opening into the heartwood between buttress-roots. Creates large cavity and hollow trunk. Hibernation roosts have been recorded in butt rot feature

Hazard Beams Hazard-- are longitudinal splits in lateral limbs and (less frequently) upright stems, that pass through the entire width, allowing light to be seen through the gap. Hazard-beams can occur at any height. Maternity and hibernation roosts recorded in hazard beams.

Wounds and Cankers-- Wounds can be caused by animals, vehicle damage, flailing. Cankers are changes in the texture of wood resulting from the death of the cambium where no new bark is formed - caused by fungus (common in Ash, Beech, Sycamore) Forms a cavity which is used by bats.

Tear Outs Formed by branches ripping out caused by wind or snow. When this happens, the branch 'heel' rips through the stem tissue taking a long strip with it and leaving a large open scar with a characteristic 'keyhole' shape. Seven species of bats have been recorded roosting in tear outs

Frost Cracks Frost-cracks are longitudinal splits in limbs, or cracks in the stem that typically progress from the base of the butt anything up to c.6m in height. Numerous bat species have been recorded roosting within frost cracks

3. Methodology

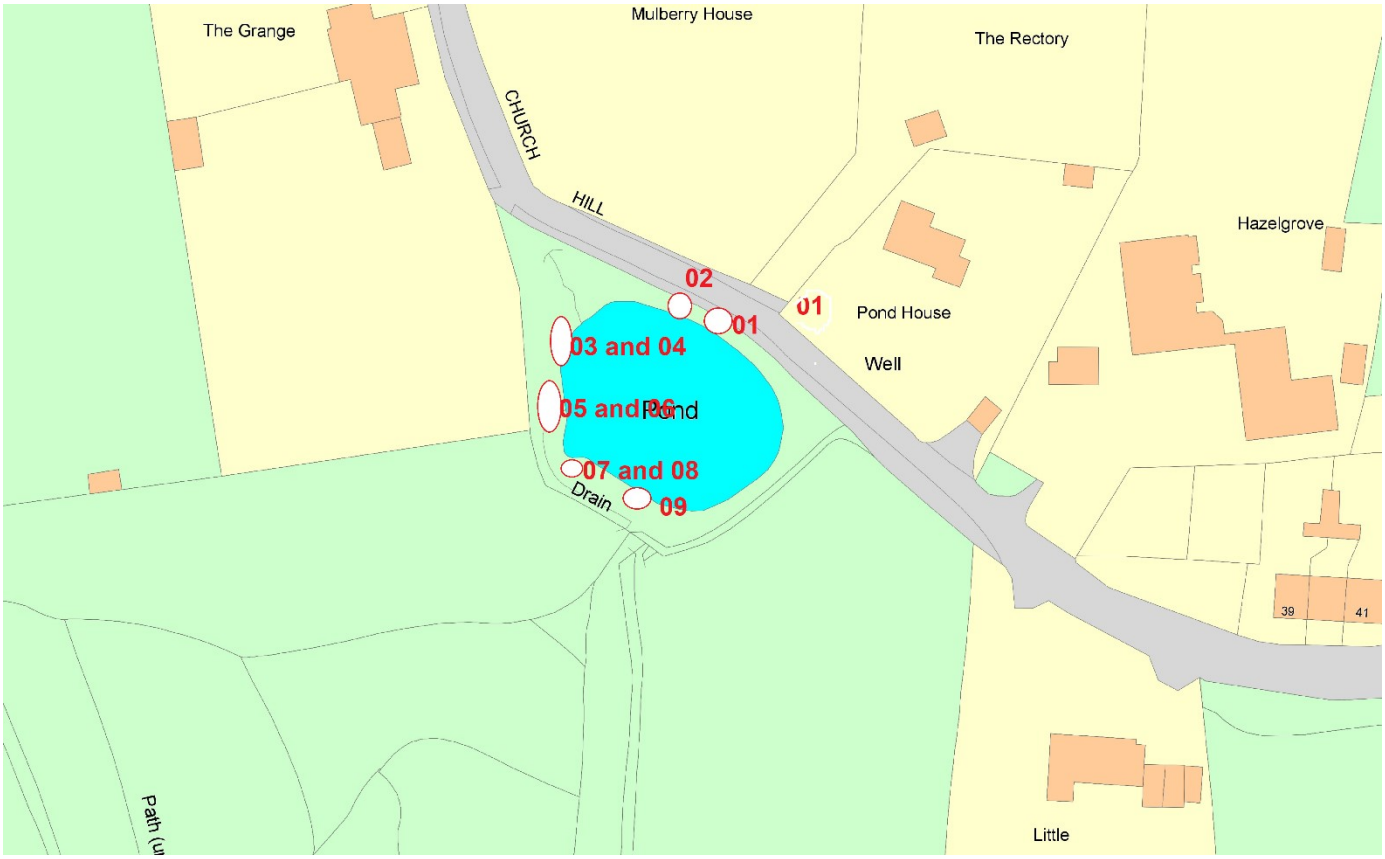
Survey Equipment • Clip board • Camera • Binoculars • Torch • GPS • Ladder • Compass • Tape measure • Make up mirror • Marker tape/spray paint/tree tags

3.1 What to record

• Tree Species • Location GPS • Tree Height • Trunk Diameter at chest height • Potential Roosting Features – type + location + aspect + description • Evidence of roosting bats • Surrounding habitat

The weather forecast was overcast with outbreaks of rain, with a temp of 9 Celsius. I surveyed 9 trees with a 1meter strip around the perimeter of the pond. The survey Involves inspecting the tree from the ground searching for Potential Roosting Features (PRF) and evidence of roosting bats. Licence not required unless torch or endoscope used. In our case no endoscope or torch was used.

3.2 Figure 3 with Map Location survey Points



6. Results Figure2

Ref No	GPS	Tree Species	Tree Height	Trunk Diameter	Potential Roost Feature type + location + aspect + description	Evidence of Roosting Bats/Surrounding Habitat
01	SU96210821	Willow	12m	250mm Mulit stem	Ivy, Trunk, Some pealing ivy, Low potential in the future for roosting bats.	Low Road, Pond, Mature Trees over rd.
02	SU96210821	Ash	12m	63mm multi stem	None	Negligible Road, Pond, Mature Trees over rd.
03	SU96200820	Ash	14m	130mm	Knot Hole, Trunk, Hole with possible PRF	No Bats Roosting. Moderate Pond, Mature Wood, Garden
04	SU96200820	Sycamore	13mm	101mm	Ivy, Trunk, No Holes low potential in the future for roosting bats	Low Pond, Mature Wood, Garden
05	SU9180820	Ash	10m	105mm	Knot Hole and Hazard Beam, Trunk, Low Possible PRF with not bat evidence but holes suitable	No Bats Roosting Moderate, Pond, Mature Wood, Garden
06	SU96200817	Sycamore	9m	64mm	None	Negligible
07	SU96200817	Ash	12m	88mm	None	Negligible
08	SU96200818	Sycamore	12m	82mm	None	Negligible
09	SU96210817	Willow	9m	154mm	Ivy on trunk, no holes but low possible summer bat roost in the future	Low, Pond, Mature Wood

7. Discussion

7.1 SU96210821

Situated next to the road, this large Willow contains 3 stems with Ivy. Although Ivy is a good source of habitat, no bat features identified on this tree and therefore the results are negligible.

7.2 SU96210821

Multi stem Ash Tree with Ivy on one trunk, contains no Bat features and the results are negligible.

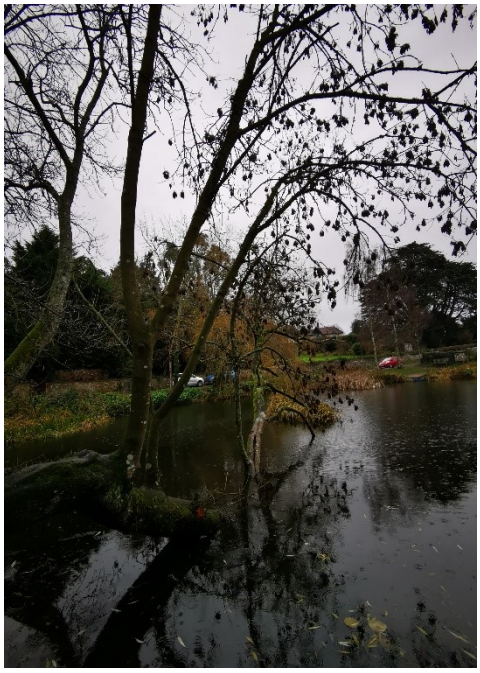
7.3 SU96200820

Large Ash Tree with not Hole, represents Potential Roosting Feature (PRF). Moreover, the potential is low because no bat droppings were
found at the base of tree. However, we must account for other species using this feature, like woodpeckers and nesting birds ect… It's advisable to mono lift this tree above the Potential Roosting Feature. This will keep the feature in situ and allow lighter conditions into the pond.

7.4 SU96200820

Healthy Sycamore tree with Ivy on the main trunk. There were no holes or lifting bark and we reported this PRF as low.

7.5 SU9180820



Mature Ash with lots of features, knot holes and **frost cracks**. Moreover, no bat droppings where located. The PRF is medium. Bats may well roost here in the future and other species of bird may build nests. Additionally, its critical that mono crown lifting takes place above the holes and cracks.

7. 6 SU96200817

Healthy Sycamore Tree with Ivy on the main trunk. There are holes or frost cracks and therefore this PRF negligible.

7.7 SU96200817

Ash Tree next to 7.6 no features and no PRF.

7.8 SU96200818

Mature Sycamore tree with negligible PRF has no sign of bat presence.

7.9 SU96210817

PRF for this mature Willow is low. There is Ivy and minimal bark lifting on the main trunk.

.

8.0 Conclusion and Good Practise

With reference to the table in figure 2, we have two trees with **Potential Roosting Features (PRF)**

Position 03 and 05 have potential roost features and can be monolif. Over time, monolith will create new features for bats to use. Monolith is a better option than removing the whole tree.

9.0 Recommendations

On the survey, it was noted that the trees block 70% of sunlight. Monolith the trees is a better option than removing them entirely. Trees with cracks and splits attract Bats, Birds and other invertebrates which improve the biodiversity for the pond. Monolith the trees in ref 3 and 5 will keep the features. It's essential that these two trees ref 3 & 5 are cut monolith above the frost cracks and knots.

Ref 1 can be removed as it has no features and causes issues for the road.

Moreover, it is also recommended that bat boxes and bird boxes are installed around the pond[i].

10. References

- 'Making Space for Nature: A review of England's wildlife sites' (Sir John Lawton, 2010)
- Bat Conservation Trust
- 'ETUK Ecological Training UK for Ecologists
- Notes of visit to Stroud Rural SuDS project – April 16 - Alastair Driver, National Biodiversity Manager Environment Agency
- Facilities and services Slindon Parish Council.
- Thomson Ecology Handbook: Making Space for Nature - The Lawton Report (2010)
  - Dormice Conservation Hand Book People Trust For endangered species.

- **The role of pond management for biodiversity conservation in an agricultural landscape.** The role of pond management for biodiversity conservation in an agricultural landscape - Sayer - 2012 - Aquatic Conservation: Marine and Freshwater Ecosystems - Wiley Online Library

[i] Bat Conservation Trust Wooden bat boxes - Bat Boxes - Bat Conservation Trust (bats.org.uk)