

Land at Stebbing, Essex: GROUND LEVEL TREE ASSESSMENT TECHNICAL NOTE

25 November 2022

1. AIMS AND SCOPE OF GROUND LEVEL TREE ASSESSMENT

The Preliminary Ecological Appraisal, undertaken in July 2021 (Hybrid Ecology Ltd, 2021), identified several trees on site which had features that could support roosting bats. It was recommended that a ground level tree inspection is undertaken to further assess the trees potential for roosting bats, and to highlight the need for mitigation or further nocturnal survey effort if required.

2. METHODOLOGY

The ground level tree assessment involved a trained surveyor assessing each tree, or tree group, for bat roosting features. Where bat roosting features were identified, these were recorded and classified as respectively being High, Medium or Low potential to support roosting bats. Each surveyed tree was thus given an overall risk level, which subsequently will define the number of nocturnal surveys that will be required to adequately assess the risk. The trees surveyed are shown in Figure 1, Appendix 1.

3. SURVEYOR, AUTHOR, AND REVIEWER

The survey was undertaken by India Wedge, Ecologist at MKA Ecology Ltd; India has three years' experience conducting ground level tree assessments. The report was written by Phoebe Waller, student ecologist at MKA Ecology Ltd, and reviewed by India Wedge and Gabrielle Wilbur ACIEEM, Senior Ecologist at MKA Ecology Ltd; Gabrielle has over seven years' experience in ecological consultancy. The report has been authorised by Marcus Kohler MCIEEM, Director at MKA Ecology Ltd. Marcus has over 25 years' experience in ecological consultancy.

4. RESULTS

12 trees and two tree groups were assessed during the Ground Level Tree Assessment. All of the individual trees were found to support potential bat roosting features, but the two tree groups were found to be negligible for their bat roost potential. Each potential roosting feature is outlined in Table 1 below. The results of the survey are also shown in Figure 1, [Appendix 1](#).

Table 1 : Results of ground level tree assessment

Tree number/ group	Tree species	Potential roosting feature (PRF)	Photograph number	PRF suitability	Overall risk level for tree
Tree 1 (Photograph 1, Appendix 2)	Poplar	A knot hole-like cavity is present behind a broken off branch. The cavity appears to completely surround the broken branch. Potential Roost Feature (PRF) is 4m high and north facing.	Photograph 2, Appendix 2	Moderate	Moderate
Tree 2	Poplar	Multiple cavities are present within the trunk of the tree. PRFs are 4m high and east facing.	Photograph 3, Appendix 2	Moderate	Moderate
		A woodpecker hole was also identified within the tree trunk. PRF is 5m high, east facing.	Photograph 3, Appendix 2	Low	
Tree 3 (Photograph 4, Appendix 2)	Poplar	A narrow vertical crack is present in one of the dead branches of the tree. PRF is 10m high, and northeast facing. Vulnerable to water immersion.	Photograph 5, Appendix 2	Low	Low
Tree 4 (Photograph 6, Appendix 2)	Poplar	A predominantly dead tree, containing a woodpecker cavity and a large tear out originating from the trunk. PRFs are both 5m high, and east facing. Hornets were identified occupying the main trunk cavity.	N/A	Low	Low

Tree number/ group	Tree species	Potential roosting feature (PRF)	Photograph number	PRF suitability	Overall risk level for tree
Tree 5 (Photograph 7, Appendix 2)	Poplar	A large tear out and associated cavity is present within the trunk of the tree. PRF is 4m high, and east facing.	Photograph 8, Appendix 2	Low	Low
Tree 6	Poplar	Cracks were identified within the bark present on one of the branches that had been cut. PRF is 5m high and east facing.	Photograph 9, Appendix 2	Low	Low
Tree 7 (Photograph 10, Appendix 2)	Ash	A branch tear is present on the tree, as well as a small adjacent cavity. Both PRFs are 10m high and north facing.	Photograph 11, Appendix 2	Low	Low
Tree 8 (Photograph 12, Appendix 2)	Willow	Cracks were identified in a tear out located 6m high and north facing.	Photograph 13, Appendix 2	Moderate	Moderate
		Numerous cracks were identified in the bark all around the tree; particularly lower down on the tree.	N/A	Moderate	
Tree 9 (Photograph 14, Appendix 2)	Willow	Numerous cracks are present in the bark around the entirety of the trunk and some dead branches are present.	Photograph 15, Appendix 2	Moderate	Moderate
Tree 10	Willow	This tree is a dead stump containing numerous holes and cracks.	N/A	Moderate	Moderate
Tree 11 (Photograph 16, Appendix 2)	Willow	Numerous cracks and tear outs were identified around the majority of the trunk and branches.	N/A	Moderate	Moderate

Tree number/ group	Tree species	Potential roosting feature (PRF)	Photograph number	PRF suitability	Overall risk level for tree
Tree 12 (Photograph 17, Appendix 2)	Pedunculate oak	A woodpecker hole and deadwood with cracks were identified on the trunk of the tree.	Photograph 18, Appendix 2	Moderate	Moderate
		A deep cavity was identified on the end of a dead branch that travels far into the trunk of the tree. PRF is 2m high and south facing.	Photograph 19, Appendix 2	Low	
Tree group 1	Pedunculate oak	A tree group, containing three trees, with no PRFs identified.	N/A	N/A	Negligible
Tree group 2	Pedunculate oak	A tree group, containing two trees, with owl boxes present.	Photograph 20, and Photograph 21, Appendix 2.	Negligible	Negligible

5. EVALUATION AND RECOMMENDATIONS

Trees containing potential bat roosting features have been identified onsite. Seven individual trees (Trees 1, 2, 8, 9, 10, 11, and 12) are considered to be of moderate potential to support roosting bats. Five individual trees (Trees 3, 4, 5, 6, and 7) are considered to be of low potential, and both tree groups containing pedunculate oaks are considered to be of negligible potential.

If impacts are predicted on the trees identified as possessing potential bat roosting features, then further nocturnal surveys will be required. Potential impacts may include limb removal, modification of the trees, tree removal, artificial lighting, and building works close to the trees. All of these actions may result in the loss of a roost, the modification of a roost and the disturbance, killing or injuring of individual bats. All of the above impacts would be considered an offence under the relevant legislation listed in [Appendix 3](#).

It is recommended that further nocturnal surveys are undertaken on the trees with moderate bat roost potential, should they be subject to any disturbance or impacts during the development process. Following good practice guidelines (Collins, 2016), nocturnal bat surveys should be carried out during the recommended period between May and August with at least two weeks between each survey visit. For trees of moderate suitability, one dusk emergence and dawn re-entry survey are required.

Recommendation 1

Undertake nocturnal emergence/re-entry surveys on Trees 1, 2, 8, 9, 10, 11, and 12 with moderate bat roost suitability, where impacts are predicated upon them.

Where trees are shown to be used as a roost and where impacts are not avoidable, a European Protected Species licence from Natural England will be required. In order to obtain this licence, it will be necessary to identify all species of bats using the tree(s), their population sizes and gather detailed information on how they are using the trees (for example, locations of roosts and access points). A method statement will then outline how bats will be protected during development works and how provision for roosting will be made during and after development and submitted to Natural England for approval. The above surveys will gather the data required to inform the impact assessment, mitigation strategy and licence application process.

Where impacts on trees with low bat roosting potential are predicted, there is a smaller risk of impacts on roosting bats. Therefore, it is not necessary that any nocturnal survey effort is completed on low-risk trees. However, due to the residual risk of the presence of roosting bats it is recommended that impacts to low-risk trees are preceded by an inspection undertaken by a suitably qualified ecologist and liaison with any arboricultural contractors. This usually involves a soft-felling exercise, if the tree needs to be removed.

Recommendation 2

Where impacts are predicted on trees 3 ,4 5 6 and 7 with low risk of supporting roosting bats, these will require an inspection undertaken by a suitably qualified ecologist and liaison with arboricultural contractors prior to felling and likely to require a soft felling exercise.

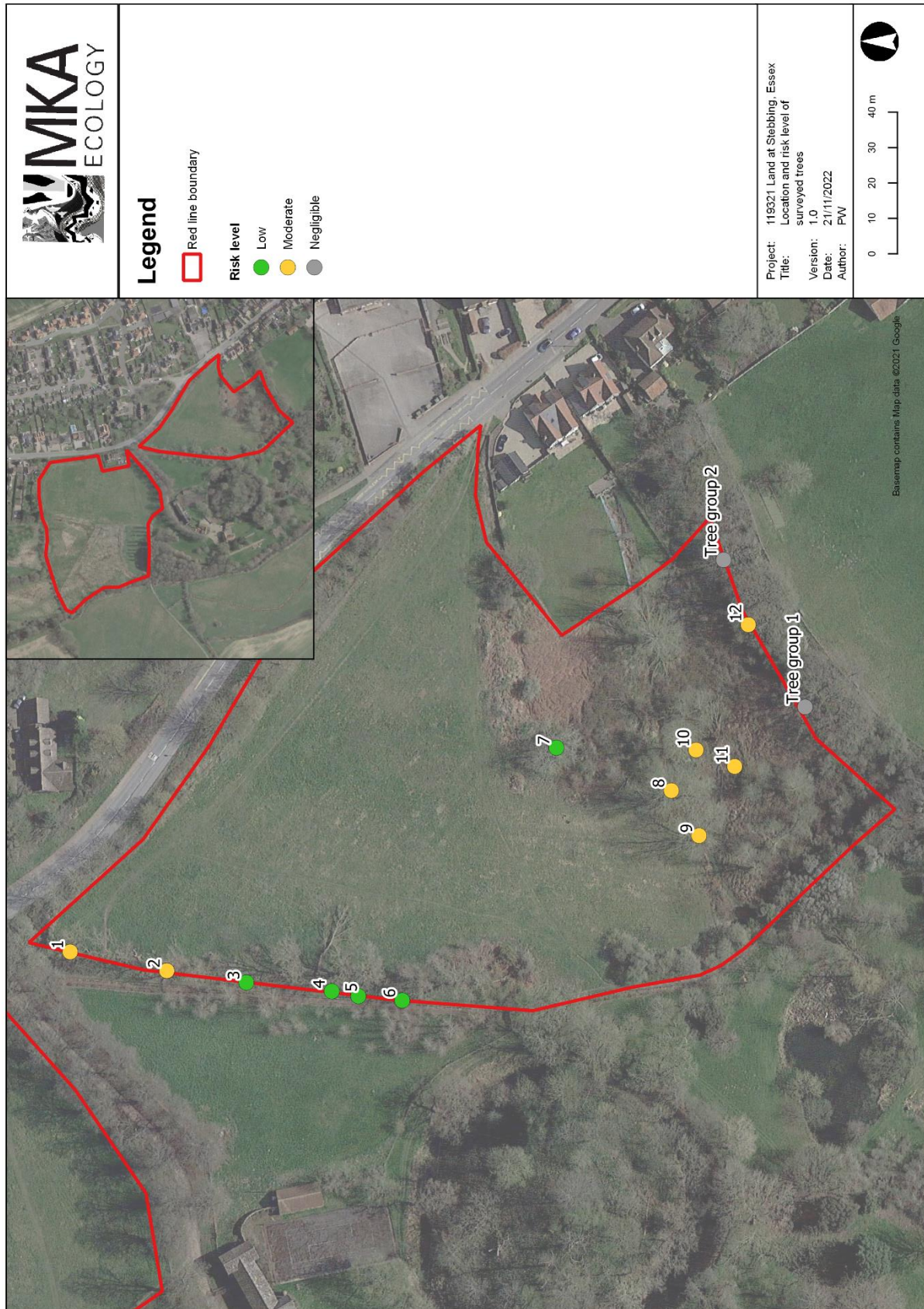
6. REFERENCES

Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists – Good Practice Guidelines (3rd edition)*. Bat Conservation Trust: London.

Hybrid Ecology Ltd (2021). *Preliminary Ecological Appraisal – Land at Stebbing, Essex*. Hybrid Ecology Ltd: Chelmsford.

Appendix 1: Figures

Figure 1: Location and risk level of surveyed trees



Appendix 2: Site photographs

Photograph 1: Tree 1, Poplar.



Photograph 2: Tree 1. Knot hole like cavity behind broken branch.



Photograph 3: Tree 2, poplar. Cavities located in the tree trunk.



Photograph 4: Tree 3, Poplar.



Photograph 5: Tree 3. Narrow crack present in one of the dead branches.



Photograph 6: Tree 4, Poplar.



Photograph 7: Tree 5, poplar.



Photograph 8: Tree 5. Tear out and cavity within the tree's trunk.



Photograph 9: Tree 6. Cracks on branches where the tree had been cut.



Photograph 10: Tree 7, Ash.



Photograph 11: Tree 7. Branch tear and small adjacent cavity.



Photograph 12: Tree 13, Willow.



Photograph 13: Tree 13. Cracks within tear out.



Photograph 14: Tree 9, Willow.



Photograph 15: Tree 9. Numerous cracks within the bark of the tree.



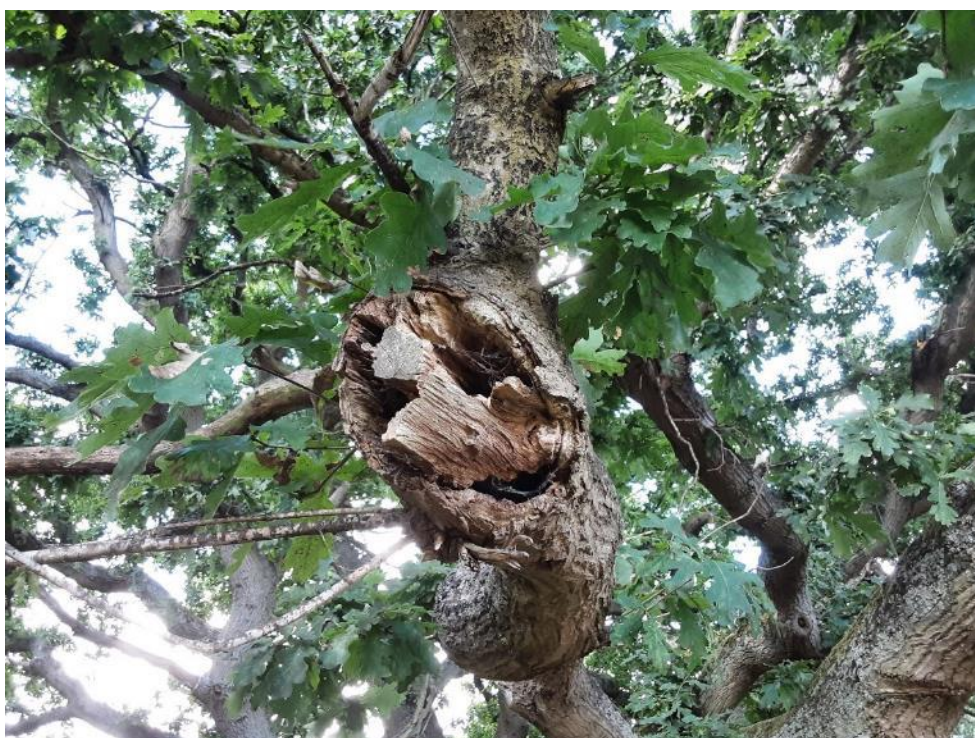
Photograph 16: Tree 11, Willow.



Photograph 17: Tree 12, pedunculate oak.



Photograph 18: Tree 12. Woodpecker hole and dead wood cavity.



Photograph 19: Tree 12. Deep cavity on the end of dead branch.



Photograph 20: Tree group 2. Owl box present on tree.



Photograph 21: Tree group 2. Owl box present.



Appendix 3: Relevant wildlife legislation

Subject	Legislation (England)	Relevant prohibited actions
Bats (all UK species)	Schedule 2 of Conservation of Habitats and Species Regulations (2017)	<ul style="list-style-type: none"> • Deliberately capture, injure or kill a bat; • Deliberately disturb a bat (disturbance is defined as an action which is likely to: (i) Impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) Impair their ability to hibernate or migrate; or (iii) Affect significantly the local distribution or abundance of the species); • Damage or destroy a bat roost; • Intentionally or recklessly disturb a bat at a roost; or • Intentionally or recklessly obstruct access to a roost. • To possess, control, transport, sell or exchange, or to offer for sale or exchange, any live or dead bat or part of a bat, or anything derived from a bat or any part of a bat. <p>In this interpretation, a bat roost is "any structure or place which any wild [bat]...uses for shelter or protection". Legal opinion is that the roost is protected whether or not the bats are present at the time.</p>
	Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	

The Wildlife & Countryside Act 1981 (as amended)

Full legislation text available at: <http://www.legislation.gov.uk/ukpga/1981/69>

The Conservation of Habitats and Species Regulations 2017 (as amended)

Full legislation text available at: [The Conservation of Habitats and Species Regulations 2017 \(as amended\) \(legislation.gov.uk\)](http://www.legislation.gov.uk/uksi/2017/69)