

SUBJECT
St Nicholas – Bat Tree Climbing Report

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DEPARTMENT
Ecology

COPIES TO
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TO
Welsh Water

OUR REF
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Introduction

Arcadis Consulting (UK) Limited was commissioned by Morgan Sindall to undertake bat roost tree inspections to assess trees for their potential to support bat roosts in relation to the proposed expansion of the St Nicholas Wastewater Treatment Works (WwTW) in the Vale of Glamorgan including the temporary access track to the east.

Background

A ground level preliminary roost inspection undertaken in 2022 of the WwTW expansion boundary identified 11 trees and one building on site with features that had the potential to support bat roosts. During this survey there were a further three trees (7, 8 and 9) that were of a size and age that could support roost features but no features were confirmed from the ground on the western side and the eastern side of the tree was not visible due to access constraints at that time. It was recommended that a follow up ladder/aerial rope inspection would provide further information on these features and their potential to support bat roosts.

A further preliminary ecological appraisal undertaken in 2023 for the temporary haulage road from the east also identified four trees of an age and structure that were considered suitable to support bat roosts (report in preparation).

Methodology

Tree climbing inspections using endoscopes were undertaken on trees identified offering bat roosting potential. The climbing inspection included assessment of the suitability of feature(s) from height, confirm presence / absence of bats and/or roosting features and inform further survey effort. The detailed tree inspection survey was only undertaken on trees considered likely to be impacted by the scheme.

Some roost features could be inspected from the ground with an extendable endoscope, some features required a ladder and others required aerial rope access. The methodology used on each tree is noted in Table 1.

The endoscope survey was undertaken on 17 and 18 April 2023 by Sam Radonich and George Parry (accredited agents under Henry Smith Natural England Bat licence (2018-37280-CLS-CLS) both qualified tree climbers (NPTC CS38: Tree climbing and Aerial Rescue). The weather was clear and dry.

The surveyors recorded the internal dimensions of features, internal conditions, and any evidence of bat roosting activity (presence/absence of bats/droppings, smoothing, feeding remains, smell, staining, bat fly *Nycteribiid* sp pupae and squeaking noises).

Limitations

All features could be inspected at the time of the survey. However due to the mobile nature of bats no feature can be cleared with complete certainty so a precautionary approach should be taken when felling.

Tree 5 was not inspected as at the time of the climbing inspection survey the temporary access point was anticipated to be distant from this tree and no impacts were anticipated.

Results

No confirmed bat roosts were identified during the surveys. Trees 7, 10 and 11 had suitable features that had the potential to support bats but no evidence was found of a roost being present. More detail is provided in Table 1 with associated photographs in Appendix 1.

Table 1: Summary of methodology and result.

Tree Number and species	Survey Type	Feature	Result
Access track trees	Identified as outside the likely zone of influence of the works and no anticipated impacts on roosts/bats even if present. No further inspection surveys undertaken.		
1-4 and 13	Identified as outside the likely zone of influence of the works and no anticipated impacts on roosts/bats even if present. No further inspection surveys undertaken.		
5 Oak	Ground level inspection with binoculars only	Split beam with potential for cavity but open to elements on both sides.	Low potential
6 Oak	Extendable endoscope, ladder and rope	A - Knot hole	All features filled with water and considered unsuitable for roosting bats
		B - Split branch	
		C - Large cavity (south)	
		D - Large cavity (north)	
7 Oak	Extendable endoscope, ladder and rope	A - Split beam	Moderate potential but no evidence of bats
		B - Split limb (west, 4m high)	Moderate potential but no evidence of bats
		C - Split limb (west, 12 m high)	Moderate potential but no evidence of bats

Tree Number and species	Survey Type	Feature	Result
8 Oak	Extendable endoscope, ladder and rope	No suitable features	N/A
9 Oak	Extendable endoscope, ladder and rope	No suitable features	N/A
10 Hawthorn	Extendable endoscope	Buttress rot cavity	Moderate potential as a day roost
11 Aspen	Extendable endoscope, ladder and rope	A – knot hole	No depth to support bats
		B – bark fissure	No depth to support bats
		C – knot hole	The knot hole extends into a cavity 15cm deep, and 30cm up and 30cm down the trunk. Moderate potential.
12 Oak	Extendable endoscope	Split limb	No suitable features
14 Hazel	Extendable endoscope	Split stem	No suitable features

Recommendations

No evidence of a bat roost was found during the survey. The features in Trees 7, 10 and 11 were considered to have potential to support bats and individuals may on occasion use these features as a day roost. There are anticipated construction activities within 20m of Trees 7, 10 and 11 that may constitute a disturbance and there will be a temporary access track within the root protection zone of tree 5 that may require limb removal and or lead to soil compaction around the tree.

It is recommended that a further emergence survey is undertaken on Tree 5, 7, 10 and 11 between May and September in line with guidance¹.

If a roost is identified then a Natural Resources Wales bat licence may be required for works on or within 20m of the tree.

If no roost is found during emergence surveys and trees 5, 7, 10 and 11 either need to be felled or require some management works then these works should only be undertaken after a pre-works checks by a suitably licensed ecologist. The methodology should be detailed in a Construction Environmental Management Plan for the site and should include methods for soft felling (sections of tree/tree limbs lowered to the ground using ropes and limbs left on the ground overnight) and may specify protection of the root protection zone in particular for Tree 5. Due to bat roosting factors changing quickly it can never be ruled out with complete certainty that a feature

¹ Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). The Bat Conservation Trust, London.

is completely clear. In the unlikely event bats are found works must be stopped and advice sought from suitably qualified ecologist and who will consult the relevant authority to ensure no harm to bats or offences are committed.

Appendix 1

Tree Number	Feature	Photograph
6 Oak	Knot hole (blue)	
	Split branch (yellow)	
	Large cavity (south – no photo)	
	Large cavity (north - red)	
7 Oak	Split beam (red)	
	Split limb (west, 4m high, blue)	
	Split limb (west, 12 m high, yellow)	

Tree Number	Feature	Photograph
10 Hawthorn	Buttress cavity	
11 Aspen	Knot hole (blue)	
	Bark (yellow) Fissure	
	Knot hole (red)	
12 Oak	Split limb	

Tree Number	Feature	Photograph
14 Hazel	Split stem	