



Appendix L4 - Preliminary Ground Level Bat Roost Assessment (Trees) Report

Langstone FCERM Scheme

June 2021

Document Information

Document	Preliminary Ground Level Bat Roost Assessment (Trees) Report
Project	Langstone FCERM Scheme
Department	Coastal Partners

Document History

Date	Revision	Prepared	Checked
01/07/2021	1.0 Draft	RC	ER
20/08/21	Final	RC	ER

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Summary

- A preliminary ground level bat roost assessment of trees to determine the actual or potential presence of bats within the site was undertaken on 25th February 2021 for Coastal Partners as part of the Langstone Flood and Coastal Erosion Risk Management (FCERM) Scheme.
- No direct evidence of bat roosts were found within the site boundary.
- Potential roosting features were found on 10 trees within the site boundary.
- The survey results found 2 trees classified as high roosting potential, 3 trees as medium roosting potential, 1 trees as low roosting potential and 4 trees as negligible roosting potential.
- Langstone is potentially an important site for roosting, foraging and commuting bats.
- Additional emergence / re-entry surveys will be required on any trees that require removing or that will be impacted by the construction works that contains confirmed bat roosts, or high or moderate potential roosting features; bat activity surveys will be required on any commuting and foraging habitat that is at risk of disturbance.
- The additional surveys will inform the appropriate mitigation and/or compensation measures that will be required to ensure impacts to bat species and their roosts are avoided or minimised. A site-specific licence from Natural England may be required based upon the outcome of these surveys.

1. Introduction

A series of ecology surveys were required for the Coastal Partners Langstone Flood and Coastal Erosion Risk Management (FCERM) Scheme (Figure 1.1). This report constitutes the preliminary ground level bat roost assessment of trees, within that suite of surveys, to determine the actual or potential presence of bats within the site and the need for further surveys and/or mitigation.

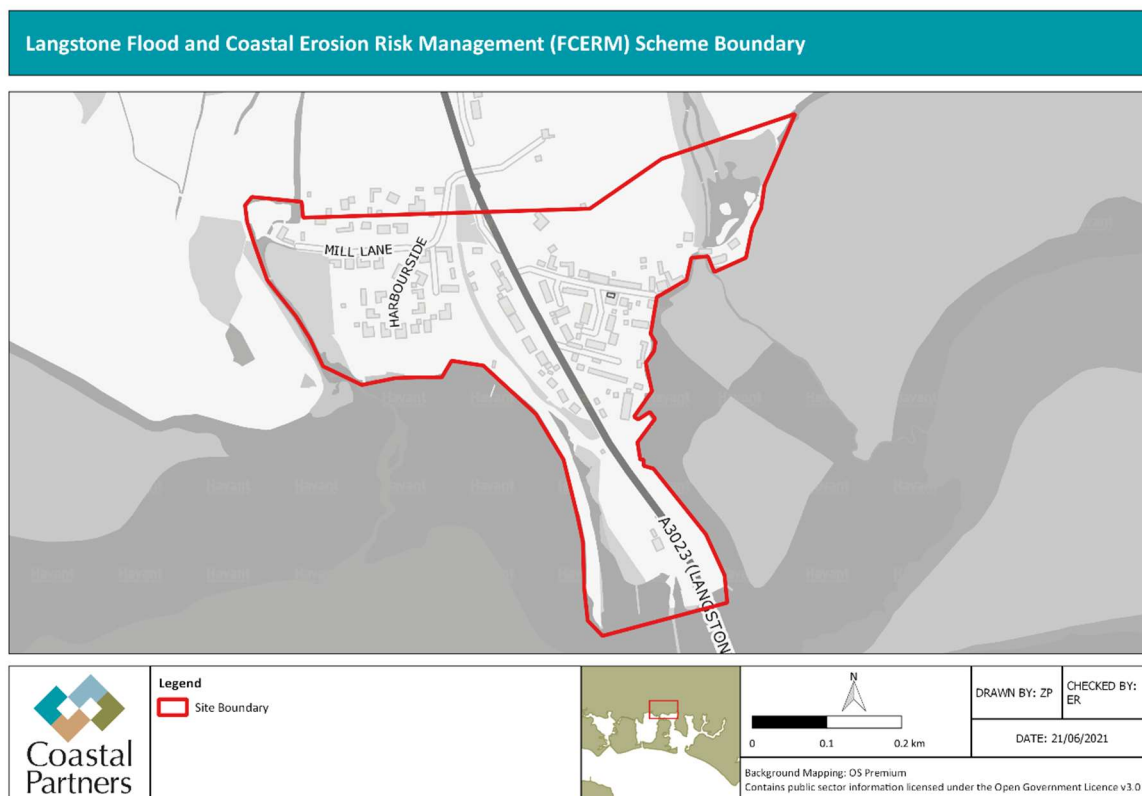


Figure 1.1 – Langstone FCERM Scheme, Site Boundary.

2. Legislation

All UK bat species and their roosts are legally protected under Annex IV of the EC Habitats and Species Directive which is transposed into UK law via the Conservation of Habitats and Species Regulation 2017 (as amended). All species of bat are also protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Bats are given further protection through the Countryside and Rights of Way Act 2000, adding additional enforcement, making species offences arrestable, increasing time limits for some prosecutions and increasing penalties.

Together these legislations make it an offence to:

- Deliberately kill, injure or capture a bat;
- Deliberately disturb a bat in a way that would affect: i) its ability to survive, breed or rear or nurture their young, hibernate or migrate; ii) significantly affect the local distribution or abundance of the species.
- Intentionally or recklessly disturb any bat whilst it is occupying a roost;
- Damage or destroy a bat roost;
- Intentionally or recklessly obstruct access to a bat roost.
- Possess or advertise/sell/exchange a wild bat species (dead or alive) or any part of a bat.

Under Section 40 of the Natural Environment and Rural Communities (NERC) Act (2006) public bodies, including Local and Regional Planning Authorities have a duty to 'have regard'

to the conservation of biodiversity (and its potential enhancement) in England when carrying out their normal functions, which includes consideration of planning applications.

Seven UK bat species are listed as species of principle importance under Section 41 the NERC Act (2006), and local authorities and other public bodies have a legal duty to take their conservation into account. Because of this they are a material consideration in the planning process. The seven species listed are:

- Barbastelle bat (*Barbastella barbastellus*);
- Bechstein's bat (*Myotis bechsteini*);
- Noctule bat (*Nyctalus noctula*);
- Soprano pipistrelle bat (*Pipistrellus pygmaeus*);
- Brown long-eared bat (*Plecotus auritus*);
- Greater horseshoe bat (*Rhinolophus ferrumequinum*);
- Lesser horseshoe bat (*Rhinolophus hipposideros*).

3. Methodology

3.1 Background Data Search

A desktop assessment was undertaken assessing data from Hampshire Biodiversity Information Centre (HBIC), www.magic.gov.uk and aerial imagery.

3.2 Preliminary Ground Level Bat Roost Assessment (Trees) Method

A preliminary ground level bat roost assessment involving an inspection of trees in accordance with 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (Collins, 2016), was undertaken to establish if bats are roosting or could potentially roost within the site boundary.

Trees and any other ground level structures were inspected (from the ground) and assessed for their potential to provide roosting or foraging opportunities to bats. Significant 'Potential Roosting Features' (PRFs) suitable for roosting bats were recorded including a description, height and orientation. PRFs recorded comprised of any combination of the following:

- Woodpecker holes,
- Rot holes,
- Hazard beams,
- Other vertical or horizontal cracks or 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,
- Man-made holes (e.g. cavities that have developed from flush cuts) or cavities created by branches tearing out from parent stems,
- Cankers (caused by localised bark death) in which cavities have developed,
- Other hollows or cavities, including butt-rots,
- Double-leaders forming compression forks with included bark and potential cavities,
- Gaps between overlapping stems or branches,
- Partially detached ivy with stem diameters in excess of 50mm,
- Bat, bird or dormouse boxes.

Where possible, each PRF was inspected for evidence of use by roosting bats including:

- Presence of bats,
- Bat droppings in, around or below a PRF,
- Odour emanating from a PRF,
- Audible squeaking at dusk or in warm weather;
- Staining below the PRF.

If it had been possible, bat droppings only found outside the tree roost would have been carefully collected for DNA analysis.

Any potential tree roost suitable for bats was recorded and classified using the tree roost potential classification outlined in 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (Collins, 2016) (Table 3.2.1).

Table 3.2.1 – Tree Roost Potential Classification.

Suitability	Description of Roosting Habitats
Negligible	Negligible habitat features within the tree for roosting bats.
Low	A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only limited roosting potential.
Medium	A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (maternity or hibernation).
High	A tree with one or more potential roost sites that are obviously suitable for use by large numbers of bats on a regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Confirmed Roost	Bats or evidence of bats found.

(Source: Collins, 2016).

The site was surveyed on 25th February 2021 by Ed Rowsell and Zoe Palmer who are experienced and trained ecologists. The weather conditions during the survey were overcast with light showers, becoming drier toward the latter half of survey (Table 3.2.3).

Table 3.2.2 - Meteorological Data for Bat Tree Roost Assessment Surveys.

Date	Start Time	End Time	Temp. (°C)	Cloud Cover (%)	Wind Direction	Wind Strength (Kn)	Weather Comments
25.02.2021	09.00	12.30	9	90	West	6	Overcast, showers until 11.00, becoming drier.

Limitations: It is not considered any factors have had an impact on the efficacy of the survey or the results. A survey of this type is by its nature a snapshot in time. Wildlife populations fluctuate over time and ranges can expand or contract, the results of this survey are considered to be valid for between 12 and 24 months, if works are delayed a new survey should be considered.

4. Results

4.1 Background Data Results

The survey location lies within close proximity to Chichester and Langstone Harbours SPA and Ramsar, Portsmouth Harbour Special Protection Area (SPA) and Ramsar, Solent and Dorset SPA, the Solent Maritime Special Area of Conservation (SAC), Portsmouth Harbour Site of Special Scientific Interest (SSSI), Langstone Harbour SSSI, and Warblington Meadow SSSI. The Langstone Mill Pond is a designated Site of Importance for Nature Conservation (SINC). There are 24 SINCs within 2km of the site boundary, but only the Mill Pond within.

The HBIC data search identified 11 species of bat within 2km of the site boundary, including the Barbastelle Bat (*Barbastella barbastellus*), Brown Long-eared Bat (*Plecotus auratus*), Common Pipistrelle Bat (*Pipistrellus pipistrellus*), Daubenton's Bat (*Myotis daubentonii*), Lesser Noctule/Leisler's Bat (*Nyctalus leisleri*), Nathusius's Pipistrelle Bat (*Pipistrellus nathusii*), Natterer's Bat (*Myotis nattereri*), Noctule Bat (*Nyctalus noctule*), Serotine Bat (*Eptesicus serotinus*), Soprano Pipistrelle Bat (*Pipistrellus pygmaeus*) and Whiskered Bat (*Myotis mystacinus*). There are recorded sightings for an unidentified *Myotis* Bat species and a Long-eared Bat species (*Plecotus*) located within the site boundary.

4.2 Survey Results

The habitat within and adjacent to the Langstone site boundary contains deciduous woodland, scrub, open grassland fields, meadows and tidal mudflats. The Mill Pond with patches of reedbed habitat lie at the eastern site boundary. The north western corner of Chichester Harbour, known as Sweare Deep lies at the south of the site boundary, as well as the north eastern corner of Langstone Harbour.

The hinterland of the scheme includes areas that would be considered high quality bat foraging habitat. No trees or structures were identified as possible roosts.

PRFs were found within 10 trees located along the footpath edge, Mill Lane, Langstone Meadows edge and within Langstone Village (Figure 4.2.1 and Appendix A). 2 oak trees were classified as high roosting potential; 3 trees (2 oak and 1 willow) were classed as medium roosting potential; 1 tree (sycamore) was classified as low roosting potential; and 4 trees (2 Monterey Pine, 1 Norway Maple, and 1 Poplar) were classified as negligible roosting potential.

Langstone - Trees with Confirmed or Potential Roosting Features for Bats (25th February 2021)

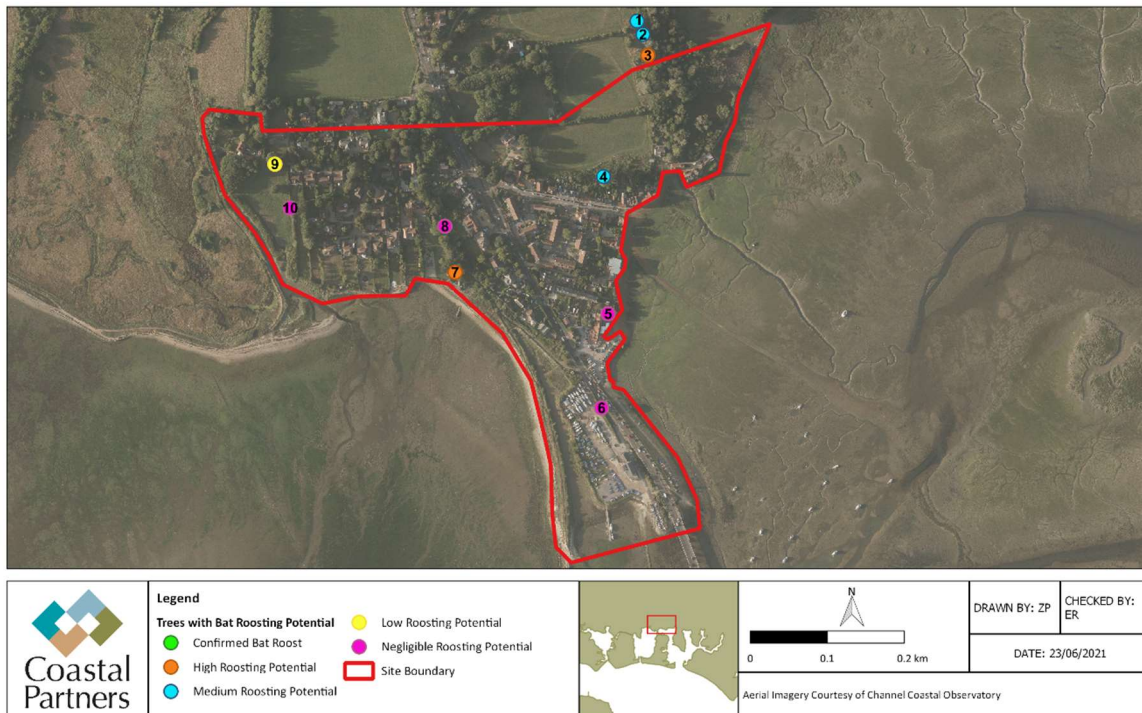


Figure 4.2.1 – Trees with Confirmed or Potential Roosting Features, Langstone

5. Discussion

The HBIC data confirmed the presence of at least 11 bat species within 2km of the site that could potentially use the area as a roosting, foraging and commuting habitat. Of these 11 species, the Natterer's Bat and Noctule Bat are tree roosting specialists. Whereas the Barbastelle Bat, Lesser Noctule/Leisler's Bat, Long-eared Bat, Common Pipistrelle Bat, Daubenton's Bat, Nathusius's Pipistrelle Bat, Soprano Pipistrelle Bat and Whiskered Bat can be found roosting in both trees and other structures such as buildings. The Serotine Bat are rarely but occasionally found roosting in trees as this species prefer large cavities to roost in. All these bat species will use the habitats within the site boundary for foraging and commuting.

The woodland areas, meadows and linear treelines within and adjacent to the scheme boundary are considered medium - high quality habitat for roosting bats. The survey confirmed PRFs within 10 trees within the woodland areas and linear treelines. The mix of woodland, linear treelines, scrub, open grassland, meadows and riparian habitats within and adjacent to the scheme boundary is considered high quality foraging and commuting habitat for bats; which all UK bat species will utilise within the wider landscape. In addition, there are structures on the frontage that are of an older construction and contain features that are suitable access and roosting points for bat species.

The 11 bat species known to be present within the area will utilise and forage the habitats within the site boundary in different ways. For example, the Brown Long-eared Bat prefers to forage under tree cover within deciduous woodland and occasionally along hedgerows. Similarly, the Common Pipistrelle Bat will forage in deciduous woodland but also within a range of other habitats. The Nathusius's Pipistrelle Bat and Whiskered Bat tend to forage in both woodland and riparian habitats. The Barbastelle Bat forages in a range of habitats but are thought to prefer pastoral landscapes with deciduous woodland and wet meadows and waterbodies. The Natterer's Bat forages in a range of habitats including semi-natural broadleaved woodland, tree lined river corridors and ponds, and grassland habitat. Likewise, the Noctule Bat forages in a range of habitats, in open areas, over trees and close to water bodies. The Lesser Noctule/Leisler's Bat and Serotine Bat often forage in open pasture fields, tree lined hedgerows and woodland edges; whereas the Daubenton's Bat and Soprano Pipistrelle Bat prefers to forage in riparian habitats. (Collins, 2016).

The mix of woodland, meadows, linear treelines and wider habitats within and adjacent to the Langstone site boundary provide high-quality roosting, foraging and commuting habitat for bats. Further surveys (e.g. emergence / re-entry surveys and transect surveys), appropriate mitigation and/or compensation measures may be required to ensure impacts to bats are avoided or minimised; and if appropriate, the inclusion of measures to enhance bat roosting, foraging and commuting habitat within the site boundary.

6. Recommendation

Once details of potential tree removal and which trees will be impacted by the construction works are known, we will be able to inform the need for, extent and type of additional surveys and /or mitigation measures that will be required and if the project will need a site-specific licence from Natural England.

Potential roosts that are at risk of disturbance from the project will be subject to emergence / re-entry surveys to best practice guidance. Trees categorised with high roosting potential that will be impacted will require 3 emergence / re-entry surveys per tree between May and September. Trees categorised with moderate roosting potential that will be impacted will require 2 emergence / re-entry surveys per tree between May and September. Trees categorised with low or negligible PRFs do not require further surveys, however precautionary measures (such as soft felling) should be taken if the tree requires felling or pruning.

Areas of moderate – high value commuting and foraging habitat that may be impacted by the project will also require a bat activity transect survey twice a month and the deployment of three static detectors for a five day period each month between April and October to confirm relative importance of habitat for bat populations. All surveys should be carried out by a suitably qualified and experienced ecologist.

Guidance on both these surveys can be found in 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (Collins, 2016). Further details and guidance can also be found on Natural England's 'Bats: surveys and mitigation for development projects' webpage: <https://www.gov.uk/guidance/bats-surveys-and-mitigation-for-development-projects>

7. Conclusion

It can be concluded that the Langstone site is potentially an important site for roosting, foraging and commuting bats. Additional emergence / re-entry surveys will be required on any trees that require removing or that will be impacted by the construction works that contains confirmed bat roosts, or high or moderate PRFs; and transect surveys will be required on any commuting and foraging habitat that is at risk of disturbance. These additional surveys will inform the appropriate mitigation and/or compensation measures that will be required to ensure impacts to bat species and their roosts are avoided or minimised. A site-specific licence from Natural England may be required.

8. References

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

Natural England (2020). *Bats: surveys and mitigation for development projects*. Available at: <https://www.gov.uk/guidance/bats-surveys-and-mitigation-for-development-projects>. (Accessed on 22.02.21).

Appendix A – Tree Potential Roosting Features Survey Results

Bat Tree Roosting Potential Ground Survey							
Tree Number	Tree Species	Trunk Diameter (m)	Approx. Tree Height (m)	Description of Potential Roosting Feature (PRF)	Height of PRF (m)	Aspect of PRF	Roosting Potential Classification (Neg, Low, Med, High, Confirmed)
1	Oak	1.2	12	Deadwood / crack on branch Knot hole / crack on branch	4 4	S S	Medium
2	Oak	1.5	15	Deadwood / crack on branch Knot hole Ivy cover on trunk	3 2 1-3	W W All round	Medium
3	Oak	1.5	15	Double leader (2 stems) Tear out / fissure Twisted branch with crack and deadwood	3 7 4	W W W	High
4	Willow	0.8	10	Ivy covered trunk	1-3	All round	Medium
5	Monterey Pine	0.8	6	Ridge bark	1-4	All round	Negligible
6	Monterey Pine	1	6	Ivy cover (lower trunk) Multi stem / loose bark	1-2 1-5	E E	Negligible
7	Oak	0.4	6	Large tear out / fissure / hollow in stem	2-3	N	High
8	Norway Maple	0.3	5-6	Small tear out (shallow)	4	S S	Negligible
9	Sycamore	1	7	Multi stem - ivy cover trunk	1-6	All round	Low
10	Poplar	0.6	5	Branches with deadwood	2-3	W	Negligible

