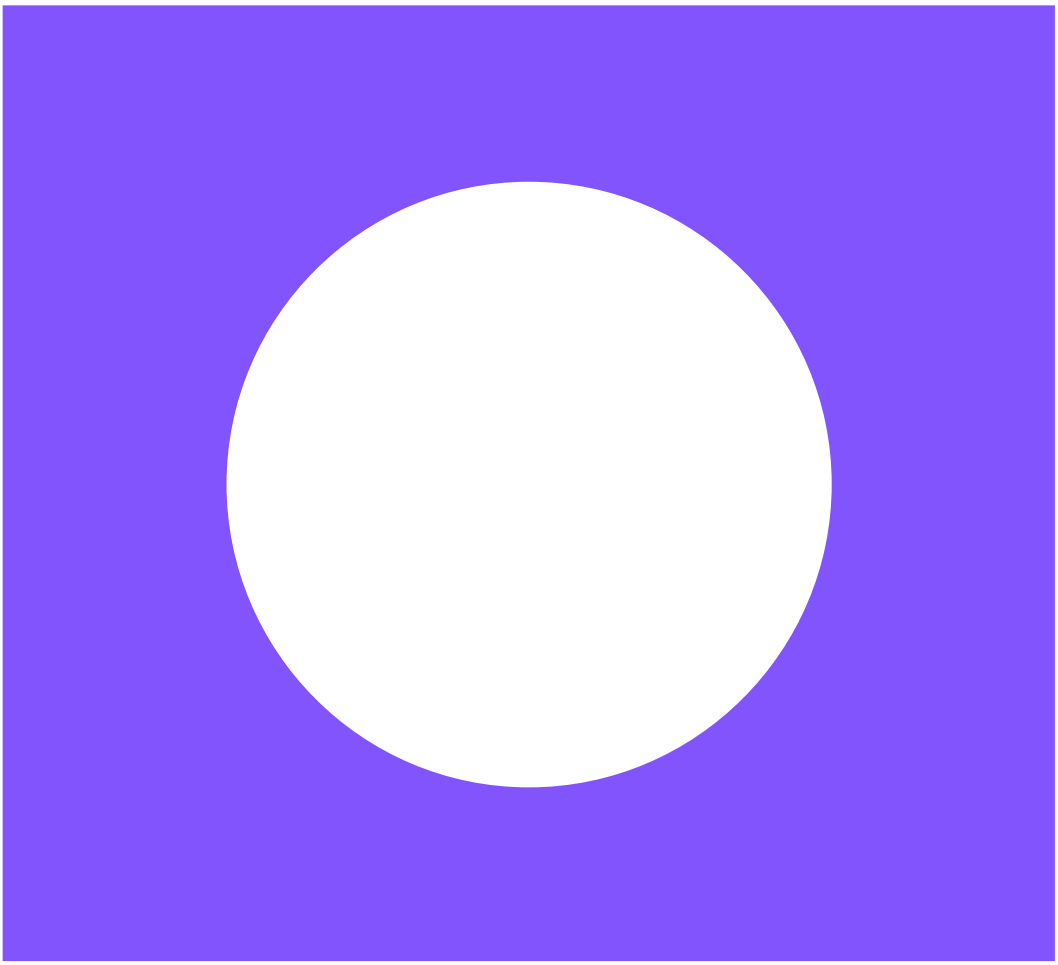
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Otley Bridge Footbridge Replacement Works

Bat Survey Report

November 2024

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Otley Bridge Footbridge Replacement Works

Bat Survey Report

November 2024

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Executive summary

Leeds City Council (LCC) has commissioned Mott MacDonald Limited to undertake bat emergence and hibernation surveys in 2024 of their Site at Otley Bridge. These surveys were commissioned following the recommendations outlined in the Ecological Constraints Report – Otley Bridge (Mott MacDonald, 2024) that was produced to identify the ecological constraints for the proposed works to replace the existing footbridge that is deteriorating rapidly and poses a safety concern to human health and the construction of a temporary bridge.

The bridge has been subject to a number of bat surveys since 2013, where a common pipistrelle *Pipistrellus pipistrellus* and a soprano pipistrelle *Pipistrellus pygmaeus* maternity roosts were identified in the southern arches (Arches 1-2) and a Daubenton's bat *Myotis daubentonii* maternity roost was identified in the northern arches (Arches 6-7). This was verified again in the 2017 surveys for an Ecological Impact Assessment (EcIA) (WSP, 2019). A common pipistrelle hibernation roost was also identified within the bridge in 2016, as detailed within local records. Therefore, the EcIA in 2019, assumed it likely that other roosting features within the bridge were suitable for hibernating bats.

In 2021, a series of bat surveys were undertaken across the bat activity period from March to September by Mott MacDonald for monitoring surveys of the EcIA (Mott MacDonald, 2022). A Daubenton's bat maternity roost was identified as still being present but the common and soprano roosts were reclassified to day / satellite roosts, following the update surveys.

The aim of this report is to detail the methodology and results from bat surveys undertaken at Otley Bridge during 2024 and interpret the results to conclude recommendations for the proposed works associated with the replacement of the existing bridge and construction and use of a temporary footbridge.

Bats were not found to be roosting within Otley Bridge (including during the summer and winter months of 2024 following the completion of hibernation inspections and dusk emergence surveys.

It is likely that the reason bats are no longer roosting within Otley Bridge following years of survey data recording their presence is the conditions of the features between the road bridge and the footbridge are no longer suitable to support summer roosting and hibernating bats due to their poor condition, including but not limited to, dampness and disturbance by feral pigeons *Columba livia*.

Therefore, based on the conditions of the current features between the road and footbridge and no bats found to be roosting during the summer or winter months within Otley bridge, the works are considered not licensable by Natural England and a bat mitigation licence for the replacement of the footbridge is not required. However, precautionary working methods are recommended within this report and should be followed by the contractor(s) to avoid any breach in legislation.

It is considered that bats still could use the features identified under the road bridge arches intermittently during the summer and winter months. Therefore, bats could potentially be disturbed by the works, unless precautionary working methods are followed. Also, bats could be potentially disturbed by the installation of the steel pier for the temporary footbridge unless correctly timed to when bats have been found to no longer use the bridge for roosting.

Recommendations for mitigation and enhancements have been made in Section 5.2 to minimise the risk of any disturbance to bats during the proposed works and to maintain roosting

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opportunities for bats within Otley Bridge with improved conditions, to help maintain the favourable conservation status of bats locally.

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1 Introduction

1.1 Background and proposed works

Leeds City Council (LCC) has commissioned Mott MacDonald Limited to undertake bat surveys in 2024 of their Site at Otley Bridge. These surveys were commissioned following the recommendations outlined in the 'Ecological Constraints Report – Otley Bridge' (Mott MacDonald, 2024) that was produced to identify the ecological constraints for the proposed works to replace the existing footbridge. The footbridge is failing and poses a safety concern to human health due to parts of the bridge deteriorating rapidly. Otley Bridge is located in Otley connecting Bridge Street and Billams Hill over the River Wharfe, Leeds (central Ordnance Survey National Grid Reference: SE 20123 45864).

As part of the works, a temporary crossing point for pedestrians will be installed approximately 50m downstream (east) of the existing Otley Bridge to provide connectivity across the river during construction. The temporary crossing would be supported by a pier positioned centre of the river. The pier would comprise three steel tubes installed using a crane on the southern bank of the river. The steel tubes have already been secured into the river bed using vibration techniques and percussive methods (undertaken September 2024). The temporary pedestrian crossing would be in use for approximately four months, although the piers could be installed and removed in advance of and / or after this period. When in use the temporary crossing would be open 24 hours a day and lighting present.

A desk-based review was undertaken within the Ecological Constraints Report (Mott MacDonald, 2024) which identified historic records of roosts, previous bat survey information and a search of Defra's MAGIC.gov website for information pertaining to granted European Protected Species Mitigation Licences (EPSMLs) for bats.

The bridge has been subject to a number of bat surveys since 2013, where a common pipistrelle *Pipistrellus pipistrellus* and a soprano pipistrelle *Pipistrellus pygmaeus* maternity roosts were identified in the southern arches (Arches 1-2) and a Daubenton's bat *Myotis daubentonii* maternity roost was identified in the northern arches (Arches 6-7). This was verified again in the 2017 surveys for an Ecological Impact Assessment (EcIA) (WSP, 2019). A common pipistrelle hibernation roost was also identified within the bridge in 2016, as identified by local records. Therefore, the EcIA in 2019, assumed it likely that other roosting features within the bridge were suitable for hibernating bats.

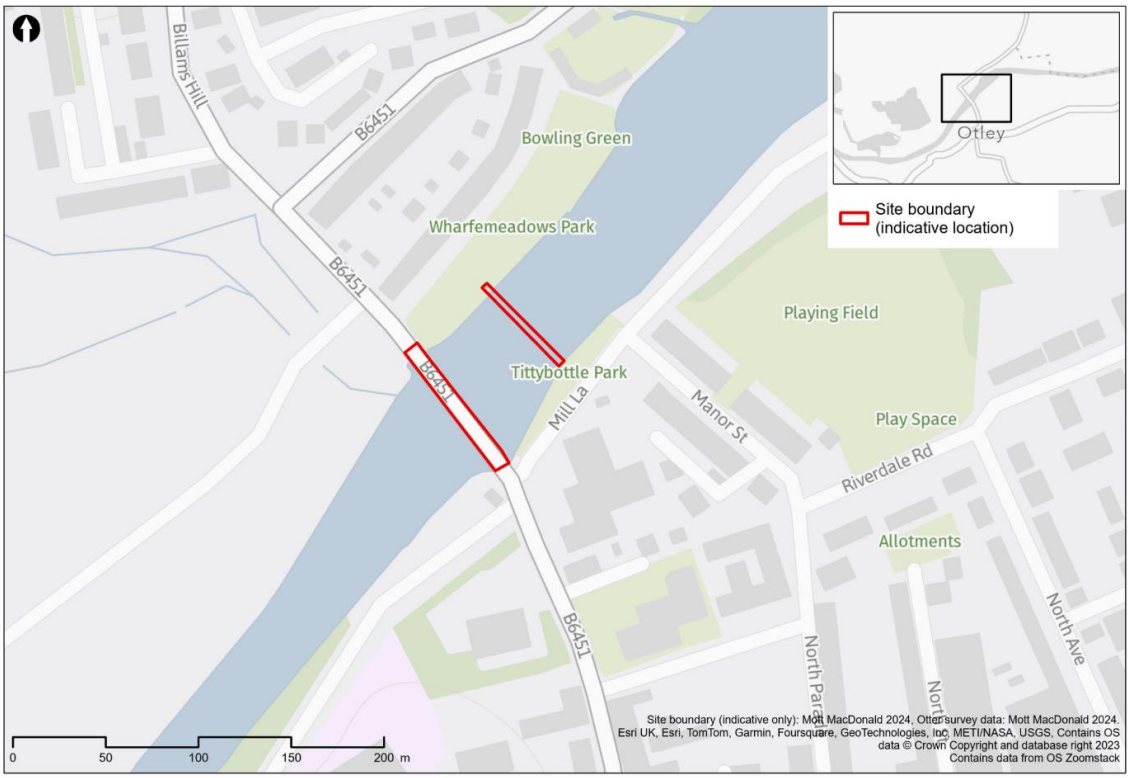
In 2021, a series of bat surveys were undertaken across the bat activity period from March to September 2021 by Mott MacDonald for monitoring surveys of the EcIA (Mott MacDonald, 2022). A Daubenton's bat maternity roost was identified still to be present but the common and soprano roosts were reclassified to day / satellite roosts, following updated surveys.

1.2 Site description

The Site comprises Otley Bridge and the River Wharfe where the proposed temporary bridge will be installed on top of the stone retaining walls. Otley Bridge is a masonry limestone road bridge, with a concrete and metal footbridge located immediately along the eastern side, attached to the bridge. The limestone road bridge has seven arches, with the southern arch labelled Arch 1 and remaining arches moving northwards labelled, Arches 2-7 in sequential order. See Figure 1.1 for the Site location.

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Figure 1.1: Construction Site Location Plan



Source: Mott MacDonald, 2024

1.3 Aims and objectives

The aim of this report is to detail the methodology and findings from bat surveys undertaken at Otley Bridge in 2024 along with any recommendations following these surveys. The recommendations aim to allow the key construction works such as piling of the steel tubes into the River Wharfe and the replacement of the existing footbridge to be undertaken without negatively impacting bats that may use the bridge and the river for roosting, foraging or commuting.

The objectives of the surveys and report are to:

- Identify if bats are roosting within Otley Bridge during the summer and winter periods currently;
- Should they be present, assess if they will be impacted by the proposed works;
- Record any foraging activity and / or commuting flight lines around the Site during dusk emergence surveys; and
- Develop appropriate site-specific recommendations in response to the findings and the proposed works to mitigate any impacts to these protected species.

1.4 Quality assurance

The surveys and the report were undertaken by a Chartered Ecologist (CEcol) who is also a member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and a Natural England licenced bat ecologist (class 2) from Mott MacDonald.

The results and recommendations within this report are considered to be valid for up to 12 months from the point of survey, with reference to guidance on the lifespan of surveys (CIEEM,

2019). Following this, or in the event of a change in scope of works, a change in site boundary or significant delays to programme, survey work may require updating.

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2 Legislation and ecology

2.1 Legislation

All UK bat species and their roosts are fully protected under the Conservation of Habitats and Species Regulations 2017 (as amended), with additional protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). It is an offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy any structure or place used for shelter or protection by a bat (even if bats are not present in the roost);
- Intentionally or recklessly obstruct access to a structure or place which bats use for that purpose; or
- Possess or advertise / sell / exchange a bat (dead or alive) or any part of a bat.

To undertake an activity which is prohibited under wildlife legislation, a bat mitigation licence for development may be applied for from the statutory regulator, in this instance, Natural England (NE). By holding a mitigation licence, the works can be conducted in accordance with an agreed method statement and as such an offence will not be committed provided the licence conditions are followed.

Seven species of bat are also listed on Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006, which means they are species of principal importance for the purpose of conserving biodiversity.

2.2 Status of bat species at the local level

- Two species of bat are listed in the Leeds Biodiversity Action Plan for bats. These are common pipistrelle and soprano pipistrelle.

2.3 Current factors causing loss or decline at the national level

British bats are insectivorous, occupying many habitat types. They require warm summer breeding roosts and secure shelters with stable cool condition for hibernation sites. The main factors currently causing loss or decline of bat populations in general across the UK include:

- Habitat loss:
  - Decreasing areas of deciduous woodland, hedgerow, wetland and grassland reduce the availability of feeding and roosting sites. Loss and drainage of wetlands and inappropriate riparian management leads to loss of feeding and roosting areas. Undeveloped land which does not meet the standards for designation as a Site of Special Scientific Interest (SSSI) or Local Site likely forms the bulk of bats' foraging areas.
- Habitat fragmentation:
  - Fragmentation of habitats can sever populations of bats decreasing reproduction success and provide a barrier to dispersal, serving commuting corridors and other foraging resources.
  - The presence of linear features and wildlife corridors, such as hedgerows and former railway lines, between habitats can reduce the impact of fragmentation.

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- Disturbance:
  - Disturbance in the summer may lead to the abandonment of young.
  - Disturbance in the winter may arouse hibernating bats and force them to use up essential energy reserves too quickly, with fatal consequences.
- Tree felling and arboriculture works to dead / hollow trees:
  - All bat species, particularly noctules, will use hollow trees for both summer and winter roosting.
- Lack of awareness:
  - There is a tendency for the needs of bats to be under-emphasised during the planning process.
- Development:
  - The loss of rear gardens to small-scale housing developments results in habitat loss and reduces the structural diversity of foraging habitats for bats. Development of brownfield land is likely to lead to further habitat loss for bats.
- Refurbishment and demolition of man-made structures and buildings:
  - Roost sites in cellars, roof spaces and under eaves in buildings are lost through building maintenance, renovation and the installation of cavity wall insulation. It is now thought that bats may use cavity walls as hibernation roost sites. Bats have very specific roost requirements and therefore it cannot be assumed that they will relocate to another apparently suitable site if a roost site is destroyed.
- Remedial timber treatment:
  - These can be poisonous to bats. Because of their communal nature, entire roosts may be lost due to insensitive timber treatment exercises. Lindane, a chemical that was widely used in the past, has been implicated in the eradication of entire bat colonies. Treatments carried out during the 1980s are still toxic today.
- Changes to external lighting:
  - This can have a huge impact on local populations through:
    - Abandonment or becoming entombed in the roosts.
    - Delaying or preventing emergence from roosts, resulting in reduced foraging time and missing the peak time of insect abundance, therefore affecting the health and breeding success of bats.
    - Changes in population diversity as slower flying species avoid illuminated areas and therefore lose foraging grounds, having to use poorer quality foraging sites losing out as prey are attracted to the lit areas.
    - Severing of commuting routes through lighting barriers for slow flying species preventing dispersal to other foraging resource.

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3 Methodology

3.1 Dusk emergence surveys

Three dusk emergence surveys were conducted at Otley Bridge between July and August 2024. Otley Bridge was assessed as offering 'high' suitability for summer roosting bats considering the roosting features identified during the preliminary roost assessment and previous records of roosting bats within the bridge (Mott MacDonald, 2024). The surveys were undertaken with reference to the best practice guidance as set out in Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins J, 2023).

Dates of the dusk emergence surveys and other details including weather conditions are presented in Table 3.1, below. The emergence survey started no less than 15 minutes prior to sunset and concluded no less than 90 minutes after sunset. Weather and temperature conditions were within guideline recommendations during all surveys.

The surveys were led by a Natural England (NE) licenced ecologist and conducted by experienced surveyors from Mott MacDonald, equipped with Elekon Batlogger M and M2 detectors. Night vision cameras (Cannon XA50 Infrared (IR) cameras and a XB5 IR torches) were used during the surveys, directed at the roosting features. The recordings made during the surveys from the Batlogger detectors were analysed by experienced ecologists using 'Kaleidoscope Pro' or 'BatExplorer' software to validate the species recorded during the surveys. All video footage from the night vision cameras was manually checked by experienced ecologists.

Table 3.1: Dusk emergence survey details

Date	Sunset / sunrise (BST)	Start / end time	Temperature at start of survey (ºC)	Precipitation	Wind (Beaufort scale)	Cloud cover (Okta scale)
11/07/2024	21:32	21:17 / 23:02	15ºC	Dry	3	8
01/08/2024	21:04	20:49 / 22:34	21ºC	Dry	0	0
29/08/2024	20:06	19:51 / 21:36	16ºC	Dry	1	0

Source: Mott MacDonald, 2024

3.2 Bat hibernation surveys

The bridge was classified as moderate suitability for hibernating bats following the guidance set out in Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins J, 2023). However, conditions of features appeared damp during the preliminary roost assessment (PRA), along with disturbance from the presence of feral pigeon *Columba livia* and vehicle movements and the risk of flooding, which may reduce the suitability for hibernating bats.

Access restrictions due to the bridge being over the River Wharfe meant that static detectors could not be deployed for features that had suitability to support hibernating bats. Therefore, hibernation surveys were by inspection only. Three inspections of the bridge were undertaken in suitable conditions for hibernating bats of the bridge on 1 and 27 February and 15 March 2024, when overnight temperatures maintained below 5˚C during this period, ensuring a valid survey to detect the presence of hibernating bats. High-powered torches, binoculars and a thermal scope (Pulsar Helion XP28 thermal camera) were used to inspect all cracks, crevices and voids

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for hibernating bats to improve detection of hibernating bats as the features being out of reach of close inspection due to them being over the River Wharfe. The inspections were completed by kayak on the river to ensure all features could be inspected.

3.3 Limitations

3.3.1 Emergence survey equipment

The results taken from bat detector recordings are biased towards bats that use louder echolocation calls. Therefore, quiet species such as brown long-eared *Plecotus auritus* bats may be under recorded due to the limited recording range of the equipment. However, as surveys included visual observations from surveyors being able to identify presence / likely absence of bats, it is considered that the survey work sufficiently informs an assessment of roost presence on the Site.

It is difficult to confidently relate calls registered to numbers of bats present, even if more than one bat pass is detected simultaneously. The number of bat passes does not therefore provide any indication of bat abundance; it is intended to only indicate the level of activity at a moment in time.

3.3.2 Surveyor locations

Direct access to the underside of the bridge at night was not possible because of the safety risks of surveying on the River Wharfe, as it flows beneath the bridge. As such, it was not possible to directly view the underside of the bridge during the surveys. However, surveyors were located on the banks immediately adjacent to the bridge and were able to fully view the bat activity beneath and alongside the bridge. It is considered that this allowed for surveyors to determine if bats seen beneath the bridge have emerged from the structure or flew in from elsewhere.

Access to land on the south-west bank of the bridge was not granted and therefore there was no surveyor coverage of this area. Additionally, surveyors could not be positioned roadside due to health and safety constraints. This is not considered to be a major limitation, as this bank was noted to be heavily vegetated at the time of the surveys and therefore should access have been granted to survey from this location, the data obtained would have been unlikely to provide additional information as the bridge could not be clearly observed from this bank. Access on the north-west bank was available but surveyors had a slight obscured view due to the vegetation present. The surveyors on the eastern side of the bridge could, however, see through and under all the aches with IR cameras covering all arches with some overlap, gaining enough information to support those surveyors on the western side of the bridge.

3.3.3 Bat hibernation surveys

Access to inspect the features closely under Otley Bridge and complete static monitoring as per the guidance set out in Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins J, 2023), was restricted due to the River Wharfe flowing underneath. Therefore, additional inspections by kayak and the use of high-powered torches, binoculars and a thermal scope were used to minimise this limitation and ensure a robust survey effort to determine the presence / likely absence of hibernating bats within the bridge.

A potentially hazardous electric cable was identified dangling into the River Wharfe from the footbridge of Otley Bridge around Arch 4 during the 1 February survey. This prevented close inspection of Arch 4 on the water by kayak. However, this arch could be inspected at other vantage points to identify any hibernating bats with the use of high-powered torches, binoculars

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and a thermal scope, minimising this limitation. This hazard was reported and subsequently removed prior to further visits on the water.

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4 Results

4.1 Dusk Emergence Surveys

Three dusk emergence surveys were undertaken at Otley Bridge during 2024. Three surveyors were positioned to the south-east, north-west and north-east of the bridge on the riverbanks in optimal positions for visual representation of all aspects. Weather conditions were optimal for all surveys. The results of the survey are summarised in Table 4.1 and an overview plan of bat activity and surveyor locations is provided in Figure 4.1 below.

Table 4.1: Dusk Emergence Survey Results

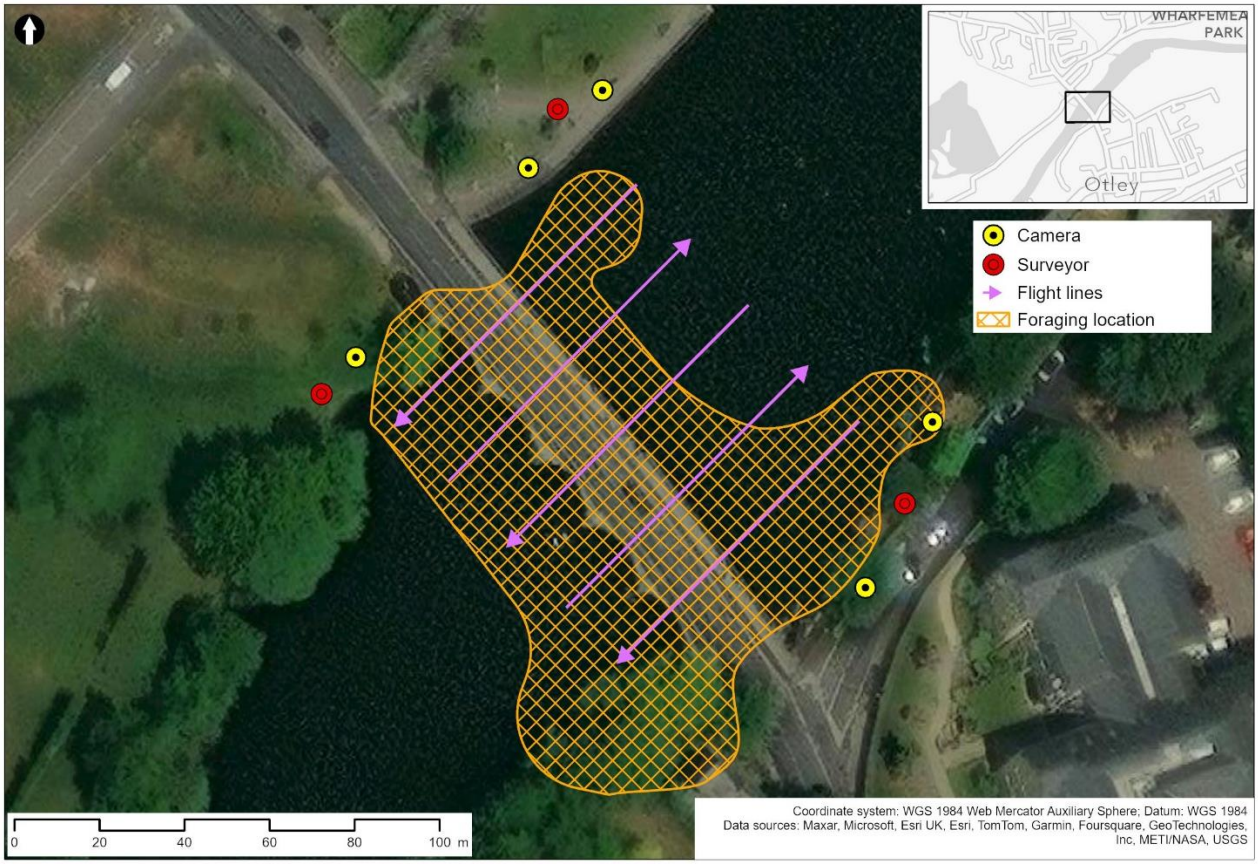
Date	Emergence Results	Survey Summary
11/07/2024	**No bats were recorded emerging from, or re-entering the bridge.**	The first bat recorded was a soprano pipistrelle at 21:44 commuting and foraging over the river. Activity was sporadic at the start of the survey with bat passes concentrated to 1-2-minute intervals with 3–5-minute gaps in activity from 1-4 bats passing at a time. Later in the survey all surveyors recorded constant foraging activity from 22:04 to 23:11, with occasional 2-4-minute breaks in activity. Foraging and commuting passes were recorded, with foraging activity on either side of the bridge and the underside of the arches. Commuting behaviour was less frequently recorded with passes up and down the river at a height of 2-4m over the water. The majority of activity was from soprano pipistrelle, myotis species and common pipistrelle, with the occasional *Nyctalus* species recorded during the survey. The last bat recorded was at 23:11 which was a common pipistrelle commuting at the end of the survey. No emergences or re-entries were seen by surveyors throughout the survey or on the IR footage.
01/08/2024	**No bats were recorded emerging from, or re-entering the bridge.**	The first bat recorded was a noctule *Nyctalus noctula* at 21:22 flying high over the surveyors and Otley Bridge. Activity was relatively consistent across the survey with bat passes concentrated to 1-2-minute intervals with 3-5-minute gaps in activity from 1-3 bats passing at a time. Later in the survey the number of bat passes increased with all surveyors recording constant foraging activity from 21:49 to 22:30, with occasional 2-4-min breaks. Foraging and commuting passes were recorded, with foraging activity on either side of the bridge and the underside of the arches. Commuting behaviour was less frequently recorded with passes up and down the river at a height of 1-5m over the water. The majority of activity was from soprano pipistrelle, myotis species and common pipistrelle, with occasional *Nyctalus* species recorded during the survey. The last bat recorded was at 22:34 which were common and soprano pipistrelles commuting at the end of the survey along the watercourse. No emergences or re-entries were seen by surveyors throughout the survey or on the IR footage.
29/08/2024	**No bats were recorded emerging from, or re-entering the bridge.**	The first bat was recorded was a common pipistrelle at 20:17 commuting and foraging along the river. Activity was sporadic at the start of the survey with bat passes concentrated to 1-2-minute intervals with 3-5-minute gaps in activity from 1-4 bats passing at a time. Later in the survey all surveyors recorded constant foraging activity from 20:33 to 21:35, with occasion 2-4 min breaks. Foraging and commuting passes were recorded, with foraging activity on either side of the bridge and the underside of the arches. Commuting behaviour was less frequently recorded with passes up and down the river at a height of 1-3m over the water. The majority of activity was from soprano pipistrelle, myotis species and common pipistrelle, with occasional *Nyctalus* species recorded during the survey.

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Date	Emergence Results	Survey Summary
		The last bat recorded was at 21:35 by all surveyors which was a common pipistrelle commuting and foraging at the end of the survey. No emergences or re-entries were seen by surveyors throughout the survey or on the IR footage.

Source: Mott MacDonald, 2024

Figure 4.1: Surveyor Locations and Bat Activity Plan



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Mott MacDonald 2024

4.2 Bat hibernation surveys

Three inspections for hibernating bats were undertaken of Otley Bridge on 1 and 27 February and 15 March 2024 in suitable conditions with reference to the best practice guidance as set out in Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins J, 2023). All cracks, crevices and voids for hibernating bats that were identified within the Ecological Constraints Report – Otley Bridge (Mott MacDonald, 2024) were inspected for presence of hibernating bats, with no bats found in situ, nor any evidence of hibernating bats.

During the hibernation inspections, the suitability of the bridge to support hibernating bats was continuously assessed based on the conditions of the features in relation to dampness and disturbance from primarily feral pigeons. Gaps that were noted between where the road bridge and the footbridge meet, appeared to show increasing levels of dampness with feral pigeons also noted in some of these gaps.

The crevices under the arches (Arches 2-6) of the road bridge were inspected and did not appear to extend into internal cavities. These features are likely to be exposed in windy conditions and are also at risk of flooding during high rainfall events.

The declining condition of the gaps between the road and footbridge that could provide suitable features for hibernating bats and the features under the road bridge arches not extending into internal cavities has been considered and has decreased in the level of suitability for hibernating bats to ‘low’ for Otley Bridge.

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5 Interpretation and recommendations

5.1 Interpretation

5.1.1 Roosting bats

Bats were not found to be roosting within Otley Bridge during the winter months (January – March) nor during the summer of 2024 following the completion of hibernation inspections and dusk emergence surveys.

Otley Bridge has previously supported maternity roosts with the some of the more recent surveys undertaken in 2021 confirming a Daubenton's bat maternity roost and reclassifying the common and soprano pipistrelle maternity roosts to day / satellite roosts (Mott MacDonald, 2022). These surveys were undertaken from March to September 2021 and found that bats had disbanded their summer roosts in September with numbers declining from July 2021.

A local record of a hibernating common pipistrelle was also identified in 2016 within Otley Bridge.

The are a number of reasons that could explain why bats have not been found to be present during the hibernation inspection surveys and dusk emergence surveys in 2024. One of the reasons is likely to be that the current footbridge is in disrepair and needs replacing as the conditions of the features between the road bridge and the footbridge are no longer suitable to support hibernating bats or summer roosting due to their dampness and disturbance by feral pigeons. In addition to this, 2024 has been an abnormally cold and wet year during the summer months which could have further caused bats to find alternative roosts that are more stable and suitable conditions than that of those currently identified within Otley Bridge.

Based on the conditions of the current features present between the road and footbridge and no bats found to be roosting during the winter or summer months within Otley Bridge, the works are considered not licensable by Natural England and a bat mitigation licence for the replacement of the footbridge is not required.

Bats could still use the suitable roosting features identified under the road bridge arches during the summer and winter months, however these features are not to be directly impacted as part of the proposed works. These features are considered suitable to support summer roosting bats, but 'low' suitability to support hibernating bats based on being exposed in windy conditions and at risk of flooding during periods of high rainfall. Therefore, should the replacement of the footbridge start during the summer months then bats could potentially be disturbed by the works (should they start to use the bridge for roosting in 2025).

The installation of the steel pier for the temporary footbridge had the potential to disturb bats, if recommendations were not followed.

5.1.2 Foraging / commuting bats

The surveys have demonstrated that foraging and / or commuting bats use the site including at least four species; common and soprano pipistrelles, *Nyctalu*s and *Myotis* species. It is considered the assemblage of bats over the Site is consistent with the local area and that no significant assemblage or populations were observed on the Site. Activity was generally restricted to foraging habitat along the river banks and under the arches, with commuting passes above and below the bridge, east and west along the River Wharfe.

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The temporary footbridge to be installed within the river is unlikely to be a physical barrier to the dispersal of bats up and down the river. However, artificial lighting is to be installed on the footbridge to ensure safe passage for pedestrians across the river. This lighting could affect commuting bats unless appropriate mitigation is put in place to minimise the amount of light spill onto the River Wharfe, whilst also allowing safe passage for pedestrians.

5.2 Recommendations

The following section provides recommendations for mitigation and enhancement for bats.

As the works to the footbridge are urgent and a matter of considerable safety concern to human health due to parts of the bridge deteriorating rapidly, the programme of works does not allow the dismantling of the footbridge to be completed within the winter season, when bats are less likely to be present within the bridge. The works to install the temporary footbridge are due to take place from March to April 2025. After the installation of the temporary footbridge, works to dismantle the current failing footbridge are due to start in April and will be completed by May 2025 (taking around 2-3 weeks in total to complete from start to finish). The temporary footbridge will then be dismantled and removed Autumn 2025.

If there is a delay in the programme then there may be a requirement to update the recommendations included within this report. Additionally, should there be any change to the development footprint or scope of construction works, the assessment of impacts and recommendations should be reviewed.

5.2.1 Replacement of footbridge

Prior to the dismantling of the footbridge, a pre-construction bat dusk emergence survey is to be undertaken to check if any bats are currently roosting within the bridge. If bats have chosen to start roosting again within the bridge then it may be necessary to undertake additional dusk emergence surveys with reference to bat survey guidelines, and to amend the approach to the works, changing the precautionary working methods to be inline with findings.

A pre-commencement check is also recommended underneath the bridge by a suitably licenced bat surveyor in a kayak, or similar. The check should be undertaken no more than 48hrs prior to the works starting on site. This check is designed to further minimise the risk of bats being impacted and to look for evidence of bats and should they be present ensure that they are identified before works commence.

An ecological clerks of works will remain on call in the event that a bat, or bats, are found to be present during the works. Should a bat be found during the works, then works will cease immediately and a licenced ecologist contacted for advice. Overnight temperatures will be monitored during the dismantling of the footbridge. Should overnight temperatures start to rise over a sustained period, then additional checks underneath the bridge may be required, as bats may start to move around during such conditions.

Should a roost be found, level of disturbance and numbers of bats should be monitored, and appropriate action taken to ensure bats are not impacted by the works. Enhanced inspection techniques for investigation will be adopted using a high-powered torch, binoculars and a thermal scope to inspect all cracks, crevices and voids of the bridge.

5.2.2 Temporary footbridge installation

Works to install the steel pier for the temporary footbridge within the River Wharfe were completed within September 2024 (in line with bat and freshwater ecological sensitive timings). The works lasted three days from the 17 September 2024 with vibratory piling primarily used and percussive piling used if required. By completing the works during this time, this avoided the

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summer and winter months when bats have been found to be previously roosting within Otley Bridge that is 50m away from the piling works; minimising the risk of any disturbance to bats.

Artificial lighting is proposed to be used along the temporary footbridge. Proposed lighting for the footbridge and during construction should minimise any light spill onto the River Wharfe to avoid impacting commuting bats and other nocturnal species that will use the waterway, following the guidance set out in Bats and artificial lighting at night (BCT and ILP, 2023). Lighting for the footbridge should be positioned within and below the top of the sides of the footbridge, directed downwards. The sides of the footbridge should be covered on either side to avoid lighting spilling out onto the river. The lowest permissible lighting (Lux levels) should be used to safely illuminate the temporary footbridge for pedestrians to use.

5.2.3 Enhancements

Following the replacement of the existing footbridge, some gaps will remain present between the footbridge and the road bridge of Otley Bridge due to the masonry alignment not being uniform along the full length of the bridge. Therefore, potential roosting features have been retained as part of the works. This will provide opportunities for bats to continue to use Otley Bridge as a roosting resource with improved conditions of the existing features that are present currently, helping maintain the favourable conservational status of bats locally.

Further ecological enhancements are recommended to continue to provide roosting opportunities to the local bat populations. These ecological enhancements could be located within suitable trees along the River Wharfe, prior to the works commencing on site This would allow bats time to find and use the additional roosting provision should they wish during the works. The bat boxes would be a permanent addition to the surrounding habitat and would be retained in their locations once the works have been completed. It is recommended that x4 Schweglar 2F bat boxes and x1 Schweglar 1FW Hibernation box, or similar, are located within c.100m of the bridge. The boxes should be installed by ecologists (either via a MEWP or by ecologists with a CS38 Aerial inspection ticket, with certified climbing kit) or by contractors under the supervision / instruction of an ecologist.

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6 References

Bat Conservation Trust and Institution of Lighting Professionals, 2023. *Bats and artificial lighting at night.* Guidance Note 08 / 23.

Chartered Institute of Ecology and Environmental Management (CIEEM), 2019. On the lifespan of ecological reports and surveys.

Collins, J. (ed.), 2023 Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London

JNCC, 2004. Bat Workers Manual. Joint Nature Conservation Committee. 3rd Edition. Peterborough.

Mott MacDonald, 2024. Ecological Constraints Report – Otley Bridge. Document reference: 100413589-008-ECR-OB-V1

Mott MacDonald, 2022. Otley Bat Report. document reference: 32912-BMM-EGN-XX-RP-Z-0006

WSP, 2019. Otley Flood Alleviation Flood Scheme, Ecological Impact Assessment, document reference: ECOLOGICAL_IMPACT_ASSESSMENT-2970371

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