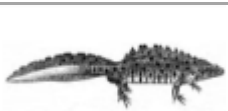


Water Vole & Otter Survey

(Technical Appendix 1)

July 2024

**United Utilities Aesthetics Screen
Development Project BRY0021**
Pimhole Business Park
Bury



United Utilities Aesthetics Screen Development Project BRY0021
Technical Appendix I - Water Vole & Otter survey

Document Title	Technical Appendix I - Water Vole & Otter Survey
Version no.	1.2
Prepared for	Emerald Green Environmental Management Services Ltd
Prepared by	Tyrer Ecological Consultants Ltd

Surveyors	Mrs. K. Wilding CEnv MIEMA ACIEEM; Mr Ryan Parker
Authors	Miss. K. Judson Qualifying CIEEM
Survey Dates	05/06/2023
Reviewed by	Mr. J. Pescod Qualifying CIEEM
Review date	01/07/2024
Approved by	Mrs. K. Wilding CEnv MIEMA ACIEEM
Date of Issue	01/07/2024

Terms of use:

This report has been prepared by Tyrer Ecological Consultants Ltd with all reasonable skill, care and diligence within the terms of the instruction and permissions granted by the client. The results, conclusions and recommendations of this report are proportionate and in line with the British Standard 42020:2013.

Tyrer Ecological Consultants Ltd have produced this report with all due integrity and adhere to the CIEEM Professional Code of Conduct, with the aim of upholding these objectives and the reputation of the profession.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client.

This report aims to provide general advice on ecological constraints associated with any development of the site and includes recommendations for further survey; it is not intended that this report should be submitted with a planning application for development of the site, unless supported by the results of further surveys and a detailed assessment of the effects of the proposed development.

This report and contents therein are to be used only in conjunction with the Planning Application for which the report has been produced. It must not be used for any other purpose, copied, re-produced or sent to any other party other than the Local Planning Authority Department without the express permission of Tyrer Ecological Consultants Ltd. Furthermore, the data contained herein must not be copied, re-produced or sent to any other party/organisation whatsoever without the express permission of Tyrer Ecological Consultants Ltd.

Tyrer Ecological Consultants Ltd will however consider forwarding data that is collected as part of its reports to the relevant wildlife records centre.

Table of Contents

- 1.0** Introduction & Context
- 2.0** Methodology
- 3.0** Limitations
- 4.0** Results
- 5.0** Conclusions & Recommendations
- 6.0** Bibliography

Appendix I: Site Photographs

Appendix II: Water vole and otter survey - Map

External Appendix

- Ecological Assessment Report (Tyrer Ecological Consultants Ltd, July 2023)

1.0 Introduction & Context

- 1.1 As part of the United Utilities Aesthetics Screen Development Project **BRY0021**, Tyrer Ecological consultants were commissioned by Emerald Green Environmental Management Services Ltd. on behalf of Bethell Group PLC to undertake an updated water vole (*Arvicola amphibius*) & otter (*Lutra lutra*) survey in July 2023.
- 1.2 Further information in relation to proposals and background information is provided in the updated **Ecological Assessment Report (Tyrer Ecological Consultants Ltd, August 2023)** (see External Appendix) for which this report is annexed as **Technical Appendix 1 (TA1)**.
- 1.3 The updated survey for water voles and otter was commissioned in response to recommendations made by The Environment Partnership (TEP) who were commissioned to undertake an Ecological Assessment in 2021.
- 1.4 The 2021 TEP Ecological Assessment states:

“That if work has not commenced within 12 months of the date of this report, further surveys will be required to determine the presence of otter”.
- 1.5 The purpose of this survey was to determine the presence or likely absence of water vole and otter at the River Roch, due to the proximity of the application sites associated with this project; located 165m north of the river and immediately adjacent (on the banks) of the River Roch. (Grid References: SD81281025 & SD8147100).
- 1.6 Results and any further recommendations, conclusions and indicative mitigation (as required for water vole or otter) would also be provided in this report.

2.0 Methodology

- 2.1 The survey included a bankside and in channel survey of the watercourse 200m upstream and downstream from the works area adjacent to the River Roch. The water vole survey was designed taking into account the proposed development and The Water Vole Mitigation Handbook, 2016 with reference to industry standard guidance for otter field signs.
- 2.2 Methodology outlined within the TEP water vole and otter survey report was replicated by the attending ecologists in the interests of consistency.
- 2.3 The survey was conducted on the 5th of July 2023 in sunny conditions (18°C), average wind 1/12 (Beaufort scale), average cloud 20%, by the following surveyors (see **Table 2.1**):

Table 2.1 – Site Surveyor credentials

	Description of most relevant credentials
Mrs. K. Wilding CEnv MIEMA ACIEM	• Principal level Ecologist and Director of Tyrer Ecological Consultants Ltd • 16 years as a professional ecologist • Has a large portfolio of successful granted mitigation licences in England and Wales • Water vole training and survey experience inclusive of a water vole handling course (2023)
Mr. Ryan Parker Trainee Ecologist	• A recent Ecology & Conservation graduate, graduating with a first-class degree, with existing voluntary experience within the sector.

- 2.4 The methodology and impact assessment for water voles followed guidance within the Water Vole Conservation Handbook, 3rd Edition (Strachan & Moorhouse, 2011) and the Water Vole Mitigation Handbook - The Mammal Society Mitigation Guidance Series (2016).
- 2.5 The River Roch which lies within 50m of application site was assessed for its potential to offer habitat suitability for water vole, to ensure that the previous findings were still extant, which included a preliminary search for:
- *Sightings* – confirmed sighting of a water vole during the survey.
 - *Latrines* – collections of droppings.
 - *Burrows* – holes along the water's edge and in the bank above.
 - *Footprints* – forefoot and hind foot.
 - *Pathways in vegetation* – low runs or tunnels pushed through vegetation.
 - *Feeding remains* – piles of chewed lengths of vegetation with 45-degree cuts to the ends.
- 2.6 The River Roch was also assessed for its capacity to support otter, which included a preliminary search for 250 metres both up and downstream for::
- *Sightings* – confirmed sighting of an otter during the survey.
 - *Spraint* – black, crinkly scent marker, often with fish bones within
 - *Paths and slides* – distinctive, tube shaped pathways through vegetation
 - *Padding* – wide, five-toed footprint
 - *Anal jelly* – jelly-like deposited secretion
 - *Castling* – a raised area used to spraint upon

3.0 Limitations

- 3.1 Due to the moderate flow and depth of the water, in combination with the uneven riverbed, much of the eastern bank could not be safely accessed during the survey. However, where possible the banks were surveyed with the aid of binoculars, thus an accurate assessment could be made.
- 3.2 Taking everything into consideration no significant constraints affected the survey effort that would affect the integrity of the results, conclusions and recommendations in this report.

4.0 Results

Otter survey results

- 4.1 One otter spraint (dropping) was noted at one location during the updated survey (see **Table 4.1** and **Appendix II – Water vole and otter survey - Map**); evidence was concentrated to the south of the Business Park boundary. No evidence of otter holts, or ley ups (rest areas afforded protection when active or in use) were located anywhere within the surveyed area.
- 4.2 The watercourse offers suitable foraging and commuting habitat in relation to otter, with the presence of heron implying a viable fish stock for hunting, along with areas that offer potential places of rest or shelter on the western banks.

Water vole survey results

- 4.3 No signs of water vole were found anywhere within the surveyed area, including droppings, burrows, latrines, or individuals of the species.
- 4.4 The River Roch is considered broadly unsuitable for water vole for a number of reasons; the river is wide and features areas of fast flowing water, and whilst the banks are steep in places, they are composed of a hard substrate / rock or shallow and sandy elsewhere, and thus it is considered unlikely that water vole would be able to utilise the banks for refuge and / or burrowing purposes.
- 4.5 Whilst the northern bank has a moderate gradient, it is dominated by dense stands of Japanese knotweed and Himalayan balsam, with very limited foraging habitat for water vole.
- 4.6 Additionally, during the survey two American mink (*Neovison vison*) spraints were observed at the south and southeast of the site boundary on the southside of the river bank of the River Roch (see **Table 4.1** and **Appendix II – Water vole and otter survey - Map**). It is widely accepted that American mink have hastened the decline of water vole in the UK since late 19th century, as a novel predator.

Incidental observations

- 4.7 A burrow attributed to kingfisher (*Alcedo atthis*) was observed on the northern bank of the River Roch (see **Table 4.1** and **Figure 4.1**) to the southeast of the site boundary. This burrow is confirmed as being in active use owing to a single kingfisher observed emerging from the burrow during the survey effort.

Table 4.1- Location of evidence of otter, American mink and kingfisher along the River Roch

Evidence type	Grid Reference
Otter spraint	SD8140110006
American mink spraint	SD8149210036
	SD8140110015
Kingfisher burrow	SD8150910049

5.0 Conclusions and Recommendations

- 5.1 The updated water vole survey & otter survey confirms to the findings of the 2021 TEP water vole & otter survey, in that the stretch of the River Roch adjacent to the site boundary offers suitable foraging and commuting habitat for otter, with evidence located in the form of a spraint. Similarly, the conditions for water vole have not changed, remaining broadly unsuitable and providing limited habitat opportunities.
- 5.2 Whilst evidence of otter was found in the form of a spraint, no footprints, signs of holts, or ley ups (rest areas afforded protection when active or in use) were located during the survey.
- 5.3 Otters are a transient species and taking into account the presence of suitable habitat within to the site and confirmed use of this habitat in the form of a spraint it is therefore recommended that a pre-commencement check of the adjacent River Roch for any fresh signs of otter, including rest areas, is undertaken within 48 hours of any works which might affect the river or riparian habitat. Should an active holt be confirmed during any pre-commencement checks then works may need to be temporarily suspended; alternatively, a suitable exclusion zone could be established. Expert advice should be sought from a suitably qualified Ecologist (SQE) in any such case.
- 5.4 The construction of a new outfall structure will directly impact upon the bank of the River Roch, impacts to otters by the proposed works are therefore considered possible without appropriate intervention measures.
- 5.5 The following Reasonable Avoidance Measures (RAMs) should therefore be strictly adhered to throughout the course of the works (see **Table 5.1** overleaf):
- 5.6 No evidence of water vole was located during the updated survey; the River Roch is considered to be broadly unsuitable for this species due to the lack of suitable graminoids and forbs for foraging, and of suitable burrowing habitat with steep and rocky/cobbled or shallow and sandy banks present.
- 5.7 This is further evidenced through an absence of any signs of water vole observed during the survey, which would be evident if they were present. Furthermore, the presence of American mink, a novel predator of the water vole for which evidence was located at the site, would discourage water vole from utilising the site. Thus, there are no further recommendations in relation to this species and a single survey is considered sufficient in determining likely absence of water vole based on consultation of the Water Vole Mitigation Handbook (2016).

Incidental observations

- 5.8 In relation to the confirmed kingfisher burrow; the burrow is located ~54m southeast of the works area, thus within the recommended disturbance buffer for this species (50-100m). Notwithstanding, owing to the small-scale / low-impact nature of the works and taking into consideration the presence of a physical barrier in the form of Barn Brook between this burrow and the works area, impacts to this kingfisher burrow and hence kingfisher are considered highly unlikely. It is recommended that a recommencement check for further / new kingfisher burrows of areas of the River Roch located within 50m of the works area is conducted. If kingfisher burrows are found it is recommended that a buffer of 50m implemented and no works should occur within this buffer during the breeding bird season (March 1st – August 31st).

Table 5.1 - Reasonable avoidance measures for otter

- Provision of toolbox talk to site personnel – prior to any works being undertaken, a suitably qualified ecologist will provide a toolbox talk to communicate the potential for otter frequenting the watercourses. The toolbox talk will include contingency measures if otter is recorded on site at any stage of construction.
- Implementing suitable pollution prevention measures in-line with Guidance for Pollution Prevention¹ (GPP), specifically GPP2, GPP4, GPP5, GPP8, GPP13, GPP22 & GPP26.
- Working hours – otter movement up and downstream for foraging and commuting is more likely to be undertaken during the hours of darkness. Works will be restricted to daylight hours wherever possible, and only be undertaken between the hours of 07:00 and 20:00 in order to minimise disturbance.
- Site compounds, storage or waste dumping should be located away from all potential otter habitat – this will avoid disturbance to otters' routine and minimise pollution risks.
- Otters are inquisitive animals and may be attracted to investigate spoil heaps or machinery – these should not be left on the bankside to avoid potential impacts.
- Provisioning low angle sloping boards of approximately 300 mm wide to be placed within any excavations at the end of each working day, to facilitate a means of escape for mammals,
- Not leaving any bulky equipment / general construction aggregates around the development area, instead leave them on bare ground away from the risk zone.
- Artificial lighting controls – some additional lighting may be required during the construction. Directional lights will be discussed with the ecologist to minimise any risk of disturbance on any fauna that may potentially be present in the working area.

6.0 Bibliography

- **CIEEM**, 2018. *Guidelines for Ecological Impact Assessment in the UK and Ireland*, 2nd edition. Available from: www.cieem.net/data/files/Publications/EcIA_Guidelines_Terrestrial_Freshwater_and_Coastal_Jan_2016.pdf
- **CIEEM**. 2020. *Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK*. 2nd Edition. Chartered Institute of Ecology and Environmental Management. Winchester, UK
- **Dean. M; Strachen. R; Gow. D; Andrews. R**, 2016. *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. The Mammal Society, London.
- **Design Manual for Roads and Bridges**, 2001. *Nature Conservation Advice in Relation to Otters*. Available from: <https://cieem.net/wp-content/uploads/2019/07/ha8199.pdf>
- **Magic Maps Application**, 2023. Available from: www.natureonthemap.naturalengland.org.uk/MagicMap.aspx
- NetRegs: Guidance for Pollution Prevention (GPP). Available at: <https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/>
- **Strachen. R; Moorhouse. T.**, 2011. *The Water Vole Conservation Handbook*, 3rd ed. Wildlife Conservation Research Unit, University of Oxford.

Appendix I: 2023 Updated Photography



Plate 1 – *The character of the River Roch to the south of the site as viewed from the southeast*



Plate 2 – *Further character of the River Roch, note textured surface indicative of a fast flow*



Plate 3 – *Further character of the River Roch, note again ripples and swells*



Plate 4 – *Abundant Japanese knotweed along the northern riverbank*



Plate 5 – *Character of the river shoreline*



Plate 6 – *Character of bank side vegetation and depth of the river*



Plate 7 – Otter spraint identified on the southern bank of the River Roch to the central south of the site



Plate 8 - Character of the bank where the kingfisher burrow is located and thus where a kingfisher was observed to emerge from

Appendix II - Results of water vole and otter survey

