

MONA OFFSHORE WIND PROJECT

Environmental Statement

Volume 7, Annex 3.8: Water vole survey technical report

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Image of an offshore wind farm

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Glossary

Term	Meaning
Expert Working Group (EWG)	Expert working groups set up with relevant stakeholders as part of the Evidence Plan process
Landfall	The area in which the offshore export cables make contact with land and the transitional area where the offshore cabling connects to the onshore cabling
Mona Onshore Development Area	The area in which the landfall, onshore cable corridor, onshore substation, mitigation areas, temporary construction facilities (such as access roads and construction compounds), and the connection to National Grid infrastructure will be located
Species of Principal Importance	Species recognised in Welsh policy and afforded due regard in the planning system by the Environment (Wales) Act 2016, Section 7. Public bodies have a legal duty to conserve such species through their work

Acronyms

Acronym	Description
DAFOR	Dominant, Abundant, Frequent, Occasional or Rare
Defra	Department for the Environment, Food & Rural Affairs
JNCC	Joint Nature Conservation Committee
MAGIC	Multi-Agency Geographic Information for the Countryside
MLWS	Mean Low Water Springs
SPI	Species of Principal Importance

Units

Unit	Description
km	Kilometre
m	Metre

1 WATER VOLE SURVEY TECHNICAL REPORT

1.1 Introduction

- 1.1.1.1 This document forms Volume 7, Annex 3.8: Water vole survey technical report of the Environmental Statement for the Mona Offshore Wind Project.
- 1.1.1.2 This technical report presents the results of the water vole *Arvicola amphibius* desk study and field surveys undertaken between April and July 2023 to inform Volume 3, Chapter 3: Onshore ecology of the Environmental Statement.
- 1.1.1.3 The desk study and field surveys were designed to determine the presence or likely absence of this species.
- 1.1.1.4 Two separate areas have been defined for the purposes of this technical report. These include the 'study area', which describes the geographical extent subject to desk based research, and the 'survey area', which describes the area of land subject to site specific surveys. The extent of the study area and the survey area were selected to ensure data was collected for the Mona Onshore Development Area and the surroundings that may support this species and may reasonably be affected by the Mona Offshore Wind Project. The extent of the study area and the survey area were discussed and agreed with the onshore ecology Expert Working Group (EWG).

1.2 Study area

- 1.2.1.1 The study area comprises the Mona Onshore Development Area, landward of Mean Low Water Springs (MLWS), and a 2 km buffer ('the water vole study area'). The location and geographic extent of the water vole study area is presented in Figure 1.1 of this technical report.

1.3 Survey area

- 1.3.1.1 Following the commencement of water vole surveys, the Mona Onshore Development Area has been refined and now occupies a smaller geographical area. As such, the area of land subject to water vole surveys ('the water vole survey area') extends beyond the current iteration of the Mona Onshore Development Area. The results from surveys undertaken beyond the Mona Onshore Development Area (i.e. surveys undertaken based on an earlier design iterations) have been included in this technical report because they provide further context regarding the ecological sensitivity of the wider area and to inform Volume 3, Chapter 3: Onshore ecology of the Environmental Statement (where relevant). All the ecological data collected as part of the Environmental Statement for the Mona Offshore Wind Project has been made publicly available through the relevant data records centre.
- 1.3.1.2 Adopting a survey area that is greater in extent than the Mona Onshore Development Area is in accordance with the precautionary approach. It ensures that the Environmental Statement is accurately informed with data from within the Mona Onshore Development Area (i.e. that may be subject to direct impacts) and data from outside the Mona Onshore Development Area (i.e. that may be subject to indirect impacts).
- 1.3.1.3 The location and geographic extent of the water vole survey area is presented in Figure 1.1 of this technical report.

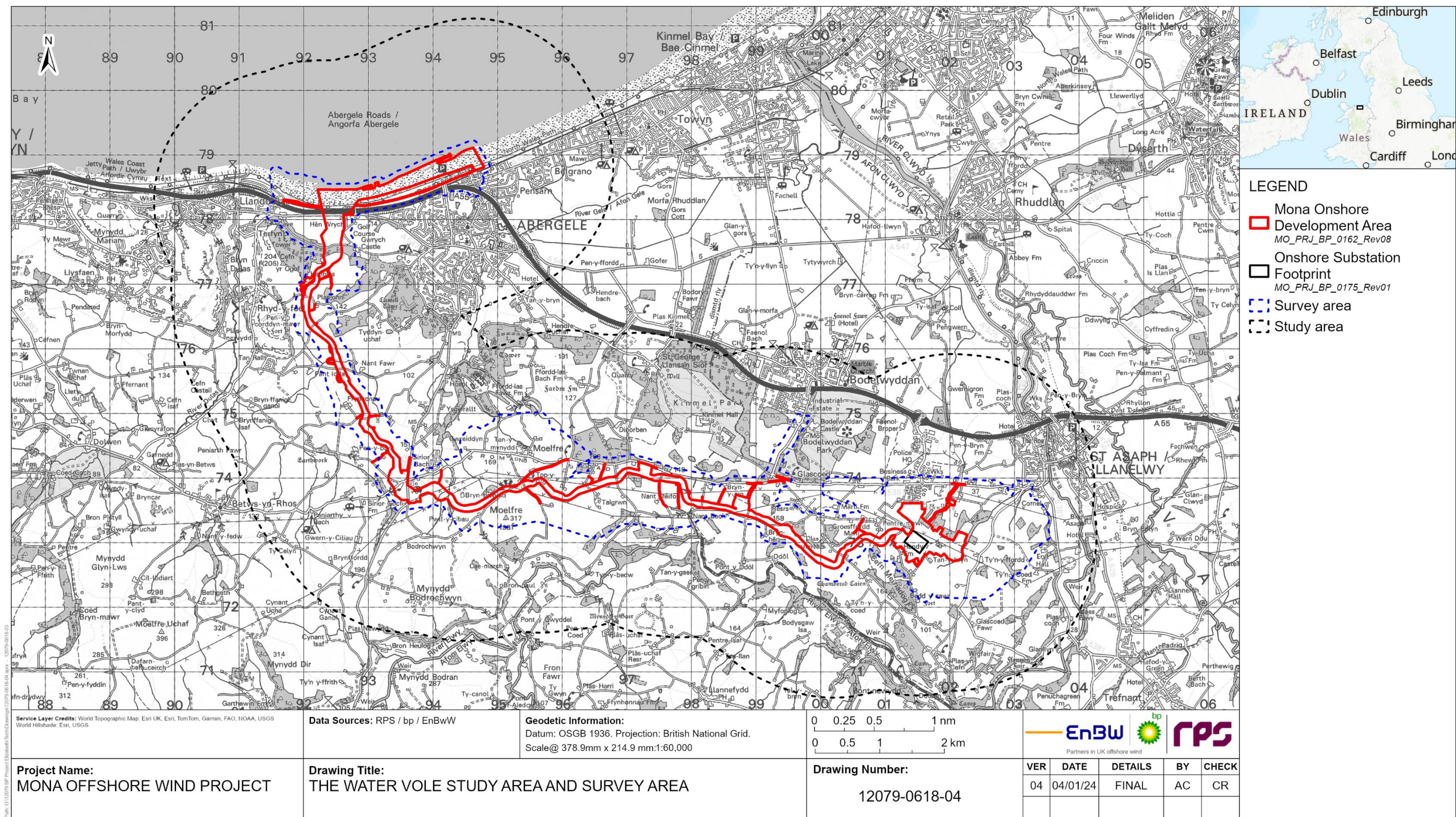


Figure 1.1: Water vole study and survey area.

1.4 Relevant legislation

- 1.4.1.1 Two key pieces of legislation are relevant for water vole under Welsh and UK law: the Wildlife and Countryside Act 1981 (as amended) and Environment (Wales) Act 2016.
- 1.4.1.2 Water vole are fully protected under section 9 of the Wildlife and Countryside Act 1981 (as amended). Under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) it is an offence to:
- Intentionally kill, injure or take a water vole
 - Possess or control any live or dead specimen or anything derived from a water vole
 - Intentionally or recklessly damage, destroy or obstruct any structure or place used for shelter or protection by a water vole
 - Intentionally or recklessly disturb a water vole while occupying a structure or place which it uses for that purpose.
- 1.4.1.3 Schedule 9 of The Wildlife and Countryside Act 1981 (as amended) also makes it illegal to distribute or allow the release of mink (*Neovison vison*), a key predator of water vole, into the wild.
- 1.4.1.4 Water vole are also afforded due regard in the planning system in Wales by the Environment (Wales) Act 2016, Section 7. Water vole are listed as a Species of Principal Importance (SPI), giving public bodies and local planning authorities a legal duty to have regard for conserving a SPI when exercising their duties.

1.5 Consultation

- 1.5.1.1 The scope, methodology and findings of the water vole surveys, including those undertaken beyond the current Mona Onshore Development Area, were discussed and agreed with stakeholders via regular Onshore Ecology EWG Meetings. Further detail regarding consultation undertaken with respect onshore ecology, including water vole surveys can be found in Volume 3, Chapter 3: Onshore ecology of the Environmental Statement and the Consultation Report (Document Reference: E.3).

1.6 Methodology

1.6.1 Overview

- 1.6.1.1 A combination of a desktop study and site-specific surveys were undertaken to establish the likely presence or absence of water vole within the water vole study area.
- 1.6.1.2 The results of the onshore ecology desktop study are presented in Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement and summarised in section 1.7.1 below.

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1.6.2 Desktop study

1.6.2.1 Information on water vole within the water vole study area was collected from existing studies and datasets. These are summarised in Table 1.1.

Table 1.1: Summary of key desktop sources.

Title	Source	Year	Author
Historical biological records	Cofnod	2023	Cofnod
DataMapWales	Welsh Government	2023	Welsh Government
Multi-Agency Geographic Information for the Countryside (MAGIC)	Department for the Environment, Food & Rural Affairs (Defra)	2023	Defra
UK Protected Area Joint Nature Conservation Committee (JNCC)	JNCC website	2023	JNCC

1.6.3 Site-specific surveys

Extended phase 1 habitat surveys

1.6.3.1 Extended phase 1 habitat surveys undertaken between May 2022 and September 2023 were used to identify any watercourses or waterbodies likely to support water vole. The data informed which watercourses and waterbodies should be subject to further surveys (see Volume 7, Annex 3.2: Phase 1 habitat surveys technical report of the Environmental Statement).

Water vole surveys

1.6.3.2 The water vole surveys followed the Water Vole Conservation Handbook (Dean *et al.*, 2016) survey methodology. Where safe access permitted, two surveyors completed the water vole survey while walking in the water to allow for a close search for signs of water vole (refer to section 1.6.4 where safe access was not possible).

1.6.3.3 As well as surveying from within the water, the surveyors walked the banks of each watercourse or waterbody (up to 2 m from the edge of the water) and inspected continuously for signs of use by water vole. Where only one bank was accessible, the opposite bank was inspected from both within the water and from the accessible bank. Signs of water vole use included:

- Presence of latrines
- Presence of burrows (both active and inactive)
- Presence of runs
- Presence of footprints
- Presence of feeding remains
- Individual droppings
- Sightings and/or sounds (characteristic of sound entering the water) of individuals.

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- 1.6.3.4 Two survey visits were conducted during mid-April to July 2023 and at least one month apart for any watercourses or waterbodies with the potential to support water vole. Surveys were not conducted during or shortly after heavy rainfall, as field signs may have been washed away. In addition, the surveys were timed to avoid high water levels, or when river management works were scheduled (where practicable).
- 1.6.3.5 All field surveyors were suitably trained and experienced in undertaking the survey methodologies set out in the following sections of this report.
- 1.6.3.6 Information on each watercourse and waterbody subject to water vole surveys was collected to inform its potential importance for water vole. A summary of the information is presented in Table 1.2.

Table 1.2: Summary of information recorded during water vole surveys.

Information	Description
Habitat types	Dominant habitats present in the water and along its banks (e.g. woodland, grassland, scrub, bare ground).
Predominant bank substrate	Type of substrate (e.g. soil or concrete) giving an indication whether water vole could burrow into it.
Adjoining land use	Neighbouring habitats and degree of suitable habitat connectivity that may enable water vole to move freely through the landscape.
Vegetation types present and indication of abundance of each using Dominant, Abundant, Frequent, Occasional or Rare (DAFOR) scale	Recorded flora and assemblages of flora in the water and long its banks, and an indication of how common they are.
Disturbance at the site or recent habitat damage	Evidence of damage or degradation of the habitats potentially by recent habitat management.
Bank profile	Gradient of the bank as water vole prefer steep banks to excavate their burrow systems in.
Water depth, width and flow of water	Frequency and height of water levels and the speed at which the water is moving.
Sketch map of the site	A graphic illustration of the water course or water body and surrounding and connecting habitat.

- 1.6.3.7 Once field sign data was obtained, the population size of the water vole along that stretch of watercourse or waterbody was calculated. This was based on the standard recognised method for calculating the population size, namely Morris *et al.* (1998).

1.6.4 Limitations

- 1.6.4.1 Some areas of land located along the surveyed watercourses outside the Mona Onshore Development Area were not accessible due to unsafe topography, physical barriers (e.g. very dense vegetation, security fencing) or where access permission was not granted. Where surveyors experienced such limitations, surveyors assessed watercourses from a distance using binoculars and accessed neighbouring land to ensure habitats were appropriately assessed from different angles.

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1.7 Results

1.7.1 Desktop Study

- 1.7.1.1 The desktop study confirmed that water vole is the fastest declining mammal across the UK and populations in Wales have declined by 89% since 1995 (DataMapWales, 2023). Isolated patches of potential habitat are present across Wales. The north-west of Wales and the northern coast are recognised as having a high likelihood of being suitable for the species.
- 1.7.1.2 There were four records of water vole from between 2012 and 2019 within 2 km of the Mona Onshore Development Area (the water vole study area). No water vole records were recorded within the Mona Onshore Development Area.

1.7.2 Site-specific surveys

- 1.7.2.1 The analysis of the extended phase 1 habitat survey confirmed that there were four watercourses in the water vole survey area with potential to support water vole. Watercourses 1 and 2 were located at the eastern end of the water vole survey area, near the Onshore Substation. Watercourses 3 and 4 were located at the western end of the water vole survey area, towards landfall. The dates of the surveys are presented in Appendix A of this technical report. All four watercourses were surveyed.
- 1.7.2.2 No waterbodies were identified as having potential to support water vole.
- 1.7.2.3 Evidence of water vole was recorded at two of the four watercourses. One water vole latrine was recorded at watercourse 1, approximately 310 m outside the Mona Onshore Development Area. Two possible water vole burrows were recorded at watercourse 2, approximately 10 m outside of the Mona Onshore Development Area. One possible burrow was recorded on the eastern most bank and one on the western most bank. Neither possible burrow had any spoil heaps and could not be confirmed as active water vole burrows. No water vole were directly observed during the water vole surveys.
- 1.7.2.4 The number of water vole latrines present give an indication of the size of the water vole population. The water vole data recorded was insufficient for a water vole population size estimate to be calculated. Typically, fewer maintained latrines are present when water vole populations are small or fragmented.
- 1.7.2.5 The results of the water vole survey are shown in Figure 1.2 to Figure 1.4 of this technical report.

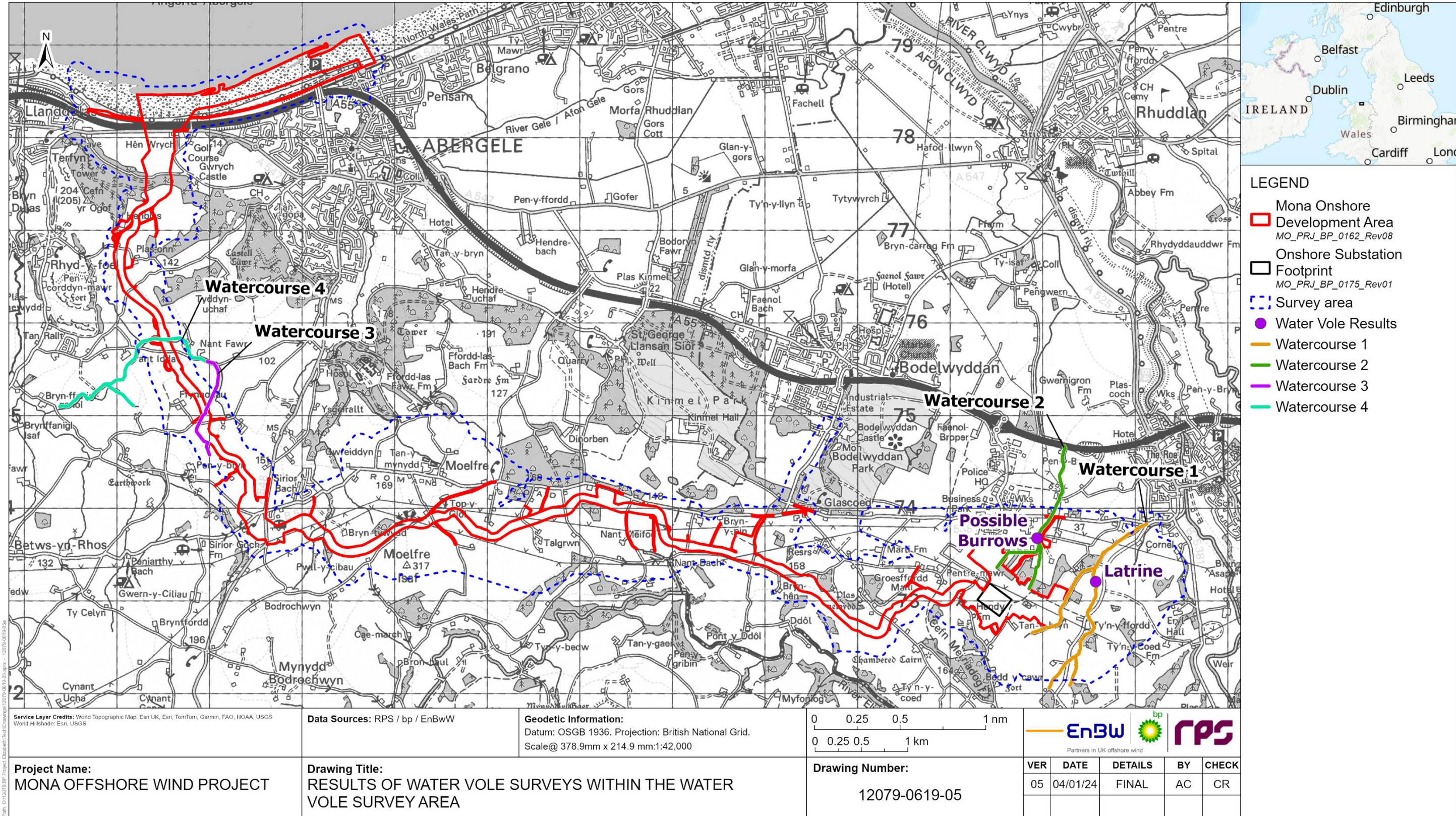


Figure 1.2: Results of water vole surveys within the water vole survey area.

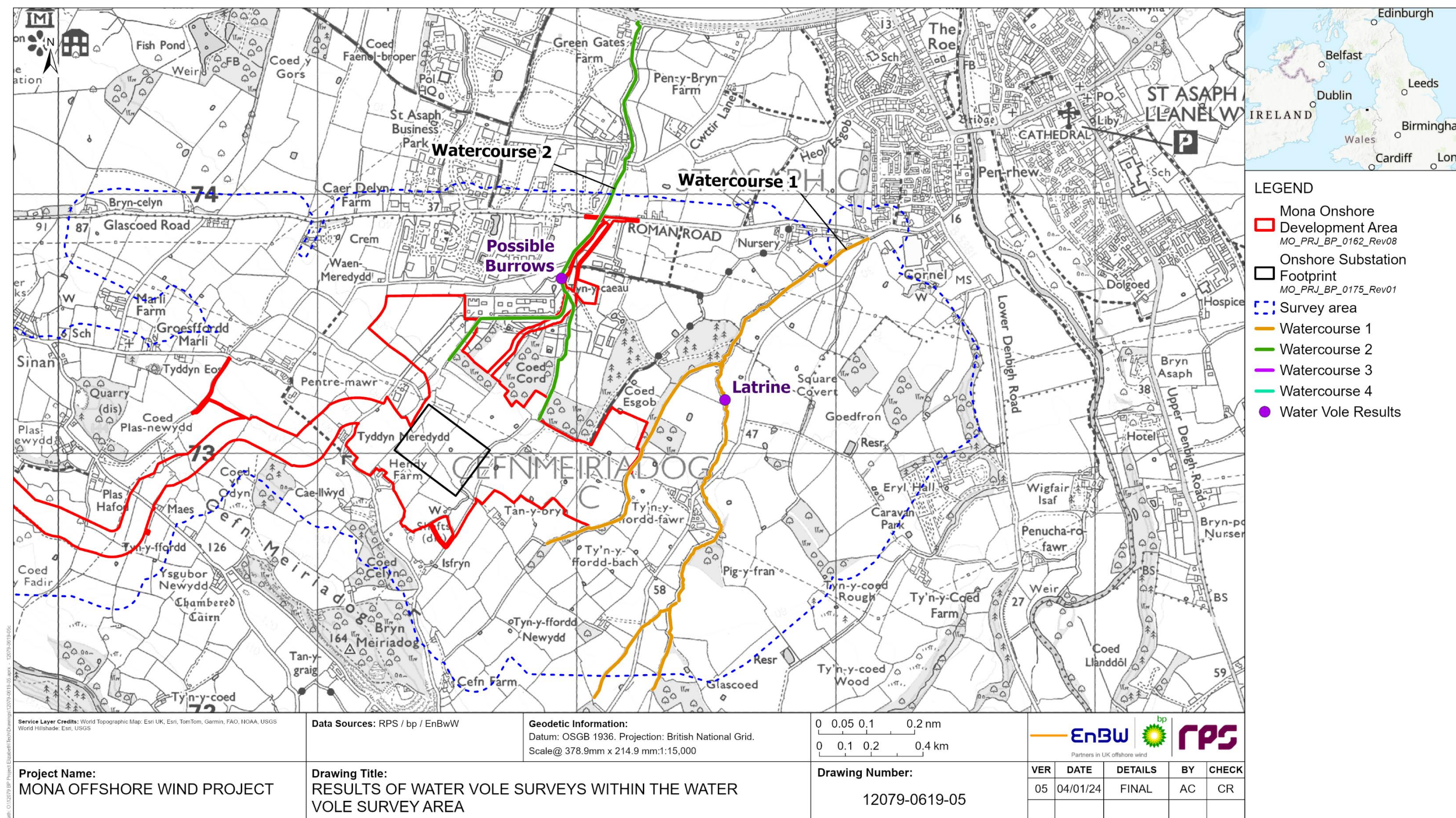


Figure 1.4: Results of water vole surveys within the water vole survey area (water courses 1 and 2).

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1.8 Summary

- 1.8.1.1 This technical report presents the results of the water vole desk study and field surveys undertaken between April and July 2023 to inform Volume 3: Chapter 3: Onshore ecology of the Environmental Statement.
- 1.8.1.2 The desk study confirmed that water vole is the fastest declining mammal across the UK and populations in Wales have declined by 89% since 1995. The habitat along the north coast of Wales is recognised as having potential to support the water vole and four historic records from between 2012 and 2019 were confirmed within 2 km of the Mona Onshore Development Area. No historic water vole records were confirmed within the Mona Onshore Development Area.
- 1.8.1.3 Four watercourses were identified as having potential to support water vole within the Mona Onshore Development Area. All four were surveyed. No waterbodies were identified as having potential for water vole and none were surveyed.
- 1.8.1.4 One latrine was recorded 310 m outside the Mona Onshore Development Area at watercourse 1. Two possible water vole burrows were recorded 10 m outside of the Mona Onshore Development Area at watercourse 2. No evidence was recorded in the Mona Onshore Development Area and no water vole were directly observed.
- 1.8.1.5 Water vole is the fastest declining mammal in the UK. It is likely there is a small population present based on the evidence recorded during these surveys as only one latrine was recorded within the water vole survey area.

1.9 References

- Morris, P., Morris, M., MacPhearson, D., Jefferies, D., Strachan, R., and Woodroff, G. (1998) Estimating numbers of water voles *Arvicola terrestris*: a correction to the published method. *Journal of Zoology*, 246, 61-62.
- Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). *The Water Vole Mitigation Handbook* (The Mammal Society Mitigation Guidance Series). Eds Fiona Matthews and Paul Chanin. The Mammal Society, London.

Appendix A: Raw water vole survey results

Table A. 1: Water vole survey results.

Site	Date	Signs recorded
Watercourse 1	04 April 2023	Latrine
	20 July 2023	None
Watercourse 2	05 April 2023	Two possible burrows, no spoil heaps at water's edge, 1 on East bank and 1 opposite on West bank
	20 July 2023	None
Watercourse 3	06 April 2023	None
	26 July 2023	None
Watercourse 4	06 April 2023	None
	26 July 2023	None