

BOW17.1593- Wilson Road, Water Vole Ecological Advice Note V2

Introduction

Bowland Ecology Ltd was commissioned by DJL Construction to undertake a pre-works water vole (*Arvicola amphibius*) walkover survey in March at Wilson Road, Huyton, North Merseyside. Several burrows were identified, which were likely to be brown rat, as a precaution due to recent, nearby water vole records, camera trapping was recommended to fully rule out water vole presence. The surveys relate to development proposals at the site which will impact within 5 m of the watercourse.

The site is located within Huyton Business Park, Merseyside (NGR: SJ 45755 90004), which comprises a large warehouse building with predominantly bare ground and patches of ephemeral vegetation, scrub and trees along the site boundaries. The survey was conducted along a section of Logwood Mill Brook within the associated woodland habitat which borders the north-eastern boundary of the site, as shown in Appendix A. The wider landscape is characterised by industrial land use interspersed with linear vegetation, woodland blocks, urban green space and watercourses.

An initial walkover survey was conducted on 31st March 2026 at 11:15am by Lucy Pocock, MSc, BSc (Hons), Mem.RES, ACIEEM (Principal Ecologist) and Melissa Quigley MSc, Mem.RES (Aquatic Ecologist). Weather conditions at the time of the survey were mild, with an ambient temperature of 11°C, a gentle south-easterly breeze corresponding to Beaufort Force 3 (11 mph) and 95% cloud cover with no precipitation.

The above survey identified burrows which were presumed to be brown rat. However, given that there are recent water vole records nearby, two camera traps were deployed along Logwood Mill Brook (NRG: SJ 45840 90176 and SJ 45849 90181) on Friday 17th April 2026. Libby Smith MSc, BSc (Project Managing Ecologist) and Angelique de Kock (Field Assistant), deployed the cameras collecting both photograph and video footage. The cameras were collected on the 28th April 2026.

Methodology

Desk study

The aim of the desk study was to identify the presence of legally protected water vole within the search area. The NBN atlas¹ was used to search for the presence of records in the area and historic data was reviewed, alongside reviewing previous ecology reports (Bowland Ecology, 2022).

In addition, the Multi-Agency Geographic Information for the Countryside (MAGIC) website² was reviewed alongside Ordnance Survey (OS) maps and aerial photographs to identify areas of potential suitable water vole habitat within 2 km of the site, and to obtain a wider understanding of watercourses within the network connected to Logwood Mill

¹ <https://nbnatlas.org/>

² <https://magic.defra.gov.uk/>

Brook. Priority River Habitat (PRH) was searched for using the Natural England Open Data Portal³ mapping software and the current Water Framework Directive (WFD) status was obtained from the EA's Catchment Data Explorer Website⁴. Sewage discharge points⁵ were also reviewed to identify potential pollution sources within Logwood Mill Brook.

Survey

The survey for water vole covered almost the entire length of Logwood Mill Brook along the site boundary (see Limitations) and extended approximately 80 m north of the red boundary line along the brook, surveying both the eastern and western margins and associated banks of the watercourse whilst wading in safe areas of the channel for maximum visibility (see Appendix A).

Habitat Suitability Assessment

The watercourse that passes through the site and its associated banks were assessed for suitability to support water vole, with a minimum buffer of 1 m up the banks on each side of the channel surveyed as per survey guidelines (Dean *et al.*, 2016). The following features are preferred by water vole:

- Well-developed bankside and aquatic vegetation that provides suitable food and cover;
- A good variety of food plants including favoured plants and winter food sources, namely lush waterside vegetation such as grasses, sedges, rushes and reeds;
- Suitable refuge areas above extremes in water level;
- Soft earth banks suitable for burrowing (30° to 60° slope);
- Water permanently present;
- Open water available for swimming;
- Ledge or berm present at or close to water level;
- Lack of damage or erosion to the banks;
- Slow flowing current or static water; and
- Absence of invasive non-native plant species.

Presence / Likely absence survey

In line with survey guidelines (Dean *et al.*, 2016), a comprehensive search for water vole field signs was undertaken, including:

- Burrows;
- Droppings;
- Latrine sites;
- Feeding stations and “lawns”; and,
- Footprints and tracks or “runs”.

³ <https://naturalengland-defra.opendata.arcgis.com/datasets/Defra::priority-river-habitat-rivers-england/about>

⁴ <https://environment.data.gov.uk/catchment-planning>

⁵ <https://theriverstrust.org/sewage-map>

During winter, water voles become less active above ground and therefore field signs become more evident from the start of the water vole breeding season in March and are visible until the end of September (weather dependent).

Camera Deployment

The cameras were strategically placed along the bank in different locations to maximise the chances of detection and data capture. Evidence of recent small mammal activity including small mammal holes, claw marks, footprints and tracks informed the placement of cameras. The cameras were deployed on Friday 17th April 2026 and collected on the 28th April 2026. Due to the evident high levels of small mammal activity identified during the initial survey, this period of 11 days was considered sufficient to determine presence or absence of water voles along the brook.

To ensure footage capture across the duration of the deployment, Camera 1 (SJ 45849 90181) was set up to capture videos, whilst Camera 2 (SJ 45840 90176) was set up for capturing images.

Limitations

Desk study data should not be treated as a comprehensive list of species present within a search area. Many species are under-recorded and low numbers of records can indicate a lack of survey effort or local experts in some areas, rather than confirm the absence of a species.

Habitat inventories shown on MAGIC vary in terms of their completeness, precision and reliability.

Dean *et al.* (2016) specifies that two visits should be undertaken to account for variations in vegetation cover and water vole field evidence throughout the year, one between April and June, and a second between July and September. However, the guidelines also state that a second visit may not be necessary where habitats are of very low suitability for water vole, or where there is a low likelihood of water vole presence within 2 km of the proposed works. Based on the results of this survey detailed in the following section, which indicate a very low likelihood of water vole presence, the absence of a second survey visit is not considered to constrain the validity of the assessment or the recommendations presented in this report. Furthermore, as a precautionary measure, camera trapping was recommended to provide a robust assessment of water vole presence or absence within the brook. This approach is considered to mitigate any potential limitations associated with the absence of a second survey visit for a low suitability stream, particularly within the context of a pre-works check.

The furthest downstream extent of the survey area was not easily accessible due to water depths exceeding waist height (see blue marker in Appendix A). In addition, the presence of narrow, steep, rock-dominated banks rendered the habitat unsuitable for burrowing water vole whilst also posing a safety risk to surveyors.

Results

Desk study

Desk study records taken from NBN Atlas highlighted two key water vole occurrences in 2024, the first was 1.5 km south of Logwood Mill Brook on a partially connected watercourse (Ochre Brook). The second record was located 2.5 km south of Logwood Mill Brook. The desk study also highlighted that the site sits within the borough of Knowsley, which in 2008

was considered as a key stronghold for water voles in North Merseyside and vital refuge area (Merseyside Biodiversity Group, 2008).

In a previous report (Bowland Ecology, 2022), desk study data returned 37 counts of activity in the area, with positive confirmation above and below Logwood Mill brook. Water vole were found to be present at Prescott golf club (connecting to the north end of the brook) and Ochre brook at Tarbock Hall (a tributary of Logwood Mill brook, at the southernmost end), which ties in with the more recent record in 2024 as noted above. As of 2022, Logwood Mill brook had been subject to three water vole checks in the previous 20 years, with the most recent in 2010 when no activity was recorded. Given the location and connectivity of records, use of the brook by water vole cannot be ruled out in the absence of further survey.

No priority rivers were noted within the search area. The Prescott Brook catchment, which includes Logwood Mill Brook, falls under WFD monitoring and is deemed to be of 'Moderate' ecological status as of 2022.

There are a total of four permitted sewage discharge points along Logwood Mill Brook. The Whiston Park combined sewer overflow (within the survey area) spilled 25 times for a total of 113.8 hours, discharging into Logwood Mill Brook in 2025 and the Link Road combined sewer overflow (also within the survey area) spilled three times for a total of 0.9 hours.

Survey

Habitat Description

The watercourse flows through a narrow, wooded valley within an industrial estate; the surveyed section culverts at either end. It exhibits moderate flow with alternating riffles and pools. Water clarity was low (4–5/5 turbidity), presenting a brown-orange iron ochre, which also smothered the entire riverbed. In addition, there was a surface film and slight milkyiness present in areas of the channel. This poor water quality and likely eutrophication can very likely be attributed to the sewage discharge and industrial run off; thick sludge deposits were evident at the footing of discharge points. Observation alone would consider this section of the brook to be in significantly worse condition than the 'Moderate' status it was given in 2022. Channel width averaged 2.2-2.5 m and water depth was approximately 35 cm in the centre and 20 cm at margins, with occasional deep sections more than 50 cm. The substrate comprised predominantly sand and silt with sporadic pebble layers, organic material and a large amount of litter and discarded materials, including a kayak, shoes and bike tyres. Sections of the channel contained rip-rap (concrete slabs and stones imitating natural cobbles and boulders) and both banks were heavily undercut with scoured edges. Banks were variably graded, ranging from gradual slopes to near-vertical faces. The majority were cliff-like due to erosion and angled greater than 45°. Some areas showed reinforcement with galvanised steel mesh and rip-rap along the banks. Galvanised steel mesh was also present within the channel further downstream, as shown in Appendix B. Downstream, the channel became narrower with steeper banks that comprised less earth and the inclusion of large stones that may indicate further reinforcement or channel diversion through cutting away of rocks (see Appendix B) and was deemed unsuitable habitat for burrowing water voles. Abundant woody debris, both small and large, was present throughout the channel.

The banks support a riparian woodland corridor, characterised with an oak (*Quercus spp.*), ash (*Fraxinus excelsior*) and sycamore (*Acer pseudoplatanus*) canopy, and an understorey of hawthorn (*Crataegus monogyna*) and elder (*Sambucus*

nigra). Ground flora was typical of a relatively long-established woodland, including pendulous sedge (*Carex pendula*), bluebells (native *Hyacinthoides non-scripta*, hybrid *H. x massartiana* and Spanish *H. hispanica*), hedge woundwort (*Stachys sylvatica*), hart's-tongue fern (*Asplenium scolopendrium*), lesser celandine (*Ficaria verna*), wood speedwell (*Veronica montana*), pignut (*Conopodium majus*) and wild garlic (*Allium ursinum*). Additional species included cow parsley (*Anthriscus sylvestris*), ground elder (*Aegopodium podagraria*), common ivy (*Hedera helix*), dog rose (*Rosa canina*), garlic mustard (*Alliaria petiolata*), common nettle (*Urtica dioica*) and spotted dead-nettle (*Lamium maculatum*). The woodland along the riparian corridor is likely to classify as Lowland Mixed Deciduous Woodland Habitat of Principal Importance. Invasive non-native species (INNS) were present, with Himalayan balsam seedlings (*Impatiens glandulifera*) along the margins, stands of Japanese knotweed (*Reynoutria japonica*) in multiple areas set back from the banks, as well as a cotoneaster (*Cotoneaster spp.*) stand on the western bank.

Evidence

Abundant mammal holes, claw marks and prints, runs and slides, tunnel networks and droppings were observed along the length of the east and western banks of the upstream section of Logwood Mill Brook, with concentrated areas shown on the map in Appendix A and illustrated by the photographs in Appendix B. Clear prints, as shown in photo 21 (Appendix B) appeared to be either brown rat (*Rattus norvegicus*) or water vole, but it is not possible to determine the species with any degree of certainty. No definitive signs of water vole were observed, i.e. no latrine sites, droppings, feeding stations or "lawns", and it is believed that all the signs observed during the survey can likely be attributed to brown rat which have been anecdotally recorded on site and which the habitat is suitable for. Brown rats are opportunistic, living in large colonies in a variety of habitats, dig extensive burrow and tunnel systems⁶, which the observed survey signs are characteristic of. Despite this, the presence of water voles cannot be entirely discounted due to very similar field signs with regards to prints and burrowing.

The habitat suitability assessment for water voles (Dean *et al.*, 2016) that was conducted as part of the survey indicated the following:

Habitat Suitability Feature	Assessment	Suitability
Well-developed bankside and aquatic vegetation that provides suitable food and cover - A good variety of food plants including favoured plants and winter food sources, namely lush waterside vegetation such as grasses, sedges, rushes and reeds.	No in-channel aquatic vegetation to provide suitable food or cover, with extremely limited favoured bankside vegetation, namely grasses, sedges or rushes. Vegetation characteristic of woodland either side of the channel.	Unsuitable
Suitable refuge areas above extremes in water levels.	Some suitable refuge areas above extremes in water level.	Moderately suitable

⁶ <https://canalrivertrust.org.uk/things-to-do/canal-and-river-wildlife/a-spotters-guide-to-waterway-wildlife/brown-rat>

Soft earth banks suitable for burrowing (30° to 60° slope).	Soft earth banks suitable for burrowing were present along parts of the brook, however all were above a 45° slope so within the required range but many areas were much steeper or reinforced with large stones and would be deemed unsuitable.	Moderately suitable
Water permanently present.	Water appeared to be permanently present within the channel and was well shaded to avoid drying out.	Suitable
Open water available for swimming.	Areas of deep, open water suitable for swimming were present within the channel but not considered optimal due to moderate to fast flow and the presence of a large amount of debris and litter.	Moderately suitable
Ledge or berm present at or close to water level.	Multiple ledges or berms, at or close to water level, were present at water margins.	Moderately suitable
Lack of damage or erosion to the banks.	High levels of damage or erosion and modification to the banks was apparent.	Unsuitable
Slow flowing current or static water.	The brook had a moderate flow with indicators that it would become fast-flowing in periods of high rainfall. No access to standing water.	Unsuitable
Absence of invasive non-native plant species.	Invasive non-native plant species were present: Himalayan balsam, Japanese knotweed and cotoneaster.	Unsuitable

In addition to the above, it is understood that water vole favour unpolluted watercourses⁷. The high level of eutrophication and pollution in the channel make it highly unlikely for water vole to inhabit the surveyed stretch of the Logwood Mill Brook.

The relatively limited territorial range of water vole from their burrows, typically 30–150 m for breeding females and 60–300 m for males (PTES, 2025), further suggests that the presence of water vole within the brook is unlikely, except potentially for individuals dispersing or commuting between territories.

⁷ <https://watervole.org.uk/home/water-vole-habitat-management/>

Camera Deployment

Upon reviewing the footage captured, no water voles were identified within the brook. The following species were identified in the video and image footage captured from the 17th April 2026 to the 28th April 2026:

- Brown Rat (*Rattus norvegicus*)
- Moorhen (*Gallinula chloropus*)
- Wood pigeon (*Columba palumbus*)
- Blackbird (*Turdus merula*)
- Magpie (*Pica pica*)
- Mallard duck (*Anas platyrhynchos*)
- Grey squirrel (*Sciurus carolinensis*)

Conclusion and Recommendations

Overall, based on the habitat suitability assessment and the lack of direct water vole evidence, the surveyed section of Logwood Mill Brook is considered unsuitable for resting, breeding, and foraging water vole. The two trail cameras deployed along the brook channel provided direct evidence of brown rat activity, with no evidence of water vole. Thus, there is negligible risk of disturbance or harm to water voles or their resting place as a result of works within the 5 m buffer zone of the channel. No further surveys with regards to water vole are required at present.

Records of water vole in watercourses to the north and the south indicate that there is a small chance of water vole using Logwood Mill Brook as a commuting route between more suitable habitat (Bowland, 2022). Thus, irrespective of the camera trapping result, in the absence of mitigation, there is potential for indirect impacts, such as, fuel spillage incidents, runoff and dust to result in negative ecological impacts to these species through pollution of potential commuting routes and pollution of suitable habitats further downstream. In addition, there may be an entrapment risk to commuting water voles should any bank-side excavations be left open overnight. Nevertheless, this risk is considered very low and can be reduced to a negligible level by adherence to precautionary working methods and reasonable avoidance measures throughout any construction within 5 m of the watercourse, as follows:

Pollution prevention and control

Habitats located in Logwood Mill brook are at risk of pollution during works, which may also negatively impact protected species, including potentially commuting water vole utilising the brook and wider catchment. The brook is particularly at risk due to the steep sloping banks making it vulnerable to run off.

Appropriate pollution control and prevention measures will be applied throughout site clearance and construction to ensure that adjacent habitats, including the brook, are not negatively affected during the works through run-off created during the construction period. The following (but not limited to) good practice measures⁸⁹ will be adhered to:

- Installation of silt fencing or choir matting where significant erosion is anticipated, to reduce surface run off and prevent sediment entering the brook;
- Avoid working in periods of heavy rainfall or wet weather;
- Vehicle refuelling in designated compounds/area at least 10 m from the brook;
- Any fuel will be stored in double bunded containers at least 10 m from the brook;
- Drip trays or plant nappies to be used when refuelling and left under stationary machinery;
- Oil spill kits to be kept on site and within all vehicles; and
- All materials such as excavated topsoil must be stored in a bunded area away from the brook and protected from potential rainfall and runoff.

Open excavations

In addition, the following good practice measures in relation to open excavations and water vole presence should be followed:

- Contractors to be made aware of the potential for water vole presence during the works, and posters in Appendix C to be clearly displayed in site cabins;
- Ensure any open excavations are either covered or backfilled at night to prevent entrapment.
- Alternatively, holes or excavations will be fitted with earth ramps or wooden ramps at an angle of 45° to allow any trapped animals to escape;
- Open pipes will be capped or sealed at the end of each working day to prevent animals entering and becoming trapped. Where caps are not available, pipes should be stored vertically or raised off the ground;
- All excavations will be inspected at the start of each working day before works recommence to check for trapped animals;

⁸ NatRegs (2018). Guidance for Pollution Prevention. Works and maintenance in or near water: GPP5. Available at: <https://www.netregs.org.uk/media/1418/gpp-5-works-and-maintenance-in-or-near-water.pdf>

⁹ SEPA (2025) Engineering in the Water Environment Good Practice Guide Riparian Vegetation Management. Available at: https://beta.sepa.scot/media/zzya4ahk/wat-g-037_riparian_vegetation_management.docx

- There will be no night working or illumination of the river channel during darkness; and
- If a mammal, reptile or amphibian is found, let it disperse freely. However, if water vole are encountered at any point, the project Ecologist must be consulted immediately for further advice.

Biosecurity

As INNS (Himalayan balsam, Japanese knotweed, Cotoneaster) were observed during the survey, the following measures are recommended throughout works:

- All personnel and contractors will follow the Check, Clean, Dry procedure promoted by the GB Non-Native Species Secretariat¹⁰ to prevent the spread of INNS (Appendix C);
- Contractors to be made aware of the potential for INNS to colonise the site at any time, and posters in Appendix C to be clearly displayed in site cabins;
- All machinery, pumps, tools and footwear used in or near the watercourse will be inspected and cleaned of mud, plant material and debris **both before arriving on site and before leaving the site**;
- Equipment used within the river will be drained and, where necessary, disinfected before being moved to other waterbodies; and
- Any imported materials (e.g. stone or aggregate) will be sourced from reputable suppliers and inspected to ensure they are free from invasive plant material.

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¹⁰ <https://www.nonnativespecies.org/what-can-i-do/check-clean-dry>

References

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North Merseyside Biodiversity Action Plan (2008) Water Vole (*Arvicola terrestris*): Species Action Plan. North Merseyside Biodiversity Action Plan.

People's Trust for Endangered Species (PTES) (2024) Water vole species information sheet. Available at: <https://ptes.org/wp-content/uploads/2024/05/Water-vole-Species-Info-Sheet-PTES.pdf> (Accessed: 2nd April 2026).

Appendix A – Water Vole Walkover Survey Plan and Results



Appendix B: Survey photographs

Overview



Photo 1: Downstream with outflow (SJ 45810 90100)



Photo 2: Upstream (SJ 45810 90100)

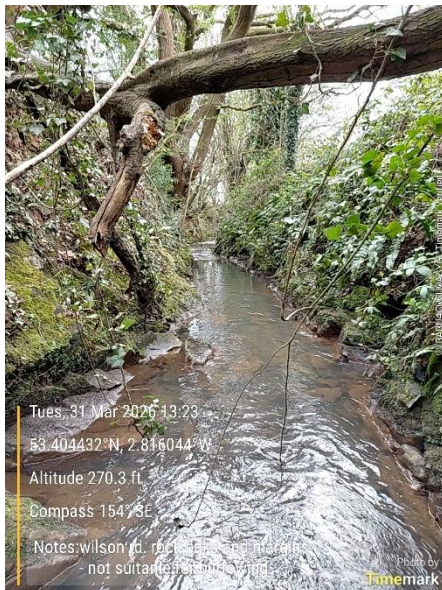


Photo 3: Downstream rock banks and margins, unsuitable for burrowing (SJ 45844 90045)



Photo 4: Upstream, alternating riffles and pools (SJ 45810 90107)

Western bank of Logwood Mill Brook



Photo 5: Mammal hole (8 x 6 cm) and run, both well used (SJ 45820 90128)



Photo 6: Mammal hole (10 x 3 cm), less used (SJ 45824 90142)

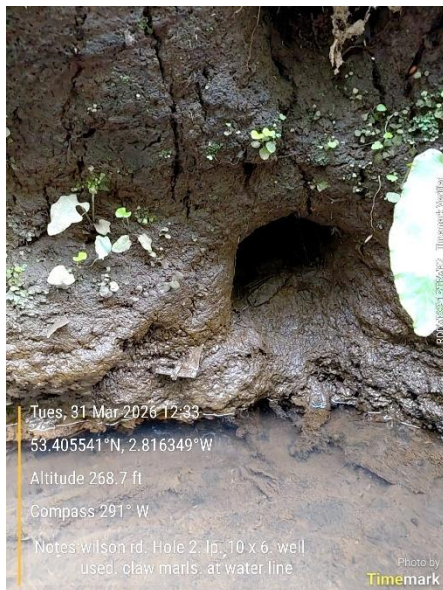


Photo 7: Mammal hole (10 x 6 cm), well used with claw marks at the water line (SJ 45826 90169)



Photo 8: Slide with claw marks (SJ 45831 90160)



Photo 9: Mammal hole (8 x 4 cm) at water line (SJ 45839 90173)

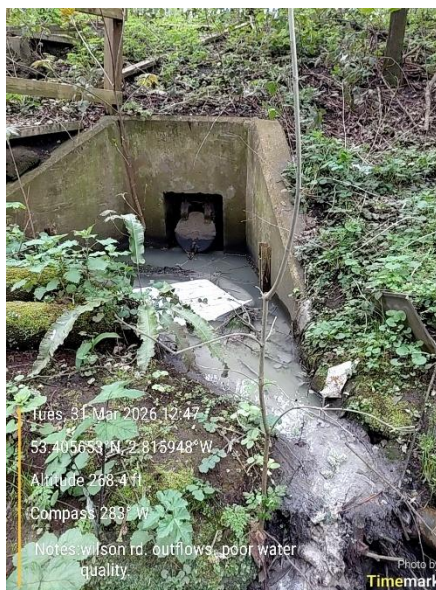


Photo 10: Sewage outflow, very poor water quality (SJ 45852 90181)



Photo 11: Outflow, poor water quality (SJ 45734 90114)



Photo 12: Mammal hole (20 x 5 cm) (SJ 4816 90087)

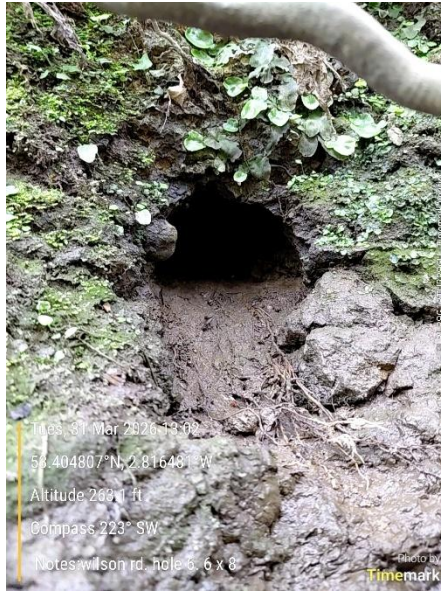


Photo 13: Mammal hole (6 x 8 cm)
(SJ 45816 90087)

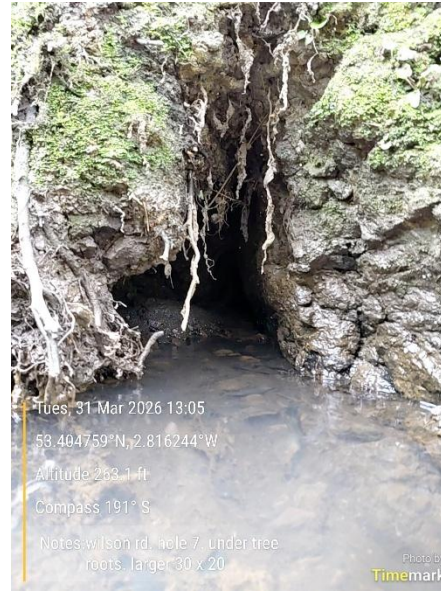


Photo 14: Large hole beneath tree roots (30 x 20 cm)
(SJ 45832 90082)



Photo 15: Tunnel network (SJ 45831 90066)

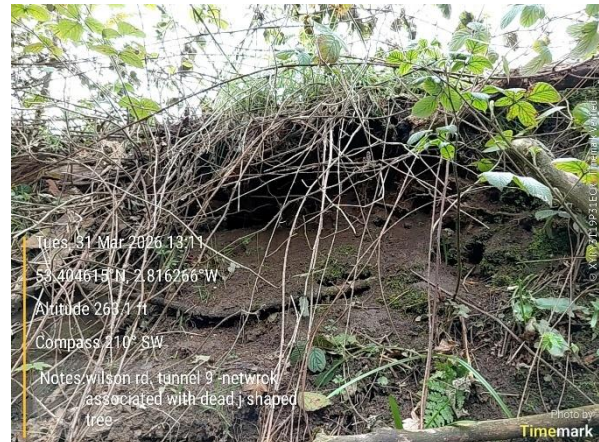


Photo 16: Tunnel network associated with dead J-shaped tree
(SJ 45830 90066)



Photo 17: Tunnel network associated with j-shaped tree (SJ 45833 90063)



Photo 18: Tunnel network (SJ 45833 90063)



Photo 19: Tunnel network (SJ 45839 90048)



Photo 20: Droppings (not water vole) (SJ 45837 90060)

Eastern bank of Logwood Mill brook



Photo 21: Small mammal prints. Definite ID cannot be confirmed. (SJ 45809 90105)



Photo 22: Small hole (6 x 6 cm)
(SJ 45813 90112)



Photo 23: Well used run and mammal hole (13 x 6 cm)
(SJ 45814 90121)



Photo 24: Mammal hole along well used run
(SJ 45813 90116)



Photo 25: Slide into water with claw marks (SJ 45816 90114)



Photo 26: Mammal hole (20 x 10 cm) (SJ 45826 90125)



Photo 27: Mammal hole (12 x 10 cm) (SJ 45823 90146)



Photo 28: Mammal hole (9 x 6 cm) and well used run (SJ 45832 90148)



Photo 29: Mammal tunnel (8 x 10 cm), leading directly to water channel (SJ 45831 90149)



Photo 30: Mammal tunnel and hole (8 x 5cm) (SJ 45833 90150)



Photo 31: Mammal hole (10 x 6cm) (SJ 45837 90163)



Photo 32: Mammal hole (15 x 7cm), slide and claw marks (SJ 45843 90169)



Photo 33: Multiple mammal holes condensed in one area (SJ 45841 90170)



Photo 34: Multiple mammal holes (SJ 45843 90175)



Photo 35: Mammal run (SJ 45844 90172)



Photo 36: Galvanised steel mesh in water channel, attached to bank (SJ 45813 90089)



Photo 37: Outfall discharge (SJ 45832 90062)



Photo 38: Mammal hole (7 x 8 cm) higher up bank (SJ 45841 90044)



Photo 39: Claw marks in mud (SJ 45841 90047)

Culverts

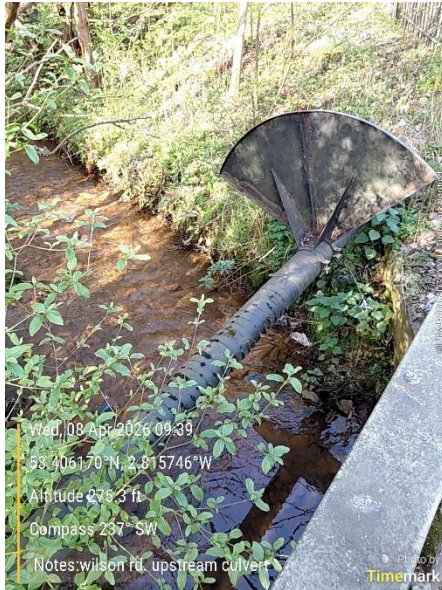


Photo 40: Upstream culvert (SJ 45866 90238)



Photo 41: Downstream culvert (SJ 46062 89759)

Camera Deployment and Footage



Photo 42: Camera 1 (SJ 45849 90181) set up on 17/04/2026



Photo 43: Camera 2 (SJ 45840 90176) set up on 17/04/2026



Photo 44: Footprints identified in line of sight of camera 1 on 17/04/2026.



Photo 45: Image of rat taken on camera 2 on 22/04/2026.



Photo 46: Image of rat taken on camera 2 on 25/04/2026.

Appendix C – Contractor Information Sheets

Water Vole



Water vole may be present on site or in the area. Please read for information, legal responsibility and best practice in the consultancy industry.

Legal Information

Water Voles receives protection under Schedule 5 of the Wildlife and Countryside Act 1981, in practical terms this means it is an offence to;

- Deliberately capture, injure or kill a water vole;
- Deliberately damage, destroy or block access to a water vole place of shelter or protection;
- Deliberately disturb a water vole in a place of shelter or protection; and
- Possess, sell, control, or transport live or dead water voles, or parts of water voles.

Penalties on conviction: the maximum fine is unlimited, up to six months in prison, per offence and forfeiture of items used to commit the offence, e.g. vehicles, plant, machinery.

Under legislations of Schedule 16 of the Wildlife and Countryside Act 1981, disturbance licences can be obtained.

Found a water vole?

- If you find or suspect water vole on site or in your working area, you must **stop works immediately contact the project ecologist for further advice (Call 01200 446 777);**
- Contractors should avoid handling water vole. Only handle if the animal is in immediate danger, using gloved hands; and
- If handling is necessary to move water vole away from harm, it should be placed in a breathable box/safe place until the ecologist has been contacted.

Activities that can affect water vole

- Disturbance or destruction of watercourses, in particular bank side habitats; and
- Activities resulting in a change of water quality, for example chemical pollution or siltation.

Recognising water vole



- Well vegetated, grassy, 45° sloping banks are optimal bank-habitat;
- Slow flowing or stagnant, deep water is preferred; and
- Burrows are oval shaped, around 5-8cm wide along the bank faces and water edge.



- Water vole droppings are distinct, usually 8-10mm long and strongly resemble a large 'tic-tac' mint; and
- Droppings can be found in piles, individually, or most often in 'latrines' which is a regularly used location with trampled droppings.



- Another distinctive sign is neat piles of chewed lengths of vegetation left after feeding; and
- Sections are typically 8cm long and have 45° cuts to their ends.

Himalayan Balsam

Information, legal responsibility and practice in the consultancy industry



Legal Information

In England it is illegal to plant or provoke the spread of Himalayan balsam. It taken away from the site of origin, Himalayan Balsam and its associated materials, e.g. soil, become classed as Controlled Waste and must be disposed of at an authorised landfill site. New powers are given to environmental authorities to enter into control agreements with landowners, to ensure action is taken to control non-native invasive species on their land. Legislation governing the spread of Himalayan balsam in England includes:

- Wildlife and Countryside Act 1981 (as amended) Section 14, Schedule 9;
- Environmental Protection Act 1990 S33 & 44; and
- Infrastructure Act 2015 Sections 23 to 25.

Management

- Prior to commencement of works staff should be made aware of the presence and location of Himalayan balsam on site, including a 7 m buffer zone should be marked out with Hi-Viz fencing;
- If the plant is to be removed, it should be hand-pulled prior to the plant setting seed (around June), to prevent dispersal;
- Biosecurity measures implemented whilst on site to prevent cross contamination, adherence to the Check, Clean, Dry method following every working window; and
- Himalayan balsam is classed as controlled waste. As such, all arisings and potentially contaminated soil from the plant must be disposed of according to Government Guidance.

Impacts

Himalayan balsam is a non-native, rapidly colonising plant. It negatively impacts the growth and success of native plants and significantly alters soil structure. The species rapidly dominates an area, creating dense monoculture stands, commonly observed on riverbanks, but also within woodland and other habitats with damp ground.

Distribution -
Wildly found
across lowland
England and Wales.
Scarce in
Scotland.



Identifying key features



Young seedling



Reddish leaves



Single stem



Flower head/ seed pods



Flower head



Reddish stem



Short roots



Dense stand



Dead stand

Identifying Himalayan Balsam

- Himalayan balsam is a tall, annual plant. As a mature plant it can grow up to 3 m in height and is easily recognisable with pink/purple flowers, a fleshy stem, turning more pink/red in the summer and lanceolate shaped, long, green leaves tinged with pink forming dense strands, common along watercourses and other damp habitats.
- In late July/August the exploding seed pods appear. These pods, enable the plant to disperse seeds up to distance of 7 m from the mature plant, enabling the effective spread of the plant in the wild.

Useful Guides

GB non-native species secretariat
<http://www.nonnativespecies.org/home/index.cfm>
Prevent harmful weeds and invasive non-native plants spreading
<https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants>
Property Care Association
<http://www.property-care.org/homeowners/invasive-weed-control/>

Invasive Species Alert

Warning of the presence of an invasive species

See the back of the leaflet for more information

For more information visit www.invasivespeciesalert.org.uk

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Japanese Knotweed

Information, legal responsibility and practice in the consultancy industry



Legal Information

It is illegal to plant or provoke the spread of Japanese knotweed. If taken away from the site of origin, the plant and its associated materials, e.g., soil, are classed as controlled waste and must be disposed of at an authorised landfill site. New powers are given to environmental authorities to enter into control agreements and orders with landowners, to ensure action is taken to control non-native invasive species on their land.

Legislation governing the spread of Japanese knotweed includes:

- Wildlife and Countryside Act 1981 (as amended) Section 14;
- Environmental Protection Act 1990 S33 & 44; and
- Infrastructure Act 2015 Sections 23 to 25.
- Natural Environment (Scotland) Act 2011



Management

- Prior to commencement of any works on site staff should be made aware of the presence and location of Japanese knotweed on site including a 7m buffer zone should be marked out with Hi-Viz fencing;
- The use of mechanical plant over-infected areas should be kept to a minimum, and biosecurity measures should be implemented whilst on site to prevent cross contamination. This includes the cleaning of footwear and machinery, prior to, and on completion of each working window to ensure that the plant is not taken off or spread around the site;
- The plant can be managed several ways;
 - o Spraying with approved herbicides, over a three year period to ensure rhizomes become dormant;
 - o Burying and/or burning, further guidance should be sought beforehand from the EA and LPA.
- Japanese knotweed is classed as controlled waste. As such, all arisings and potentially contaminated soil from the plant must be disposed of in an appropriate manner to ensure that the waste does not cause pollution of the environment.

Impacts

Japanese knotweed is a non-native species that when established forms dense stands, commonly found in riparian habitats and other areas where the ground has become disturbed. The dense, monoculture stands reduce biodiversity and dominate the landscape, outcompeting native species. The plant can also grow through tarmac and concrete causing damage to buildings and roads.



Key ID features



Identification

There are three main species of Japanese knotweed; Japanese knotweed (*Fallopia japonica*) the most widespread species; giant knotweed (*Fallopia sachalinensis*); and a hybrid Knotweed (*Fallopia x bohemica*). Japanese knotweed is a herbaceous perennial that produces green/reddish shoots in early spring. The plant can reach to heights of 3 m before dying back in autumn. The stem, is green with red and/or purple specks and forms dense cane-like clumps. The plant's shoots and leaves, which can be up to 12 cm long, densely cover the ground and are arrow shaped.

Distribution

Japanese knotweed is widely distributed across most of lowland England and Wales but is more scarce in Scotland. Areas highlighted in dark green are hotspots.



Useful Guides

GB non-native species secretariat
<http://www.nonativespecies.org/home/index.htm>
 Preventing Japanese knotweed from spreading
<https://www.gov.uk/guidance/prevent-japanese-knotweed-from-spreading>
 Property Care Association
<http://www.property-care.org/homeowners/invasive-wood-control>



STOP THE SPREAD

Invasive plants and animals harm the environment and block waterways. They can be small and hard to spot so are easily spread on damp clothing and equipment.

Protect the environment you enjoy:

CHECK

CLEAN

DRY

Check your equipment, boat, and clothing after leaving the water for mud, aquatic animals or plant material. Remove anything you find and leave it at the site.

Clean everything thoroughly as soon as you can, paying attention to areas that are damp or hard to access. Use hot water if possible.

Dry everything for as long as you can before using elsewhere as some invasive plants and animals can survive for over two weeks in damp conditions.

Find out more about invasive plants and animals and how you can help to stop the spread at:
nonnativespecies.org/checkcleandry



Appendix D – Legal Information

This report provides guidance of potential offences as part of the impact assessment. This report does not provide detailed legal advice and for full details of potential offences against protected species the relevant acts should be consulted in their original forms i.e. The Wildlife and Countryside Act, 1981, as amended, The Countryside and Rights of Way Act 2000, The Natural Environment and Rural Communities Act, 2006 and The Conservation of Habitats and Species Regulations 2017.

Species	Legislation	Offences	Notes on licensing procedures and further advice
Species that are protected by European and national legislation			
Water vole	Wildlife and Countryside Act 1981 (as amended) ² S.9, S16	Intentionally kill, injure or take water voles; Intentionally or recklessly ¹ damage, destroy or obstruct access to any structure or place used for shelter or protection; Disturb a water vole in such a place.	No licence is required for survey in England, unless you are likely to commit an action that is otherwise illegal. There are currently no licensing purposes that explicitly cover development activities or activities associated with the improvement or maintenance of waterways. However when a proposed lawful activity has no opportunity to retain water voles within a development site and their translocation would result in a conservation benefit then a licence from NE may be obtained. <i>The Water Vole Conservation Handbook</i> (R. Strachan, T. Moorhouse & M. Gelling, Wildlife Conservation Research Unit (WildCRU), 3rd Edition 2011). https://www.gov.uk/water-voles-protection-surveys-and-licences Water voles and development licensing policy - NE Technical Information Note TIN042 2008

¹ The term 'reckless' is defined by the case of Regina versus Caldwell 1982. The prosecution has to show that a person deliberately took an unacceptable risk, or failed to notice or consider an obvious risk. ² The Wildlife and Countryside Act (1981) has been updated by various amendments, including the Countryside and Rights of Way Act 2000 and the Natural Environment and Rural Communities Act 2006. A full list of amendments can be found at <https://jncc.gov.uk/our-work/wildlife-countryside-act/>

Habitats & Species	Legislation	Guidance
Species and Habitats of Principal Importance for the Conservation of Biodiversity	Natural Environment & Rural Communities Act 2006 S.40 (which superseded S.74 of the Countryside & Rights of Way Act 2000).	S.40 of the NERC Act 2006 sets out the duty for public authorities to conserve biodiversity in England. Habitats and species of principal importance for the conservation of biodiversity in England (identified by the Secretary of State in consultation with NE) are referred to in S.41 of the NERC Act: http://webarchive.nationalarchives.gov.uk/20140605090108/http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx The list of habitats and species was updated in 2007 to ensure that it remained focussed on the correct priorities: https://jncc.gov.uk/our-work/uk-bap/ The criteria for selection included international threat, responsibility and importance, rate of decline/risk, importance of habitats for key species, and other important factors. Ecological impact assessments should include an assessment of the likely impacts to these habitats and species.