



Skilled Ecology Consultancy Ltd.

The Cherries, Ashen Road,

Clare, Suffolk, CO10 8LG

T: 01787 277912

E: roger@skilledecology.co.uk

W: www.skilledecology.co.uk

Protected Species Assessment, Focussing on Otter and Water Vole, of Buxhall Vale, Buxhall, IP14 3DH.

On behalf of:

Mr. Robert Stewart

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Skilled Ecology Consultancy Ltd.

Registered company in England no: 7188811

Registered Office: 7 Trust Court, Histon, Cambridge, CB24 9PW.

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0 SUMMARY

- 0.1 Skilled Ecology Consultancy Ltd. was commissioned by Mr. Robert Stewart to undertake a Protected Species Assessment, focussing on otter and water vole, of land at Buxhall Vale, Buxhall, IP14 3DH. The report is required to accompany a planning application for a proposed new driveway to the property from the existing access point. The new driveway would then cross Rattlesden River over a new, small bridge, before re-joining the existing driveway. In addition to some minor changes the route of the driveway nearer to the residential building on the land.
- 0.2 The survey was conducted on the 20th April 2019, by experienced ecologist James Pickerin BSc (Hons) GCIEEM. The surveys consisted of an inspection for preferred habitat types and signs and evidence of protected and priority species otter and water vole, following Natural England and other relevant guidelines. A local biological record search was undertaken.
- 0.3 The proposed new driveway was approximately 150m in length, with minor changes to other sections of driveway totalling up to an additional 100m. The driveway will largely be single track, approximately 3m wide.
- 0.4 The proposed site was found to be the grounds of a 16th century, large, residential estate; with areas of the grounds included in the scheme comprising existing hardstanding, UK Priority Habitat Lowland Deciduous Woodland, UK Priority Habitat Woodpasture and Parkland, and Rattlesden River (also UK Priority Habitat). Lowland Deciduous Woodland was found to support veteran trees with an understorey of improved grasses and ruderal herbaceous plants. Woodpasture and Parkland was found to be a sheep-grazed area of improved grassland with ruderal herbaceous plants. The proposed driveway will cross Rattlesden River.
- 0.5 Evidence of protected species otter and water vole was observed in close proximity to the proposed development and planned bridge crossing point.
- 0.6 Recommendations, including the supervision of works by a suitably licensed and experienced water vole ecologist, bank vegetation improvements, working practise and lighting guidelines are detailed. Consequently, further surveys are deemed unnecessary.

1 INTRODUCTION

1.1 Background

- 1.1.1 Skilled Ecology Consultancy Ltd. was commissioned by Mr. Robert Stewart to undertake a Protected Species Assessment, focussing on otter and water vole, of land at Buxhall Vale, Buxhall, IP14 3DH. The report is required to accompany a planning application for a proposed new driveway to the property from the existing access point. The new driveway would then cross Rattlesden River over a new, small bridge, before re-joining the existing driveway. In addition to some minor changes the route of the driveway nearer to the residential building on the land.
- 1.1.2 It is understood from the architect and structural engineer that the proposed bridge over the river would be installed by using six-inch diameter steel piles pushed into the ground with a handheld piling rig. It is understood that an excavator would not be required. The piles to support the bridge would be installed at an approximate 2m distance from the riverbanks.
- 1.1.3 Wildlife such as otters and water voles are protected by law, and are also a material consideration for individual planning decisions under the National Planning Policy Framework, 2019 (NPPF) (MHCLG, 2019).

2 METHODOLOGY

2.1 Desk Study

- 2.1.1 A local biological data search was obtained through Suffolk Biodiversity Information Service (SBIS) to search for records of protected, priority and rare species and local wildlife sites.
- 2.1.2 A search of the Multi-Agency Geographical Information for the Countryside (MAGIC) was also conducted, to check for statutory nature conservation sites.
- 2.1.3 These results were then combined with the findings of the site survey, in order to assess the risk of ecology issues, relevant to planning, occurring on the site.

2.2 Study Limitations

- 2.2.1 No major study limitations were found.

2.3 Initial Site Surveys

Habitats and Surroundings

- 2.3.1 The site was visited on the 20th April 2020 to survey for ecology issues. This included the following:
- Noting the suitability of habitats present on the site, with regard to protected, priority and rare species, specifically otter and water vole;

- Assessing the habitats surrounding the site and in the local area;
- Direct survey for evidence of protected species as far as possible.
- The River Rattlesden was surveyed on the north and south bank, in addition to from within the river, 125 west and 200m south-east of the proposed river crossing.

Otters and Water Voles

2.3.2 Signs and evidence otters and water voles activity searched for included the following:

- Holts, couches and burrows;
- Latrines and spraints;
- Paw prints and other tracks;
- Feeding remains;
- Sightings of animals.

3 RESULTS AND RISK

3.1 Site Description & Location

3.1.1 The proposed new driveway was approximately 150m in length, with minor changes to other sections of driveway totalling up to an additional 100m. The driveway will largely be single track, approximately 5m wide. The proposed site was found to be the grounds of a 16th century, large, residential estate; with areas of the grounds included in the scheme comprising existing hardstanding, UK Priority Habitat Lowland Deciduous Woodland, UK Priority Habitat Woodpasture and Parkland, and Rattlesden River (also UK Priority Habitat) (see Appendix 8.1; Figure 1 & 2: Appendix 8.2; photographs 1 - 12). Lowland Deciduous Woodland was found to support veteran trees with an understorey of improved grasses and ruderal herbaceous plants. Woodpasture and Parkland was found to be a sheep-grazed area of improved grassland with ruderal herbaceous plants.

3.1.2 The proposed site formed a very small section of the larger estate, with the remainder of the grounds, areas of woodland, and arable agriculture surrounding the site in general.

3.1.3 Several ponds were located within access to the site through desk study (Ordnance Survey Map, 2019); however, it was noted that all ponds within 500m of the site, with theoretical access to the proposed site, had been previously infilled. The proposed driveway will cross Rattlesden River.

3.2 Data Search

- 3.3.1 The following information is a summary of modern, local biological records collated from SBIS (2019).

Table 1 - Summary of local records

Species	Approximate Location	Year
European otter (UK & EU protected)	On proposed site/ Rattlesden River	2003/ 2013
European water vole (UK priority)	On proposed site/ Rattlesden River	2000/ 2009

3.3 Protected, Priority & Rare Species

Otters and Water Voles

- 3.4.1 The river and marginal habitats were assessed for evidence and suitability with regard to otters *Lutra lutra* and water vole *Arvicola amphibious*. Evidence of otter was found along the river in the form of spraints and a well-used 'slipway' approximately 10m from the proposed bridge crossing, on the south side of the river. Spraints were also found 110m north-west of the proposed crossing, on the north side of the river, and 125m south-east of the crossing, within the river. Additionally, crayfish and mussel remains were found in several locations along the river, with a significant pile of remains 120m south-east. Furthermore, a potential holt area was observed approximately 100m north-west where veteran trees had collapsed and lay horizontally on the ground approximately 10m away from the river. This area was within an undisturbed area of mature woodland with an understorey dominated by nettle *Urtica dioica*. A small piece of shell, likely from a crayfish was observed outside a 30cm diameter hole within the centre of a fallen mature tree at ground level. No spraints were found adjacent to the potential holt. The overall habitat was deemed very suitable for otter, however the point at which the crossing is proposed was found to be lacking in cover from vegetation or deadwood and the land proposed for impact is unlikely to be utilised by otters.
- 3.4.2 Evidence of water vole was found in the form of suspected burrows at the point of the proposed crossing on both sides of the river. Burrows were observed up to 50cm from the edge of the river. Burrows on the south side of the river appeared to be exploratory holes lacking in depth; this was likely due to the very shallow profile of the river on this side, and high water-level. Additionally, a small latrine was observed 50m north-west of the proposed crossing. Although no other latrines were observed, evidence of feeding in the form of characteristic 45-degree angle cutting of plants such as sedges were observed within 10m of the proposed crossing. Additional evidence of feeding was observed in several locations approximately 35m south-east. Furthermore, suspected water vole footprints were observed in areas where feeding remains had been located. Despite suspected burrows observed on the area proposed for crossing, the south side of the river was poor in quality for water voles due to lack of vegetation cover and flat profile (causing only

exploratory holes to do dug). The north side supported a more suitable bank profile, however vegetation cover was poor.

- 3.4.3 Following Water Vole Mitigation Handbook Guidelines (Dean et al., 2016), one latrine per 100m of bankside vegetation was observed in the first half of the survey season; consequently, it is likely a relative low population of water voles is present in the vicinity of the proposed bridge crossing.

4 DISCUSSION OF RISK AND LEGISLATION

4.1 Protected & Priority Species

Otters

- 4.1.1 Records of otter and water vole are present on the proposed site (SBIS, 2019). Additionally, evidence of otter and water vole were observed within close proximity of the proposed works.
- 4.1.2 The proposed creation of the driveway and particularly the bridge is considered low impact and small scale. It is desired to make the bridge as small as possible, though with the strength to support small lorries. In discussion with the architect and structural engineer it is understood that the footings could be created without an excavator and only using a handheld piling rig to push six-inch diameter steel rods into the ground. It is understood that the footings would be approximately 2m away from the riverbank. This would create a sufficiently large enough gap under the bridge should otters wish to get out of the water when travelling along the river and safely pass under the bridge on dry land. It of course should be noted that the cross is for personal use as a driveway and vehicle use would be very low and therefore if otter wanted to go completely around the bridge this could be undertaken in safety with negligible risk of harm from traffic.
- 4.1.3 Overall, with regard to otter, it was thought extremely unlikely that the proposed development would cause harm, obstruction or disturbance to the species. This was due to the small-scale of the development; a small bridge and single track lane, likely to be used only occasionally. Furthermore, the bridge footings will be at least 2m away from the river's edge, allowing continued terrestrial and riverine commuting and foraging. Furthermore, the suspected holt has excellent screening in the form of dense trees and shrubs, in addition to being approximately 100m away.
- 4.1.4 Therefore, further surveys or mitigation for the protection of otters were considered unnecessary. However, it was considered necessary to increase the impact avoidance precautionary measures originally detailed within the Preliminary Ecological Appraisal. Please see below for further detail.

Water Voles

- 4.1.5 Evidence of water voles was observed at the point of the proposed river crossing, approximately 50cm from the river's edge. Other evidence including feeding stations and a latrine were also observed greater distances away from the proposed construction zone. The low number of observed latrines suggests a low relative population of water voles present using this area of the river. It should also be noted that the proposed development would be unlikely to cause notable habitat loss or habitat fragmentation due to the proposed development.
- 4.1.6 Overall, it was considered that the proposed development, notably the construction of the new bridge footings, were considered to be a potential minor risk of impact, harm and/or disturbance to water voles. Therefore, it was considered necessary to provide mitigation to prevent harm during works and to provide habitat restoration/compensation programme for around the new bridge to quickly provide new and compensatory habitat post construction for feeding and shelter for water voles.
- 4.1.7 Footings are to be hand dug approximately 2m from the bank edge. To achieve this without causing any incidental mortality through direct impact, or entombing of animals and damage to burrows, it is recommended that a, suitably experienced and licensed, water vole ecologist be present for key works, detailed later. Additionally, it is recommended that loss of potential burrows is mitigated through the provision of and creation of enhanced bankside vegetation along the river, detailed later. Further recommendations to limit disturbance or harm to water voles are detailed later in the report.

Other Protected, Priority or Rare Species

- 4.1.8 No other signs or evidence of other protected, priority or rare species were noted and the risk of impact to such from the proposed development was considered negligible.

5 RECOMMENDATIONS

5.1 Impact Avoidance Precautionary Measures & Habitat Compensation

Precautionary Measures - General

- 5.1.1 Precautionary measures recommended in the PEA undertaken by Skilled Ecology Consultancy Ltd (2019) should still be undertaken, unless they are superseded by the following recommendations.
- 5.1.2 Working hours of the planned development should be limited to between two hours after sunrise and two hours before sunset (this can be reduced to one hour between November and February) when working within 100m of the river.

- 5.1.3 Lighting of the river should be eliminated beyond the aforementioned working hours during the construction phase.
- 5.1.4 Lighting within 20m of the river post-development should be, at most, in the form of low-level motion-sensor lighting or light-reflectors. No permanent lighting should be installed.
- 5.1.5 A means of escape for wildlife should be built into the proposed cattle-grid. This should be in the form of a gently sloping ramp (approximately 20 degrees) in one corner of the pit. The surface of the ramp should be rough to allow purchase and prevent slipping. British Standard 4008: 1973 provides useful information on the safe creation of cattle grids for wildlife.

Otters

- 5.1.6 A suitably experienced ecologist should be present when works within 5m of the riverbank commence to re-inspect the riverbank and nearby area for otters or any newly created holts etc.
- 5.1.7 No site operative will be permitted to go further west along the northern side of the river than 25m west of the proposed crossing point. This should be enforced by the use of heras fencing to define the construction zone in close proximity to the river.
- 5.1.8 A clear space of at least 1m should be created under the bridge so that otters that wish to leave the water to travel under the bridge can do so in safety.
- 5.1.9 Precautionary measures for water voles below, further limit risk of impact to otters.

Water Voles

- 5.1.10 A suitable licensed and experienced water vole ecologist should be appointed to supervise works for the bridge construction and provide any necessary correspondence and reporting to Natural England. The below recommended mitigation has been produced in consultation with water vole licensed ecologist Derek Gow (Derek Gow Consultancy Ltd.):
- To prevent bankside vegetation from improving for water voles before works commence, it is recommended that sheep grazing should continue on the southern bank. To maintain bankside vegetation short on the northern bank, it may be necessary to reduce this by strimming under ecological supervision by the water vole licensed ecologist before works commence;
 - Ecological supervision of all excavation/piling to create footings for the new bridge.

- Proposed works should be undertaken during the main active period for water voles (March until end of October) to prevent encountering/disturbing overwintering water voles.
- Following bridge creation, it is recommended that two 20m lengths of habitat along the riverbank should be improved for water voles through reducing the immature trees/scrub at the waters edge on the northern bank, visible in Photograph 1 in Appendix 2. This will allow light penetration to the ground floor improving herbaceous plant growth increasing cover and foraging habitat for water voles. It would also help to prevent/reduce sheep access to the bank edge on the southern bank to allow vegetation heights to increase.

5.1.11 Monitoring is understood to not be required by Natural England for such a small project.

5.1.12 Given the small-scale of the proposed development and presence of otters in the vicinity to the site, it was considered unnecessary and impractical to undertake mink management. Indeed, no further evidence of mink activity were identified close to the site, this could be due to the local otter population chasing mink away.

6 CONCLUSION

6.1 Evidence of otter and water vole was observed in close proximity to the proposed development and planned bridge crossing point.

6.2 Recommendations, including the supervision of works by a suitably licensed and experienced water vole ecologist, bank vegetation improvements, timing constraints of construction works and lighting minimisation guidelines are detailed.

6.3 Further surveys or further mitigation were deemed unnecessary.

7 REFERENCES

Dean, M., Stachan, R., Gow, D., and Andrews, R. (2016). *The Water Vole Mitigation Handbook* (Eds. Fiona Matthews & Paul Chanin). The Mammal Society, London

Gaskin, J. (2017). *Water Vole Conservation and Management: Lessons From Four Case Studies* (Thesis). Aston University.

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SBIS (2019). *Data Search Results – Onehouse*. SBIS, Ipswich.

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8 APPENDICES

8.1 Appendix 1: Maps

Figure 1 – Map of proposed site. 20th April 2019.














-  Indicative location of proposed new driveway
-  Rattlesden River (Priority Habitat)
-  Existing driveway
-  Rectory Road
-  Deciduous Woodland Priority Habitat
-  Woodpasture and Parkland Priority Habitat - sheep grazed grassland
-  Woodpasture and Parkland Priority Habitat - tree cover
-  Indicative location of potential otter holt area
-  Indicative location of evidence of otter
-  Indicative location of water vole burrows
-  Indicative location of evidence of water vole

Figure 2 – Proposed plan



8.2 Appendix 2: Photographs

Photograph 1 – View of proposed river crossing area from south. 20th April 2020.



Photograph by James Pickerin 2020

Photograph 2 – View of proposed river crossing area from north. 20th April 2020.



Photograph by James Pickerin 2020

***Photograph 3 – View of water vole burrow on northern side of proposed river crossing.
20th April 2020.***



Photograph by James Pickerin 2020

Photograph 4 – Close up view of water vole burrow. 20th April 2020.



Photograph by James Pickerin 2020

Photograph 5 – View of sedge cut at 45 degree angle by water vole approximately 20m from the proposed bridge. 20th April 2020.



Photograph by James Pickerin 2020

Photograph 6 – View of area with water vole prints approximately 100m from the proposed bridge. 20th April 2020.



Photograph by James Pickerin 2020

Photograph 7 – View of water vole dropping pellets. 20th April 2020.



Photograph by James Pickerin 2020

Photograph 8 – View of otter spraint site and slipway. 20th April 2020.



Photograph by James Pickerin 2020

Photograph 9 – View of otter feeding remains. 20th April 2020.



Photograph by James Pickerin 2020

Photograph 10 – View of otter spraint site. 20th April 2020.



Photograph by James Pickerin 2020

Photograph 11 – View of crayfish feeding remains. 20th April 2020.



Photograph by James Pickerin 2020

Photograph 12 – View of potential holt site 100m from the proposed bridge. 20th April 2020.



Photograph by James Pickerin 2020