SPRING GROVE GREEN POWER

Riparian Mammal Report

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1.0 Introduction

SLR Consulting Ltd (SLR) was commissioned by Acorn Bioenergy Ltd in May 2022 to carry out a riparian mammal survey for the proposed development at the site development known as Spring Grove Green Power, located in Haverhill CB9 7SW in West Suffolk (herein referred to as the "Site").

This will inform the planning process in respect of the proposed development of the application site. The proposed development would involve construction of an anaerobic digestion facility. Further details of the proposed development are provided below in Section 1.1 below.

This report presents the findings of the surveys undertaken for otter *Lutra lutra* and water vole *Arvicola amphibius* in August and September 2022 and provides the baseline information in respect of the status of this species at the Site to inform any mitigation that may be required to ensure compliance with current wildlife legislation and policy.

The assessment of impacts resulting from the proposed development and the detailed development of mitigation measures, if required, are beyond the scope of this report.

1.1 Site Description and details of the Proposed Development

The Proposed Development is located north of Spring Grove Farm and the A1307, approximately 250m to the west of the edge of the settlement of Haverhill, in West Suffolk District, in the county of Suffolk. It lies immediately to the northeast of the administrative boundary with South Cambridgeshire District, which defines part of the application boundary to the Proposed Development.

The Proposed Development comprises two distinct components, being, firstly, an anaerobic digester plant (the 'AD plant site') and, secondly, a buried pipeline connecting to an offsite digestate lagoon (the 'pipeline and digestate lagoon site').

The AD plant site comprises two adjoining fields pertaining to Spring Grove Farm – Bowsey field and Spring Grove field. It is proposed that Bowsey field will house most of the Site infrastructure, utilising a marginal area of Spring Grove field to the east. The pipeline site extends north from the AD plant to connect to a new digestate lagoon, located approximately 2.5km due north of the AD site beside Cadge's Wood.

Anaerobic Digester (AD) plant site

Bounded by established trees and hedgerow of varying density to the north and west, Bowsey field and Spring Grove field are bordered by an additional tree belt of substantial depth extending along southern boundary. The Stour Brook runs west to east along the southern boundary of the Site and is flanked by the broadleaved woodland/riparian corridor describe above.

Pipeline and digestate lagoon Site

The pipeline and digestate lagoon Site includes several relatively large-scale, arable fields located to the north-west of Haverhill, and west and north of Withersfield.

The pipeline would extend north of the main AD Plant site through arable fields located between ancient woodland blocks of Howe Wood, Lawn Wood and Littley Wood, with at least 150m standoffs to each.

Cadge's Wood an ancient woodland, is located adjacent to the west of the digestate lagoon site and north of the end of the pipeline Site. North Wood (ancient woodland) is approximately 300m to the east of the digestate lagoon site.

1.2 Evidence of Technical Competence and Experience

Darcey Haldar, Graduate Ecologist at SLR undertook the survey and wrote this report, has a Master's degree in Conservation Ecology and over one year's experience working within ecological consultancy. She is a Qualifying member of Chartered Institute of Ecology & Environmental Management (CIEEM).

Blake Perkins, Graduate Ecologist at SLR, undertook the survey work, has a MSc in Plant and Fungal Taxonomy, Diversity and Conservation. He has over one years' experience in ecological studies and monitoring and is a Qualifying member of the CIEEM.

Ruth Holland ACIEEM, who reviewed this report, is an Associate Ecologist, with a BSc in Ecology and Conservation Management and a MSc in Biological Recording. She has over nine years of experience as a professional ecological consultant, during which time she has worked on many development projects.

1.3 Study Aims and Objectives

This report presents the findings of the otter and water vole surveys. The report seeks to establish baseline conditions and identify habitats that may be important for these species.

The main objectives of the work were to:

- identify the extent of suitable habitat for otter and/or water vole within the Survey Area;
- determine the presence/absence of otter and/or water vole within the Survey Area; and
- evaluate the importance of the water vole and/or otter populations (if present) in a local, regional and national context.

1.4 Relevant Legislation and Policy

Water vole and otter are fully protected through inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). In brief, this legislation makes it offence to:

- Intentionally capture, kill or injure water voles and otters;
- Damage, destroy or block access to their places of shelter or protection (on purpose or by not taking enough care);
- Disturb them in a place of shelter or protection (on purpose or by not taking enough care); and
- Possess, sell, control or transport live or dead water voles or otters or parts of them (not bred in captivity).

Water vole and otter are also a Species of Principal Importance ((as listed in Section 41 of the Natural Environment and Rural Communities Act (NERC) 2006)). There is a requirement that adverse effects of development on a Species of Principal Importance should be avoided through planning conditions or obligations and that planning permission should be refused where harm to these species, or their habitats, may result, unless the need for, and benefits of, the development clearly outweigh the harm.

2.0 Methodology

2.1 Desk Study

Cambridgeshire and Peterborough Environmental Record Centre (CPERC) was contacted for statutory and non-statutory designated sites and protected and notable species records within 2 km of the Site and the data was received on 25th February 2022. They also provided records from Suffolk Biodiversity Information Services (SBIS) as the Site crosses the boundary for both record centres.

An internet-based desk study was also undertaken, including a Multi-Agency Geographic Information for the Countryside MAGIC data search and previous surveys and reports were reviewed as part of the desk study.

2.2 Field Surveys

The riparian mammal surveys were conducted on 16th August and 27th September 2022 following current best practice methods[1][2][3].

The surveys involved searching for and recording evidence of water vole and otter presence and activity, such as droppings/latrines, burrows, feeding signs, footprints, above-ground nests and runs through vegetation. The survey area is shown on Drawing 1.

Field evidence of other species that may be relevant to the conservation of water vole were also recorded if present; such as brown rat *Rattus norvegicus* and American mink *Neovison vison*.

The surveys were undertaken as the initial development designs comprised the culverting of the watercourse. Since then, the plans have changed, and it is no longer going to be culverted. All watercourses were subject to a habitat assessment only and were not subject to a detailed survey as these will not be directly impacted by the development proposals. However, due to their close proximity to the Site they were assessed for any potential indirect effects which may result from the development proposals.

The approach above was considered proportionate to the scale of the current development proposals and the potential impacts on water vole and otter.

2.2.1 Limitations

Desk Study

Desk study data is unlikely to be exhaustive, especially in respect of species, and is intended mainly to set a context for the study. It is therefore possible that important habitats or protected species not identified during the data search do in fact occur within the vicinity of the Site. Interpretation of maps and aerial photography has been conducted in good faith, using recent imagery, but it has not been possible to verify the accuracy of any statements relating to land use and habitat context outside of the field study area.

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[1] Dean, M (2021). *Water Vole Field Signs and Habitat Assessment, A practical Guide to Water Vole Surveys*. Pelagic Publishing, UK.

[2] 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.

[3] Strachan R, et al., (2011) *Water Vole Conservation Handbook* 3rd Edition. Wildlife Conservation Research Unit, Abingdon.

Field Surveys

The surveys took place within the main active season for water vole (late April to early October). The survey area was fully accessible during the surveys.

It is considered that the survey methods and the weather conditions in the days prior to and during the survey was sufficient to detect the presence or absence of the species.

Finally, an ecological study provides only a "snapshot" of the conditions prevailing at the time of survey. Lack of evidence does not necessarily preclude water vole from being present within an area at a later date; the species is highly mobile and can move in response to changes in environmental factors.

3.0 Results

CPERC and SBIS returned no records of water vole or otter from the data search within a 2 km search radius of the application Site.

During the UKHab Survey on 28th February 2022 small mammal holes were observed in the banks (Figure 1).

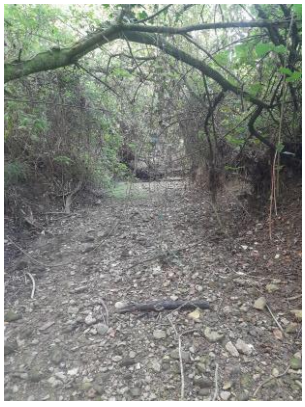
Figure 1- Mammal holes in ditch observed during PEA

Surveys conducted by SLR on 16th August and 27th September 2022 showed no signs of water vole anywhere on site and ditches were dry.

A description of the watercourses surveyed and their potential to support water vole is provided in the Table 3-2 below; refer to Drawing 1 for locations of watercourses within the wider context of the Site. The value of the habitat for water vole has been assessed against Table 2.1 in Water Vole Field Signs and Habitat Assessment, A Practical Guide to Water Vole Surveys (Dean, M. 2021).

Table 3-1 Summary of Features and their Habitat Suitability for Water Vole

Watercourse Reference Number & Photograph	Description	Evidence of water vole or otter
1 	The banks were steep, approximately 45-degrees. No water. Ditch 3 m wide, 2 m in depth. Clay substrate. Dense scrub and woodland to the south, arable land to the north. Vegetation within ditch: creeping thistle *Cirsium arvense*, nettles *Urtica dioca*, pendulous sedge *Carex pendula*, yellow flag *Iris pseudacorus*, water mint *Mentha aquatica* and silty in texture. The water was about 1 cm in depth, and 30 cm wide, with slow flowing water. This stream is assessed as unsuitable habitat for water vole.	No evidence of water vole or otter.
2 	Same as above, with addition of hairy willow herb *Epilobium parviflorum*, coltsfoot *Tusilago farfara*, bittersweet nightshade *Solanum dulcamara* within the ditch. This stream is assessed as unsuitable habitat for water vole.	No evidence of water vole or otter.
3 	Same as above, but with a greater density of nettles. This stream is assessed as unsuitable habitat for water vole.	No evidence of water vole or otter.

Watercourse Reference Number & Photograph	Description	Evidence of water vole or otter
4 	Steep banks, 80-90 degrees. No water. Ditch 5 m width, 1.5 m depth. Sandy, gravel substrate. Woodland to the north and south of the ditch (shaded). No vegetation within ditch - dead wood present. This stream is assessed as unsuitable habitat for water vole.	No evidence of water vole or otter.
5 	Steep banks, 80-90 degrees. No water. Ditch 3 m width, 1.5 m depth. Substrate includes sand, gravel and larger stones with byrophytes Woodland to the north and south of the ditch (shaded). No vegetation within ditch, dead wood present. This stream is assessed as unsuitable habitat for water vole.	No evidence of water vole or otter.
6 	Same as above. This stream is assessed as unsuitable habitat for water vole.	No evidence of water vole or otter.

Though the ditch was dry during the survey in August and September, it was not the case during the UKHab survey in February (Figure 2). It is possible that habitat suitability was higher during the earlier parts of the

year, and results may be different if it had been surveyed during spring. The Site may provide suitable habitat for parts of the year.

Figure 2- Ditch during the UKHab survey in February 2022

4.0 Evaluation

A water vole and otter survey was carried out by SLR on 16th August and 27th September 2022 of watercourses present on an area of arable land near Haverhill (survey area shown on Drawing 2). During the survey conducted, no water vole or otter evidence was discovered.

A habitat assessment was conducted of the watercourse and 100 m up and downstream, and all watercourses were assessed as unsuitable for supporting water vole. This was due to them being dry, highly vegetated, rocky substrate, shaded and/or containing steep banks.

It is possible that otters may commute through the Site but with the absence of water, the Site provides few foraging opportunities.

It is possible that the eastern section of the stream could have provided suitable habitat for water vole in previous years or earlier in the year, if weather conditions led to higher water levels and ditches were managed for vegetation; however, the western section of the stream runs through mature woodland, the canopy cover leads to low light levels and a lack of understory vegetation which would support water vole.

In the absence of other field signs, it is likely that the mammal burrows observed during the UKHab survey in February 2022 were created by other small mammals such as rat.

4.1 Recommendations for Further Surveys

The surveys conducted at the Site and their findings are considered sufficient to evaluate the baseline situation to facilitate the proposed development without the requirement for further survey.

The precise details of the proposed development, e.g., construction timings, working methods and the standoff from retained watercourses maybe subject to change; in the event of any substantial changes to the footprint of proposed development, or any delays to the proposed construction programme, further surveys may be required.

4.2 Potential Opportunities for Biodiversity Enhancements

Detailed development plans are not available at this time, therefore, the recommendations listed below to provide nature conservation enhancements, as required under local planning policy, are very generic. The list below is not exhaustive and may change depending on the detailed design of the development.

Potential Opportunities:

- The connectivity between watercourses and other habitats could be enhanced to provide more opportunity for water vole and otter to expand their population range to other areas which will allow their population to increase in size in the future; and
- Evaluation of all future ditch management work to include limiting major maintenance work (i.e., de-silting, bank re-profiling, flail mowing, etc.) to one bank per year and working shorter lengths of the ditch at any one time in order to help with the conservation of water voles.

5.0 Conclusions

No evidence of water vole or otter was identified during the survey. It is considered that the Site supports a negligible population of water vole and otter.

Recommendations have been included for opportunities for biodiversity enhancement.

DRAWING 1

Survey Extent

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