

The Lighthouse Green Fuels Order

Application Reference: EN0110025

Applicant: LGF Projects Limited

Environmental Statement Volume III Appendix 10E: Riparian Mammals Survey Report

Document Reference: 6.3.13

Revision: 00

APFP Reg. 5(2)(a), 5(2)(l) and EIA Reg. 14

Document information

Document Title	ES Appendix 10E: Riparian Mammals Survey Report
Document Ref	6.3.13
Author	INCA

Revision record

00	Purpose	DCO Application Submission
	Date	September 2026

Information classification

Information Classification	Date	Reason
Public	September 2026	Proprietary information which will have no impact on the company if disclosed publicly

Alfanar
Riparian Mammal Report
(Interim)

Ian Bond

May 2026



Contents

Executive Summary	3
1. Introduction	3
2. Legislation, Planning Policy, and Guidance	3
3. Methodology.....	4
4. Baseline Ecological Conditions	6
5. Results	7
6. Discussion and Recommendations	8
7. Conclusions	9
8. Disclaimer	9
Appendix 1. Red Line Boundary	9
Appendix 2. Survey screening table	17
Appendix 3. Site Photos.....	19
Appendix 4. INCA Otter records	22

Executive Summary

This report, commissioned by Alfanar details investigations into the presence of water vole *Arvicola amphibius* and otter *Lutra lutra* in relation to the red line boundary (RLB) of the Lighthouse Green Fuels project.

Survey effort was confined to those watercourses and waterbodies within or close to the redline boundary which had the potential to support one or both of these species and for which historical records and current knowledge indicate there was a reasonable likelihood of those species being present.

No signs of water voles or otters were found during the surveys though otters are known to be present throughout the area and being highly mobile could occur in almost any location close to a waterbody or watercourse. Water voles are considered likely to be extinct within at least a 2km radius of the RLB.

1. Introduction

1.1 INCA has been commissioned by Alfanar to undertake a survey for riparian mammals on various water courses and water bodies in the Teesside area in relation to the RLB for the Lighthouse Green Fuels project. This includes an initial desk study of existing information to inform the scope of field surveys.

1.2 The aim of this survey is to identify the presence or potential presence of water vole and otter within the study area.

2. Legislation, Planning Policy, and Guidance

2.1 Legislation

2.1.1 Water voles and otters are protected under the Wildlife and Countryside Act 1981¹. Otters are also a European protected species, protected under the Conservation of Habitats and Species Regulations 2017².

For both species it is an offence to intentionally:

- kill, injure, or take them
- possess or control them (alive or dead)

It is also an offence to intentionally or recklessly:

- damage or destroy a structure or place used for shelter or protection
- disturb them in a place used for shelter or protection
- obstruct access to a place used for shelter or protection

¹ <https://www.legislation.gov.uk/ukpga/1981/69/enacted>

² <https://www.legislation.gov.uk/uksi/2017/1012/contents/made>

2.2 Planning Policy

2.2.1 Water voles and otters are both listed as a Priority species under Section 41 of the Natural Environment and Rural Communities Act (2006)³. Section 41 species are a material planning consideration.

2.2.2 The presence of Water Voles is a criterion for the selection of Local Wildlife Sites in the Tees Valley. All sites where a good population of water vole is present, including areas of suitable habitat that link good populations even when these areas are not currently occupied, should be selected as a Local Site. A “good population” is not defined but given the severe and continued decline of Water Vole populations, then in practice all non-statutory sites in the Tees Valley where Water Vole is currently resident have been selected.

2.3 Guidance

Guidance on surveying for Water Voles is set out in the Water Vole Conservation Handbook 2011, published by the Wild Conservation Research Unit, University of Oxford, and the Water Vole Mitigation Handbook 2016, published by the Mammal Society.

The Chartered Institute of Ecology and Environmental Management had produced guidance on the competencies required to undertake otter surveys. Guidance from NatureScot advises that all suitable habitat within 200m of the development should be surveyed.

3. Methodology

3.1 Desk Study

Information on the known distribution of water voles and otters in this desk study is based principally on INCA’s own data but includes information provided by staff at RSPB Saltholme and other information that is reasonably considered to be in the public domain. It concentrates on records within a 2 km radius of the extremities of the RLB but data from further afield has been incorporated where it gives further context. The information presented in section 4 is to be read as a contextual summary of the available data rather than a detailed list of records. A list of INCA’s otter records that potentially have relevance to the RLB are given in Appendix 4.

3.2 Screening of survey sites.

The watercourses and waterbodies which lie within or close to the RLB are shown in Appendix 1. The rationale for whether a water vole and otter survey was required for each of those watercourses and waterbodies is set out in Table 2 in Appendix 2.

Water vole surveys were recommended for the ditches numbered 1-10. These lie either side of the A178 road and are all connected with the exception of ditch 10.

Otter surveys were recommended for watercourse 27, Dabholm Gut and watercourse 56, Dabholm Beck, along with waterbody 9, Bran Sands Lagoon.

³ <https://www.legislation.gov.uk/ukpga/2006/16/section/41>

3.3 Field Survey

3.2.1 Water vole

In line with guidance, two surveys are planned, one early in spring (April - May) with the second in mid-summer (July - August). At the time of this interim report only the spring survey has been undertaken.

The survey involved walking the length of both banks of the watercourses that have been identified for survey and looking for signs of water voles. Due to access restrictions that are currently in place it was only possible to survey ditches 7, 8 and 10.

Ditch 8 extends 150m to the west of the RLB at which point it joins a second ditch which runs for approximately 100m north-south. In addition to the part of ditch 8 which is in the RLB, the remainder of the ditch and adjoining ditch were surveyed in their entirety to check if water voles were present in the wider area.

In addition to seeing the animal itself there are several signs that can indicate the presence of water voles. Of these the only two that are considered to be definitive evidence of presence are their droppings, usually deposited in latrines, or burrows of an appropriate size either the bankside or immediately above it accompanied by signs of grazing around the entrance to the burrow. However other signs that might indicate the presence of water voles, such as feeding remains were also looked for.

The first survey was carried out on 20 May 2026 and was undertaken by Ian Bond CEnv MCIEEM and Robert Woods ACIEEM, who are both experienced surveyors for water voles.

3.2.2 Otter

Otter surveys can be undertaken at any time of year, with the number of surveys and the survey effort dependent on the particular objective of the survey. In the case of this survey the objective was to determine whether otters are resident close to the RLB and in particular if they have any resting places that might potentially be impacted by the development.

Both Dabholm Gut and Dabholm Beck are steep-sided and it was not possible to access the base of them. Instead, both were inspected through binoculars from the bankside and other vantage points such as bridges.

The otter survey was undertaken on 19 May by Sue Charlton MCIEEM who is an experienced surveyor for riparian mammals, accompanied by Morgan Robson-Young, who is an ecologist with INCA.

3.3 Limitations

It was not possible to survey ditches 1-6 or 9. These will be surveyed in summer, subject to access, but some assessment can be made of them based on existing knowledge of those ditches.

It was not possible to survey approximately 10m of ditch 7 as it was not accessible.

It was not possible to survey the extreme western end of Dabholm Gut due to issue with potential disturbance to nesting birds. The remainder of Dabholm Gut and Dabholm Beck were accessible for survey. It was not possible to survey Bran Sands Lagoon at this time due to lack of access; this will be surveyed at a later date.

4. Baseline Ecological Conditions

4.1 Water Vole

4.1.1. South Tees

The most recent record of Water Voles from the borough of Redcar and Cleveland is from Chapel Beck in Guisborough in 2016. No other post 2010, verified records for the borough are known. Water Voles are consistently present on various watercourses in the borough of Middlesbrough and this area may justifiably be regarded as a stronghold for the species in the North East. The extent of their distribution between the watercourses in Middlesbrough, as determined by surveys for their signs, appears to vary between the years in which surveys have taken place. The closest of these watercourses to the RLB with recent (post 2020) records is Spencer Beck, which is approximately 5km to the south-west of the closest part of the RLB. There is insufficient suitable habitat for a population of Water Voles between the RLB and Spencer Beck and there have been no records of Water Vole, south of the Tees that are any closer to the RLB than Spencer Beck for almost two decades. The need for Water Vole surveys on watercourses and waterbodies south of the Tees has therefore been scoped out.

4.1.2 North Tees

The only location on North Tees where there have consistently been records between years and where there is known to be an established population of Water Voles is at RSPB Saltholme. RSPB staff monitor latrine sites and mink rafts irregularly, with their efforts being concentrated on the large reed bed to the north of the visitor centre and two ditches to the south-west of the main lake. Almost all records at Saltholme occur within these areas though in 2022 several latrines were found on Belassis Beck, 2km to the west of the RLB, by ecologists from AECOM. Following the sighting of an American Mink *Neovison vison*, in early 2025 there have been no subsequent records of water voles from Saltholme.

Only a few records are known in the wider North Tees area for the period since 2010 though the species was significantly more widespread in the decade prior to that. The post-2010 records are all shown in Table 1. In addition to the records in Table 1, possible Water Vole feeding signs were found by RSPB staff at Cowpen South in 2026, but these cannot be taken as definitive evidence of presence.

Table 1. North Tees Water Vole records post 2010 (other than at Saltholme)

Date	Location	Relation to red line boundary
2011	Cowpen Marsh	Exact location unknown but separated from the RLB by the A178 and A1185 roads
2014	Tributary of Cowbridge Beck	3km North-west of the RLB
2018 - 2021	Greenabella Marsh	Approx 2km north and separated by the intertidal Greatham Creek
2019	Holme Crook, Cowpen Marsh	Separated from the RLB by the A178 and A1185 roads
2019	Ditch between Cowpen Marsh and restored landfill site	1.5km West of the RLB
2021	Cowpen Marsh	Separated from the RLB by the A178 and A1185 roads

As far as can be ascertained, there has only ever been a single known record of Water Vole from the area east of the A178 and south of Greatham Creek, which was from Dorman's Pool at grid reference NZ5122 in 2009.

4.1.3 Designated Sites

There are two designated sites, which are approximately 2km from the closest point of the RLB, which have Water Vole listed as a qualifying feature. These are Greenabella Marsh LWS and Phillips Tank Farm LWS, though the species has not been recorded on Phillips Tanks Farm since the early 2000s. Both are in the borough of Hartlepool and both are separated from the survey area by Greatham Creek which is a broad intertidal inlet of the River Tees and likely to form an effective barrier to dispersal by Water Voles.

4.2 Otter

Otters were first noted as recolonising Teesside in the early 2000s. They have subsequently been recorded on most of the larger watercourses and waterbodies on Teesside including within public parks. They have also been recorded along parts of the coast. South of the Tees they are known to have bred on Coatham Marsh. North of the Tees they have bred on the large pools that are managed by RSPB Saltholme, either side of the A178. Road casualties of otters on the A178 between these pools are something of the order of an annual occurrence. Photographs of otters on Teesside feature often on social media. Unfortunately, these do not usually appear as formal records but they do illustrate the regular and widespread presence of otters in the area.

Based on the wide distribution and the regularity of the records it would be reasonable to assume that otters have colonised all of the suitable habitat on Teesside. In addition to the larger watercourses and waterbodies, they will commute along smaller watercourses as well as over open ground away from water and as they have very large home ranges, sometimes extending for several miles, they could potentially turn up in almost any location. However, they are only likely to be resident, with established resting places, in the larger watercourses and waterbodies.

5. Results

5.1 Water vole

There were no signs of water voles in ditches 7, 8 and 10.

Ditch 8, shown in photograph 1, Appendix 3, appeared to be ideal for water voles in its current state. Although there is considerable growth of reeds, there is open water between the reeds and steep, grassy banks on each side which would be suitable for creating burrows. There were numerous small areas of mud or flat areas of grass at the base of the banks, which would have been suitable for water voles to create latrines on. Neither latrines nor burrows were found, nor were any other less definitive signs. Ditch 7 is essentially an extension of ditch 8. Ditch 10, which can be seen in photograph 2, Appendix 3, had no open water though the water table was at the surface. The ditch was approximately 45cm wide and was full of emergent vegetation, mainly Sea Club Rush *Schoenoplectus maritimus*.

5.2 Otter

There were no signs of otter in Dabholm Gut or Dabholm Beck.

The banks of both watercourses were constructed of Riprap and whilst this was still largely exposed along the Gut the Beck was fairly well vegetated with patches of dense bramble scrub. The Riprap was generally compact with no observable gaps that an otter could use as a resting place. With

regards to the western section, although no access was possible during this survey, it is known from other surveys that there are a small number of gaps in the Riprap at that end.

6. Discussion and Recommendations

6.1 Water voles

Although it was not possible to survey ditches 1-6 and 9, some assessment of their likelihood to support water voles can be made from existing knowledge and the results of this survey.

Ditch 9 is similar in nature to ditch 10, i.e. narrow and full of emergent vegetation. Therefore, it is likewise unlikely to support water voles.

Based on existing knowledge, ditches 4, 5 & 6 are cut into made ground. This is a hard substrate most likely iron slag, making it unlikely that water voles could burrow into the banks, except on the upper levels above the water. As they are linear it is likely that ditches 2 & 3 and part of ditch 1 are of the same nature.

Ditch 1 is a continuation of ditches 7 & 8 and from aerial photographs the section closest to ditches 7 & 8 looks to have the same habitat features. Water voles were absent from ditch 8, despite it being seemingly ideal habitat. In addition, in 2024, the junction of ditch 8 with the ditch at its western end was the location of one of the last records of water vole in the North Tees area. If water voles are not present in ideal habitat in one of their last known locations, then it is unlikely that they are present in the wider area.

A second water vole survey in summer will be required for ditches, 1, 7 & 8. Although they are less optimal habitat, it is recommended that surveys of ditches 2-6 are also included in the summer survey. Ditches 9 & 10 are unsuitable to support water voles and can be discounted as needing further survey.

6.2 Otters

No signs of otters were found on Dabholm Gut or Dabholm Beck at the time of the survey however there are several historical records of otters from both locations. As these watercourses are the only riparian corridor between Coatham Marsh and the River Tees it is likely that they are regularly used by otters for commuting.

Notwithstanding the western end of Dabholm Gut, which could not be surveyed on this occasion, no possible locations for otter resting places were observed. Given that both Dabholm Gut and Dabholm Beck lie adjacent to a very busy working corridor, it is likely that these areas are too disturbed for otters to use as resting places.

Bran Sands Lagoon will be subject to less disturbance than either Dabholm Gut or Dabholm Beck and it is likely that otters use it at least on occasion for foraging. It is recommended that it is surveyed to determine its potential for otter resting places. In line with guidance, the survey should be limited to those areas within 200m of the development.

7. Conclusions

Water voles were absent from the ditches that were surveyed, despite some of those ditches appearing to be optimal habitat. A further survey for water voles in the ditches with suitable habitat is recommended. This would be carried out in summer in line with water vole survey guidance.

No signs of otters were found on Dabholm Gut and Dabholm Beck. Neither watercourse is likely to support otter resting places though otters are likely to commute along both on a regular basis. A survey of the part of Bran Sands Lagoon is recommended to determine if it supports otter resting places.

8. Disclaimer

This report has been produced for Alfanar. The report, and the data within it, belong to Alfanar and are not to be used for any other purpose nor relied upon by any third party, without the express permission of Alfanar.

Unless otherwise stated, the images displayed in this document are INCA copyright or reproduced with permission of the copyright holder. The images are not to be reproduced without the express permission of INCA.

Report prepared for and on behalf of the
Industry Nature Conservation Association by:



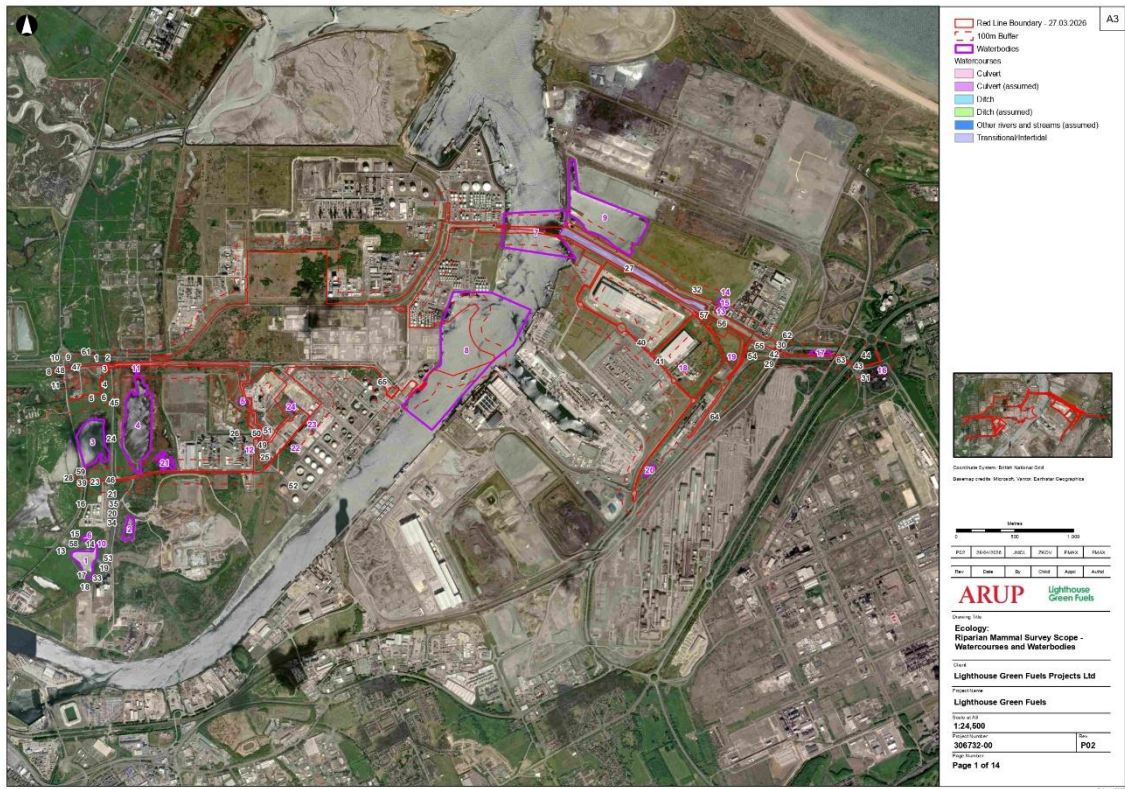
Ian Bond
May 2026

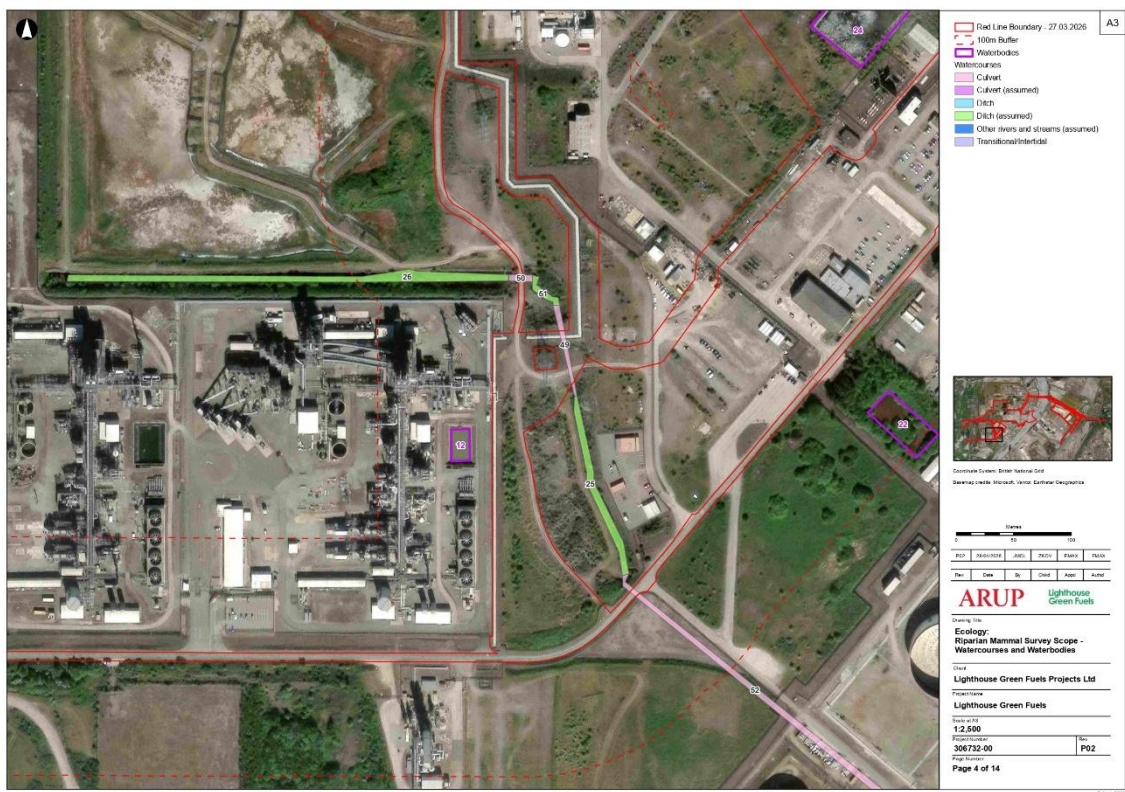
Checked by:

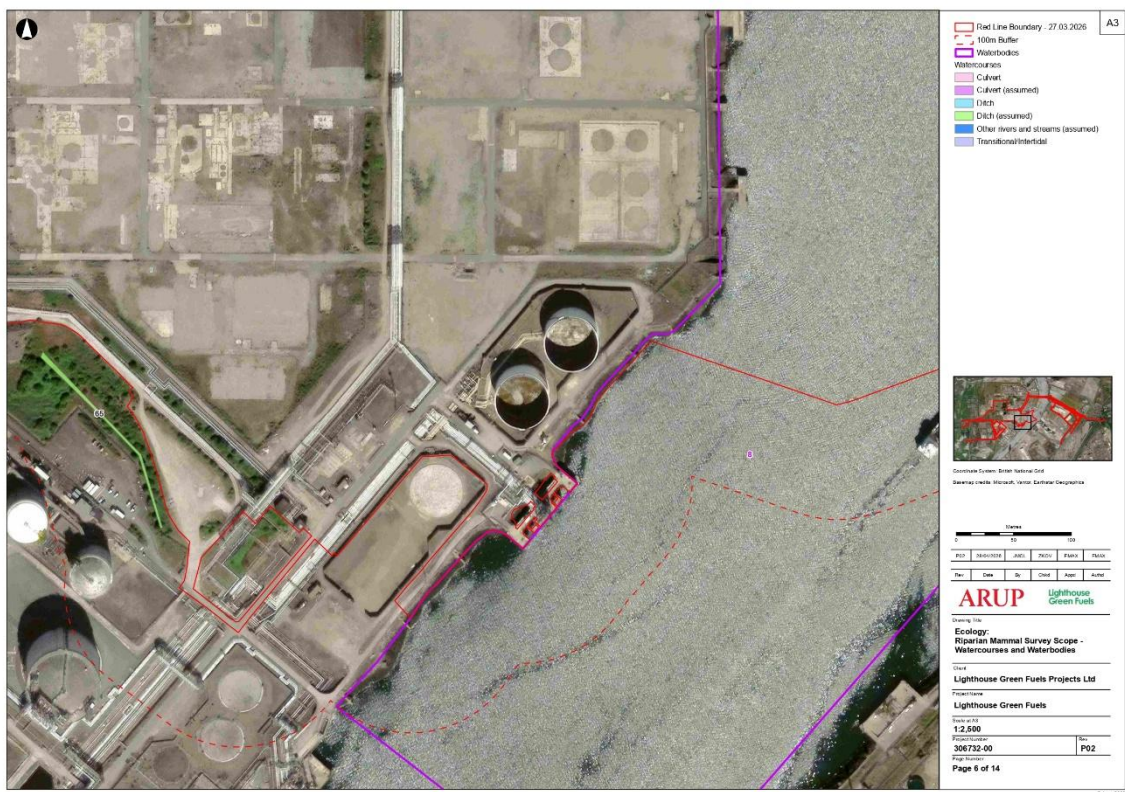


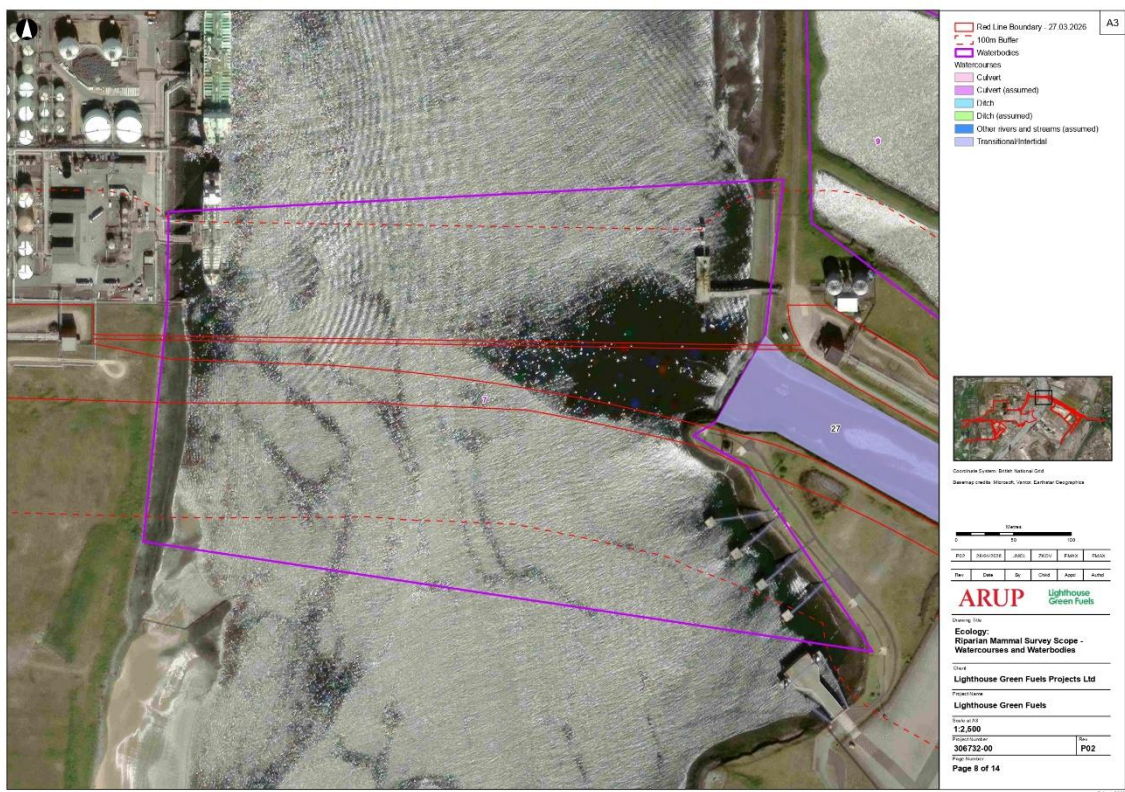
Mark Morris
Ecologist
May 2026

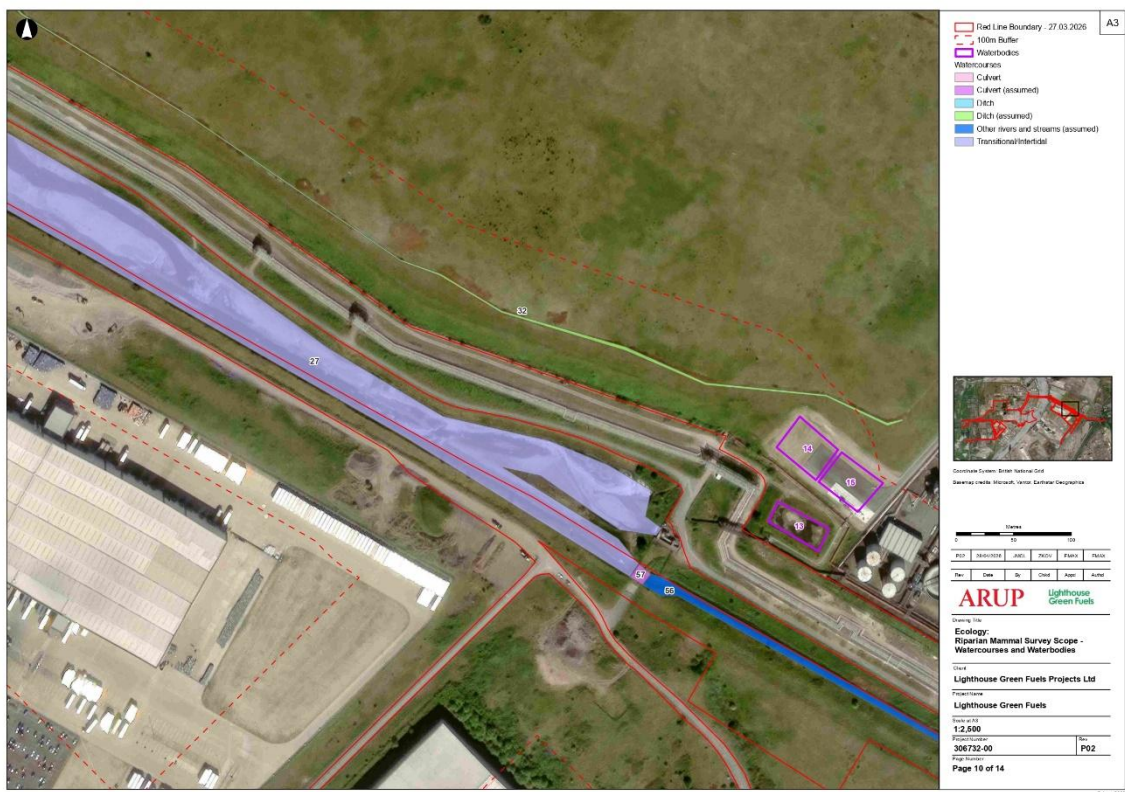
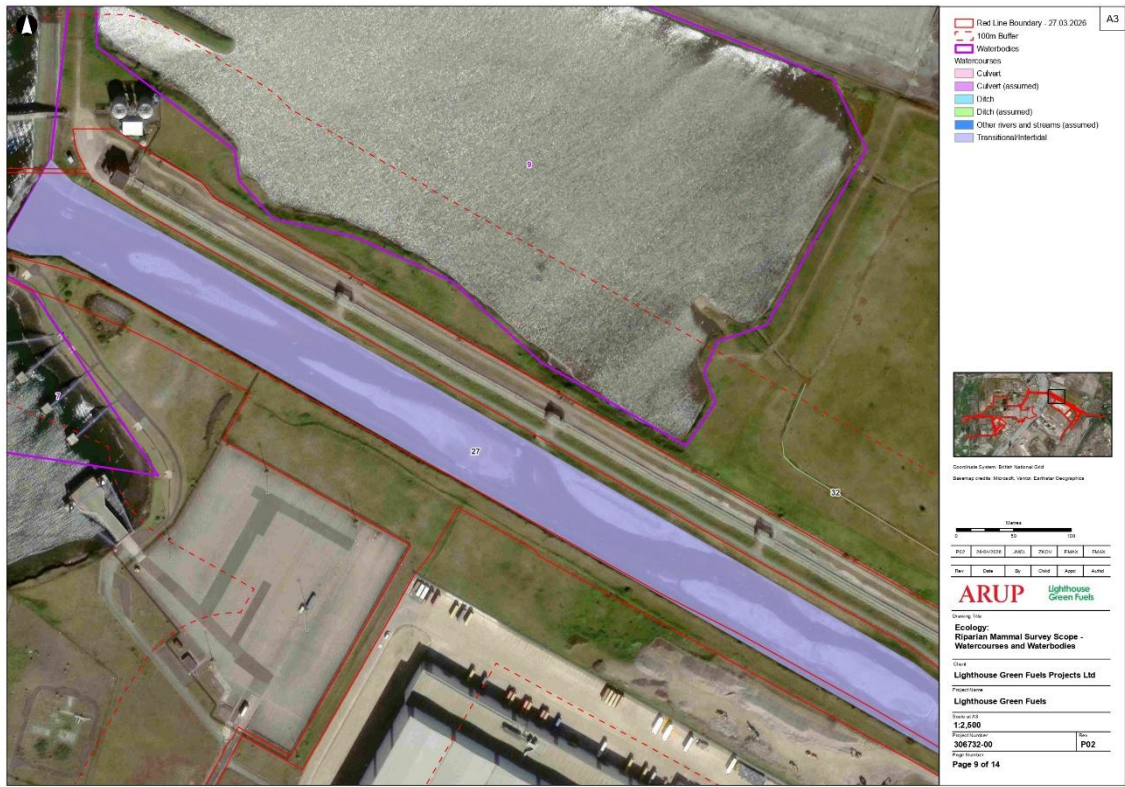
Appendix 1. Red Line Boundary















Appendix 2. Survey screening table

Waterbody No.	WV survey	WV Scoping out rationale	Otter Survey	Otter Scoping out rationale
1	N	Very shallow sided; no marginal veg.	N	Very shallow sided; no marginal veg.
2	N	Lined pond for industrial use	N	Lined pond for industrial use
3	N	Large waterbody, extensively fringed by reeds so not practical to survey for WV	N	Otter known to use this waterbody
4	N	Large waterbody, extensively fringed by reeds so not practical to survey for WV	N	Otter known to use this waterbody
5	N	Isolated - not large enough to support WV	N	Isolated from other otter habitat
6	N	Too small and isolated to support a population of WV	N	Too small and isolated for otter to be resident
7	N	Intertidal river - banks are mudflats and hard structures	N	Unlikely to support resting places
8	N	Intertidal river - banks are mudflats and hard structures	N	Unlikely to support resting places
9	N	Water is saline	Y	Potential for a holt between rocks on sea wall
11	N	Reedbed extension of 4	N	Reedbed extension of 4
12	N	Lined pond for industrial use	N	lined pond for industrial use
13	N	Saline waterbody too small and isolated	N	Too small
14	N	Saline waterbodies that have now been drained leaving no suitable habitat	N	Saline waterbodies that have now been drained leaving no suitable habitat
15	N	Saline waterbodies that have now been drained leaving no suitable habitat	N	Saline waterbodies that have now been drained leaving no suitable habitat
16	N	Settlement pond on an industrial site	N	Settlement pond on an industrial site
17	N	Largely Typha swamp - not possible to do conventional surveys	N	Too small and isolated
18	N	Lined pond for industrial use	N	Lined pond for industrial use
19	N	No banks and little or no water, sometimes dry	N	Too shallow; sometimes dry
21	N	No open water	N	No open water
22	N	Too small and isolated	N	Too small and isolated
23	N	Lined pond for industrial use	N	Lined pond for industrial use
24	N	Lined pond for industrial use	N	Lined pond for industrial use
Ditch				
1	Y		N	Too small
2	Y		N	Too small
3	Y		N	Too small
5	Y		N	Too small
7	Y		N	Too small

8	Y		N	Too small
9	Y		N	Too small
10	Y		N	Too small
16	N	Too small	N	Too small
21	N	Too small	N	Too small
23	N	Too small	N	Too small
25	N	Too distant from the development	N	Too small
26	N	Too small and isolated	N	Too small
30	N	Too small and isolated	N	Too small
31	N	Isolated and heavily shaded	N	Too small
39	N	Too small	N	Too small
40	N	Too small and isolated	N	Too small
41	N	Too small and isolated	N	Too small
44	N	Isolated and heavily shaded	N	Too small
51	N	Too small and isolated	N	Too small
61	N	Separated from the RLB by Seal Sands Road	N	Too small
64	N	Too small and isolated	N	Too small
65	N	Too small and isolated	N	Too small
Watercourse				
27	N	River and intertidal mud	Y	Potential for a holt between rocks on banks
54	N	Isolated from suitable habitat	Y	Potential for a holt between rocks on banks
56	N	Isolated from suitable habitat	Y	Potential for a holt between rocks on banks

Appendix 3. Site Photos

Photograph 1. Ditch 8



Photograph 2. Ditch 10



Photograph 3. Dabholm Beck



Appendix 4. INCA Otter records

The records below are limited to those within a 2km radius of the RLB or from where otters could be expected to commute close to the RLB on occasion. Records from Vice County 62 are south of the Tees and from Vice County 66 north of the Tees. The names of the recorders have been redacted.

+

Site	Gridref	Vice County	Date	Method
Bran Sands Beach	NZ557265	62	16-Jan-26	Footprints
Coatham Marsh	NZ5824	62	12-Oct-15	Unknown
Coatham Marsh	NZ589248	62	30-Aug-24	Spraint
Dabholm Beck	NZ5623	62	17-Oct-19	Daytime observation
Dabholm Beck	NZ566237	62	24-Oct-13	Spraint
Dabholm Gut	NZ549248	62	12-May-14	Unknown
Locke Park	NZ5924	62	13-Nov-19	Daytime observation
Locke Park	NZ592247	62	21-Dec-19	Daytime observation
Middlesbrough Dock	NZ505205	62	09-Jul-18	Footprints
The Slems, South Bank	NZ548225	62	2020	Spraint
Trunk Road, Redcar	NZ580242	62	22-Jun-20	Road casualty
Wilton Ecology Pond	NZ5623	62	23-Oct-19	Daytime observation
A178 Saltholme	NZ5022	66	11-Dec-23	Road casualty
A178 Saltholme	NZ510230	66	20-Oct-25	Road casualty
Bran Sands lagoon	NZ551250	66	29-Oct-13	Unknown
Cowpen Bewley Woodland Park	NZ485258	66	17-May-16	Footprints
Cowpen Bewley Woodland Park	NZ485256	66	31-Jul-10	Unknown
Cowpen Bewley Woodland Park	NZ485258	66	01-Apr-16	Footprints
Cowpen Bewley Woodland Park	NZ485258	66	21-Apr-17	Footprints
Cowpen BewleyWoodland Park	NZ484255	66	02-Nov-12	Unknown
Cowpen BewleyWoodland Park	NZ484255	66	30-Nov-12	Unknown
Cowpen Marsh	NZ5061924665	66	10-Jan-12	Unknown
Cowpen Marsh	NZ506246	66	01-Mar-12	Unknown
Dormans Pool	NZ5122	66	25-Dec-15	Unknown
Dorman's Pool	NZ5122	66	10-Feb-09	Unknown
Greenabella	NZ522264	66	15-Sep-09	Daytime observation
Greenabella	NZ514260	66	10-May-17	Spraint
Greenabella Marsh	NZ518268	66	14-Sep-09	Daytime observation
Greenabella Marsh	NZ521265	66	07-Jul-10	Unknown
Greenabella Marsh	NZ518268	66	07-Jul-10	Unknown
Haverton Gate	NZ496229	66	19-Apr-11	Unknown
Haverton Gate	NZ496229	66	01-Mar-12	Unknown
Haverton Pool, Saltholme	NZ4923	66	28-Oct-15	Unknown
Long Drag	NZ516245	66	14-Feb-15	Unknown
Saltholme	NZ4922	66	26-May-24	Daytime observation
Seal Sands	NZ523265	66	14-Sep-09	Unknown
Seal Sands	NZ535255	66	28-Mar-14	Unknown

