

# Rampion 2 Wind Farm Category 6: Environmental Statement

## Volume 4, Appendix 22.11: Badger, otter and water vole survey report

**NON-CONFIDENTIAL**

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## Document revisions

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Revision	Date	Status/reason for issue	Author	Checked by	Approved by
A	04/08/2023	Final for DCO Application	WSP	RED	RED

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# Contents

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<b>1.</b>	<b>Introduction</b>	<b>3</b>
1.1	Background	3
1.2	Purpose of this Appendix	3
	Structure of this Appendix	3
<b>2.</b>	<b>Methods</b>	<b>5</b>
2.1	Overview	5
2.2	Desk study	5
2.3	Badger	5
2.4	Riparian mammal (Otter and Water Vole)	6
<b>3.</b>	<b>Results</b>	<b>7</b>
3.1	Desk study	7
3.2	Badger	7
3.3	Riparian mammals (Otter and Water Vole)	8
3.4	Deviations, constraints and limitations	13
<b>4.</b>	<b>Summary</b>	<b>15</b>
<b>5.</b>	<b>Glossary of terms and abbreviations</b>	<b>17</b>
<b>6.</b>	<b>References</b>	<b>19</b>

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## List of Tables

Table 3-1	Summary of legally protected and notable mammals species	7
Table 3-2	Badger sett types recorded	7
Table 3-3	Waterbodies and watercourses suitable for riparian mammals	9

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## List of Annexes

Annex A	Figures:	
	Figure 22.11.1a to c	Water Vole Desk Study Results
	Figure 22.11.2	Otter Desk Study Results
	Figure 22.11.3	Badger desk results CONFIDENTIAL
	(Removed)	

Figure 22.11.4a to j Badger Survey Suitability Results  
CONFIDENTIAL (Removed)

Figure 22.11.5a to g Badger Survey Field Sign Results  
CONFIDENTIAL (Removed)

Figure 22.11.6 Water Vole Survey Results

Figure 22.11.7 Otter survey results

Annex B	Full survey details
Annex C	Protected species Classification Criteria
Annex D	Protected Species Legislation

# 1. Introduction

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## 1.1 Background

- 1.1.1 This Appendix should be read in conjunction with **Chapter 22: Terrestrial ecology and nature conservation, Volume 2** of the Environmental Statement (ES) (Document Reference: 6.2.22) which is provided in support of the delivery of an Environmental Impact Assessment (EIA) associated with the Rampion 2 Offshore Wind Farm, hereafter referred to as the 'Proposed Development' or 'Rampion 2'.
- 1.1.2 This Appendix describes the survey method and summarises the results of badger, otter and water vole surveys undertaken between 2020 and 2023.

## 1.2 Purpose of this Appendix

- 1.2.1 The proposed Development Consent Order (DCO) Order Limits include, and are adjacent to, habitats with the potential to support badger *Meles meles*, and riparian mammals including otter *Lutra lutra* and water vole *Arvicola amphibius*.
- 1.2.2 This Appendix outlines the methodologies used for desk study and field survey, and summarises the results gathered as part of an effort to determine the presence of these species. Legislation governing the legal protection of these species is provided in **Annex D**.
- 1.2.3 Surveys were undertaken between April 2020 and June 2023. The surveys were designed to identify the presence of these species within, or close to, the proposed DCO Order Limits.

## Structure of this Appendix

- 1.2.4 This Appendix is structured as follows:
- **Section 2: Methods;**
  - **Section 3: Results;**
  - **Section 4: Summary;**
  - **Section 5: Glossary of terms and abbreviations;**
  - **Section 6: References;**
  - **Annex A: Figures;**
  - **Annex B: Full survey details;**
  - **Annex C: Protected Species Classification Criteria; and**
  - **Annex D: Protected species legislation.**
- 1.2.5 This appendix does not contain the location of badger setts in order to protect the welfare of this species. A version of this appendix including the National Grid

References (NGR) of badger setts has been provided to the Planning Inspectorate and members of the Environmental Technical Group (see **Section 22.3** in **Chapter 22: Terrestrial ecology and nature conservation, Volume 2** of the ES (Document Reference: 6.2.22)).

## 2. Methods

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### 2.1 Overview

2.1.1 Details of the methodology used for establishing the ecological baseline for badger, otter and water vole are provided below (see **Sections 2.2, 2.3 and 2.4**). The approach to badger, otter and water vole survey was discussed with Natural England in April 2020, and again within a variety of forums with stakeholders including South Downs National Park Authority, West Sussex County Council and the Sussex Wildlife Trust (see **Section 22.3 of Chapter 22: Terrestrial ecology and nature conservation, Volume 2** of the ES (Document Reference: 6.2.22), with agreement to the approach documented through meeting minutes.

### 2.2 Desk study

2.2.1 An environmental desk study was undertaken in 2023 to provide records of protected and notable species within 5km of the proposed DCO Order Limits. Refer to **Appendix 22.2: Terrestrial ecology desk study, Volume 4** of the ES (Document Reference: 6.4.22.2) for full details.

2.2.2 Records of legally protected and notable species were requested directly from Sussex Biodiversity Records Centre (SxBRC), with further information gathered from the National Biodiversity Network (NBN) Gateway, A27 Arundel Bypass Environmental Assessment Report, Mid-Arun Valley Environmental Survey (MAVES) reports and MAGIC (Defra, n.d.).

### 2.3 Badger

2.3.1 During the extended Phase 1 habitat survey (detailed in **Appendix 22.3: Extended Phase 1 Habitat Survey report, Volume 4** of the ES (Document Reference: 6.4.22.3) of the proposed DCO Order Limits (including areas that were eventually excluded through design evolution) and a 50m buffer, a habitat-based assessment was undertaken to identify the suitability for resident, commuting and foraging badgers. Concurrently, signs of badger activity were searched for in accordance with 'Surveying for Badgers: Good Practice Guidelines' (Scottish Badgers, 2018).

2.3.2 Where badger setts were identified during the extended Phase 1 habitat survey, these were further classified according to the criteria used in the National Badger Surveys (Cresswell *et al.*, 1990 and Wilson *et al.*, 1997; the classification criteria is detailed in **Annex C**). The current level of badger activity at each sett entrance hole was also classified. Grid references were established and generally accurate to 30m.

2.3.3 Other distinctive field signs indicative of badger presence noted were:

- faeces in the form of dung pits or latrines (territorial markers comprising collections of numerous dung pits);

- foraging signs, such as snuffle holes;
- badger hair (hair often found on overhanging vegetation and low barbed wire fences);
- footprints, mammal paths and scratching marks – often on posts at the base of tree trunks; and
- push under, where badgers habitually dig or push under barriers such as fences and lift or displace them (often coinciding with the presence of mammal paths and badger hairs).

2.3.4 An assessment of the suitability of habitats to support badger groups (opportunities for sett formation, the presence of good foraging resources and access and egress for commuting) was also made.

## 2.4 Riparian mammal (Otter and Water Vole)

2.4.1 The extended Phase 1 habitat survey encompassed potential habitats along watercourses, ponds and ditches and associated terrestrial habitat suitable for otter and water vole within the proposed DCO Order Limits and a 50m buffer. This area was assessed for suitable aquatic and terrestrial habitat for otter and water vole. The size, type, structure, and connectivity of all watercourses / waterbodies was recorded.

2.4.2 Field signs for otter were recorded during the extended Phase 1 habitat survey and included searching for faeces (spraints), holts, footprints and feeding remains. In addition, any holes in the bank-side (artificial and natural) and well-connected terrestrial habitats, such as scrub or woodland, were examined for otter holts and resting places. Surveys generally followed advice in 'Monitoring the Otter' (Chanin, 2003a).

2.4.3 Field signs for water vole were recorded, such as burrows, latrines, droppings, feeding remains, footprints and runs. In addition, foraging resources and burrowing substrate of waterbodies were also recorded. Surveys generally followed guidance in 'Water Vole Mitigation Handbook' (Dean et al., 2016).

2.4.4 Where watercourses were not accessible, they were surveyed from the closest accessible point for their suitability to support riparian mammals, using binoculars to assist observation where necessary.



## 3. Results

### 3.1 Desk study

- 3.1.1 Summary details of water vole, otter and badger within the proposed DCO Order Limits and within 5km are provided in **Table 3-1** and on **Figures 22.11.1a to c, 22.11.2** and **22.11.3, Annex A**. The summary details are of records provided by SxBRC, these have been reconciled where possible with other data sources where a high degree of overlap can be recognised.

**Table 3-1 Summary of legally protected and notable mammals species**

Species	No. of records	Date range of records	Distance and direction from the proposed DCO Order Limits
<b>Badger</b>	Present throughout proposed DCO Order Limits – individual records not provided due to confidentiality		
<b>Otter</b>	Historic records only (from the NBN Gateway (NBN Atlas Partnership, 2021)) most recent record 2011	1964-2011	2011 record 1km north
<b>Water vole</b>	227	2013-2022	Within proposed DCO Order Limits

### 3.2 Badger

- 3.2.1 Suitable habitat for sett creation, commuting and foraging was recorded frequently throughout the Study Area. Suitable habitats included woodland, grasslands, arable fields, and scrub. These are shown on **Figure 22.11.4a to j, Annex A** (note this figure is provided in the Confidential version of this report only).
- 3.2.2 Badger setts were noted on [REDACTED] with a range of different types recorded. Refer to **Table 3-2** and **Figure 22.11.5a to g, Annex A** for further details.

**Table 3-2 Badger sett types recorded**

Sett type	Total number
<b>Main Sett – active</b>	■
<b>Subsidiary Sett – active</b>	■

Sett type	Total number
Subsidiary Sett – disused	█
Annexe – active	█
Outlier sett – active	█
Outlier sett – disused	█
Uncategorised – active	█
Uncategorised – disused	█
<b>Total</b>	█

3.2.3 Additional field signs of badger were recorded as follows:



3.2.4 Refer to **Annex B** for full field survey and habitat suitability results.

### 3.3 Riparian mammals (Otter and Water Vole)

3.3.1 Suitable foraging, commuting, resting, and holt/burrow habitat for water vole and otter were recorded within the Study Area, see **Figures 22.11.6 and 22.11.7, Annex A.**

3.3.2 In addition, anecdotal records of invasive American mink were noted at the southern half of the proposed DCO Order Limits. The presence of American mink in the UK is considered to be a contributing factor to water vole population declines due to direct predation (Aars *et al.*, 2001; Bonesi and Palazon, 2007).

3.3.3 A summary is presented below in **Table 3-3**. Rows highlighted in bold text are the watercourse/waterbodies where water vole or otter field signs were recorded.

Table 3-3 Waterbodies and watercourses suitable for riparian mammals

Central grid reference	Type	Shore/ bank	Bank modifications	Bordering land use	Presence of vegetation	Disturbance	Bank profile	Depth	Width	Current	Rat/ mink evidence	Water vole evidence	Otter evidence	Water vole suitability	Otter suitability
TQ0108402872	Ditch	Earth	None	Arable	Submarginal vegetation (reed beds), Scrub (bramble)	Low	Shallow <45°	1-2m	1-2m	Sluggish	None	None	None	Moderate	Moderate
TQ0093902400	Ditch	Earth	None	Arable	Submarginal vegetation (reed beds), Scrub (bramble)	Low	Steep >45°	1-2m	1-2m	Sluggish	None	None	None	High	Moderate
TQ0109501532	Ditch	Earth, Poached	None	Arable	Submarginal vegetation (reed beds), Scrub (bramble)	Moderate	Steep >45°	1-2m	2-5m	Sluggish	Anecdotal mink	Possible burrow	None	High	Moderate
TQ0198304980	Ditch	Earth, Poached	None	Arable	Submarginal vegetation (reed beds), Scrub (bramble)	Moderate	Steep >45°	1-2m	2-5m	Sluggish	Anecdotal mink (water vole remains recorded)	Collapsed burrow, discarded water vole foreleg	None	High	High
TQ0203204834	Ditch	Earth, Stock proof fencing	Culvert	Arable	Submarginal vegetation (reed beds), Scrub (bramble)	Low	Steep >45°	1-2m	1-2m	Sluggish	Anecdotal mink	None	None	High	High
TQ0176804604	Ditch	Earth, Poached	None	Arable	Submarginal vegetation (reed beds), Scrub (bramble)	Moderate	Steep >45°	1-2m	2-5m	Sluggish	None	None	None	High	High
TQ0158704176	Ditch	Earth, Poached	Culvert	Improved grassland	Submarginal vegetation (reed beds)	Moderate	Steep >45°	1-2m	2-5m	Sluggish	Rat dropping	Latrines, Feeding remains	Feeding remains, possible otter slide	High	High
TQ0226804423	Ditch	Dry and offers no suitable foraging or burrow / holt habitat to water vole and otter												Negligible	Negligible
TQ0307005569	Ditch	Dry and offers no suitable foraging or burrow / holt habitat to water vole and otter												Negligible	Negligible

Central grid reference	Type	Shore/ bank	Bank modifications	Bordering land use	Presence of vegetation	Disturbance	Bank profile	Depth	Width	Current	Rat/ mink evidence	Water vole evidence	Otter evidence	Water vole suitability	Otter suitability
TQ0245405484	Ditch	Earth, Stock proof fencing	Culvert	Improved grassland	Submarginal vegetation (common reed, nettle)	Low	Steep >45°	1-2m	1-2m	Sluggish	None	None	None	Moderate	Low
TQ0213405338	Ditch	Earth, Stock proof fencing	Culvert	Improved grassland	Submarginal vegetation (common reed, nettle)	Low	Steep >45°	1-2m	1-2m	Sluggish	None	None	None	High	High
TQ1143013303	Ditch	/	/	/	/	High	/	/	/	/	None	None	None	Moderate-foraging only	Negligible
TQ1146013189	Ditch	/	/	/	/	High	/	/	/	/	None	None	None	Moderate-foraging only	Negligible
TQ1231913235	Ditch	/	/	Close cut amenity grassland and improved grassland	/	High	/	/	/	/	None	None	None	Low-foraging only	Negligible
TQ1444613783	Ditch	Earth, Poached	None	Broadleaved woodland, improved grassland	Bankside trees	Low	Steep >45°	<0.5m	1m	Sluggish	None	Disused burrow, collapsed burrow	None	Moderate	Negligible
TQ1918216956	River	Earth, Poached	Bridge	Improved grassland	Short grass	High	Shallow <45°	>2m	5-10m	Fast	None	None	None	Negligible	Low
TQ1913916882	Ditch	/	/	/	/	/	/	/	/	/	/	/	/	Negligible	Negligible
TQ1883516511	Ditch	/	/	/	/	/	/	/	/	/	/	/	/	Negligible	Negligible
TQ1857116473	Ditch	/	/	/	/	/	/	/	0.15m	/	/	/	/	Negligible	Negligible
TQ2166920645	Ditch	Earth	Bridge	Arable, Improved grassland	Submarginal vegetation, Rush / sedges / grasses	Low	Steep >45°	<0.5m	1m	Slow	None	Latrines, Feeding remains	None	Moderate	Negligible
TQ2220121179	No access														

Central grid reference	Type	Shore/ bank	Bank modifications	Bordering land use	Presence of vegetation	Disturbance	Bank profile	Depth	Width	Current	Rat/ mink evidence	Water vole evidence	Otter evidence	Water vole suitability	Otter suitability
TQ2279421487	No access														
TQ 22680 22224	Lake	Earth	None	Improved grassland	Submarginal vegetation, Rush / sedges / grasses	Low	Shallow <45°	>2m	>40m	Static	None	None	Spraint, feeding remains	Negligible	High
TQ2020718809	Ditch	Stoney earth	/	/	/	/	/	<0.5m	1m	Static	None	None	None	Low	Negligible
TQ 05722 05655	Ditch	Earth	/	/	/	/	Steep >45°	<0.5m	1m	Static	None	Possible burrow	None	Low	Negligible
TQ0099501453	Ditch	Earth	/	/	Submarginal vegetation, Rush / sedges / grasses	/	Steep >45°	<0.5m	1.5m	Static	None	Possible run	None	Moderate	Low
TQ0226604438	Ditch	Dry and offers no suitable foraging or burrow/holt habitat to water vole and otter											Negligible	Negligible	
TQ2201721609	Ditch	Earth					Steep >45°		1.5m		None	None	None	Moderate	Low
TQ 01778 04356	Ditch	Earth	/	/	/	/	Steep >45°	<0.5m	1.5m		None	None	None	High	Moderate

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- 3.3.4 The southern-most section of the proposed DCO Order Limits has the greatest suitability to support riparian mammals. This area supports the River Arun and tributaries, brooks/streams, and ditches considered suitable for water vole and otter. This is also where much of the habitat meets the Priority Habitat criteria for coastal and floodplain grazing marsh.
- 3.3.5 In addition, within the northern extent of the proposed DCO Order Limits is the River Adur and associated tributaries and floodplain, which are also suitable for otter and water vole.
- 3.3.6 Refer to **Figure 22.11.4a to j and 22.11.5a to g, Annex A** for full field surveys results and habitat suitability.

### 3.4 Deviations, constraints and limitations

- 3.4.1 The dense nature of some areas of scrub/hedgerow and the presence of vegetation may have reduced the visibility and presence of protected species' field signs. Areas have been described as having suitability for badger, otter and water vole where the habitat was assessed as suitable, but field signs were not observed often due to dense scrub or limited access.
- 3.4.2 For watercourses where access was limited, detailed habitat-based assessments were carried out from the nearest accessible point with the aid of binoculars. During the water vole and otter assessment, there were eleven watercourses with a constrained view due to the presence of dense vegetation. In addition, no access was provided to two watercourses, therefore a detailed assessment was not possible.



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## 4. Summary

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- 4.1.1 Suitable habitat for badger sett creation, commuting and foraging was recorded frequently throughout the proposed DCO Order Limits and its immediate surrounds. Badger setts were noted on [REDACTED], with a range of different types recorded.
- 4.1.2 Suitable foraging, commuting, resting, and holt/burrow habitat for water vole and otter were recorded within the proposed DCO Order Limits. In total, seven locations had confirmed/possible water vole evidence and two locations had confirmed/possible otter evidence.

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## 5. Glossary of terms and abbreviations

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Term (acronym)	Definition
<b>Badger sett</b>	A place used by a badger for shelter
<b>Push under</b>	Where badgers habitually dig or push under barriers such as fences and lift or displace them
<b>Latrine</b>	A place used by animals to deposit dung; often used to mark territory

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## 6. References

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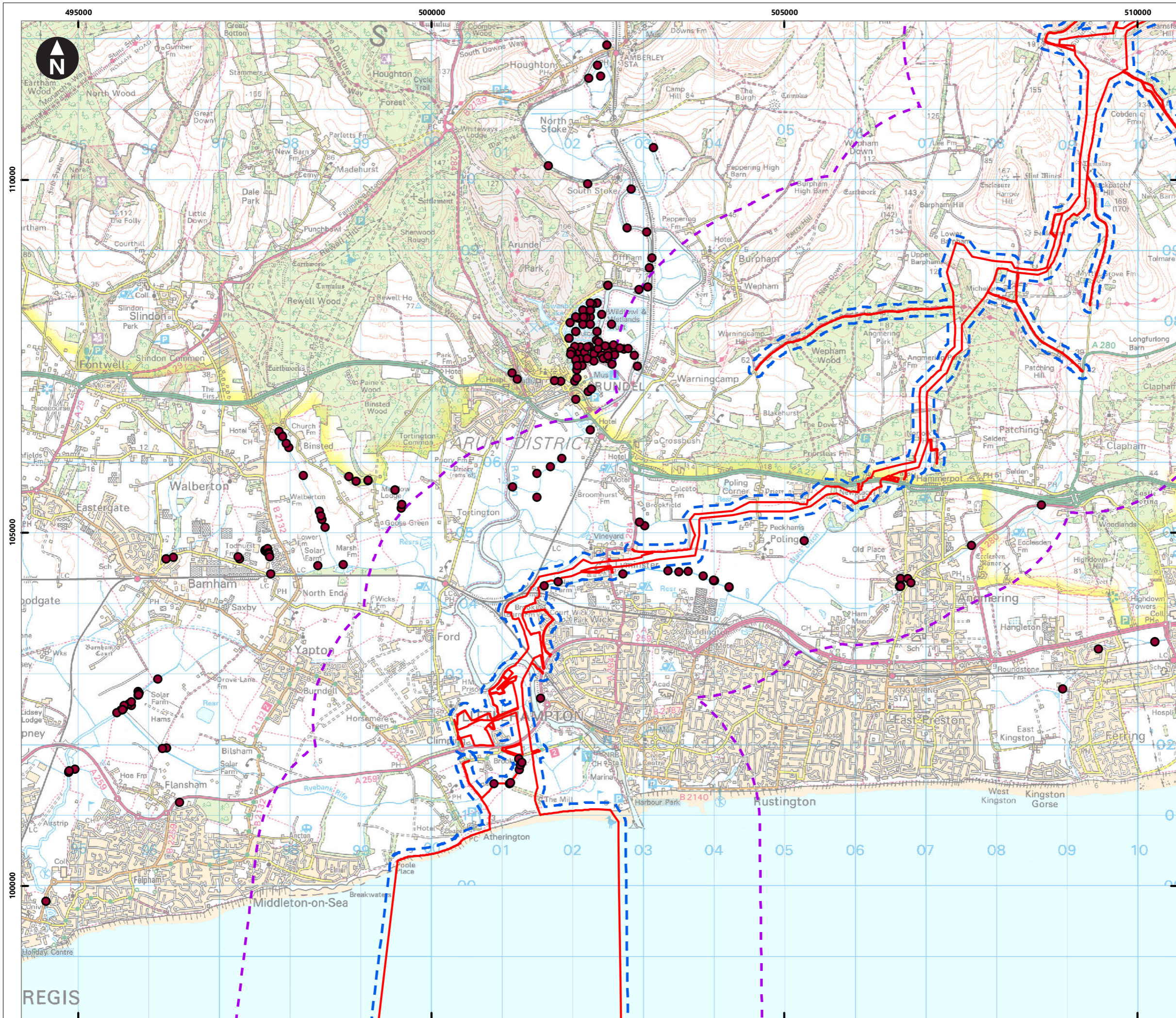
# Annex A

## Figures

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**Key**

- Proposed DCO Order Limits
- 2km buffer
- 100m buffer
- Water vole desk records

0 0.275 0.55 1.1 1.65 2.2  
 Kilometres  
 1:52,000  
 British National Grid Transverse Mercator

Rampion Extension Development

Rampion 2 Offshore Wind Farm

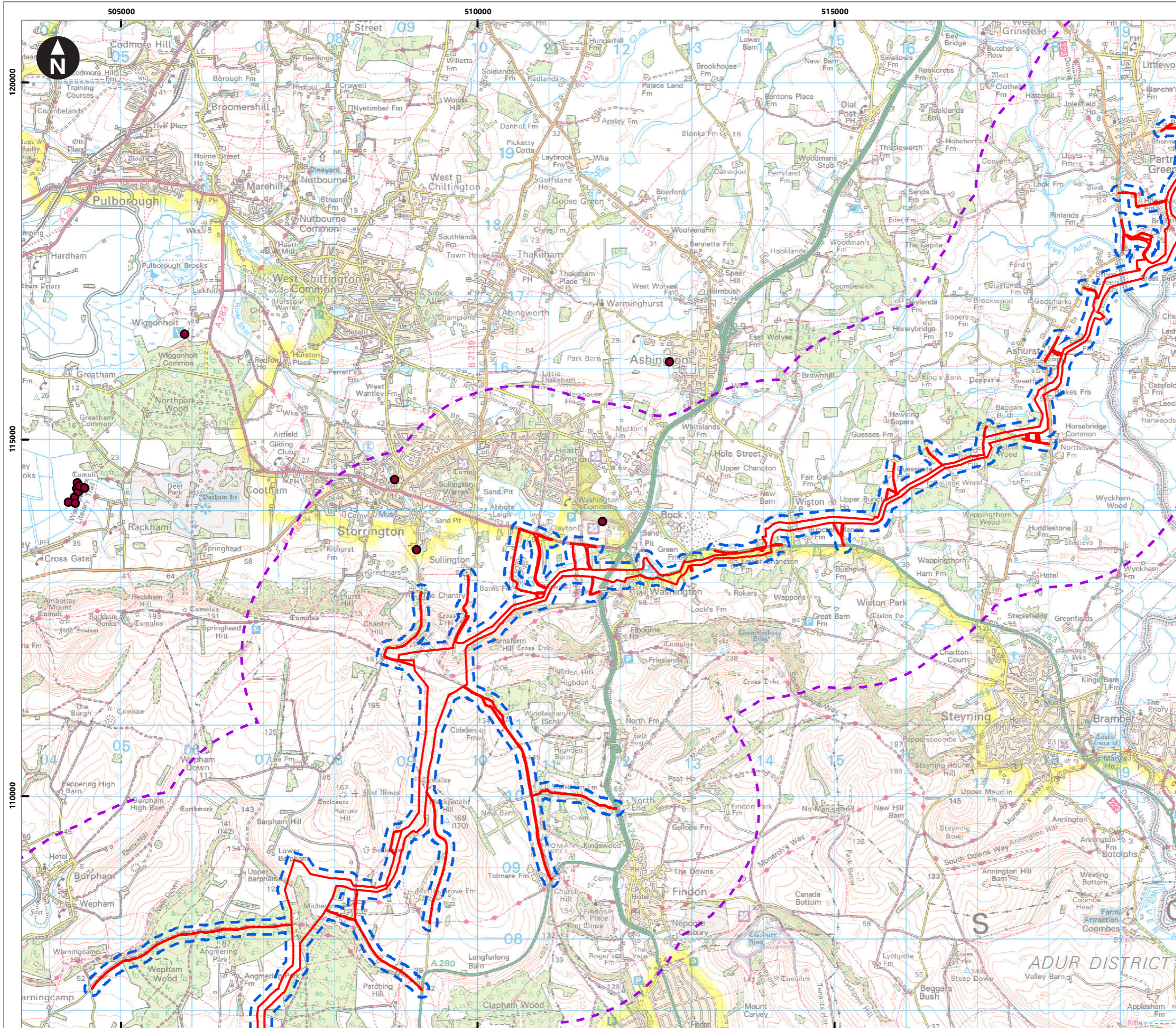
Figure 22.11.1a Water Vole Desk Study Results

Badger, otter & water vole survey report (NON-CONFIDENTIAL)

Environmental Statement

System Identifier: 42285-WSPE-ES-ON-FG-OO-2340		Version: 1.0
Company: WSP	Drawn By: HADJE	Chk/Prvrd: SUTET
Drawn Date: 27/07/2023	Status: FINAL	

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**Key**

- Proposed DCO Order Limits
- 2km buffer
- 100m buffer
- Water vole desk records

0 0.275 0.55 1.1 1.65 2.2  
Kilometres

1:52,000  
British National Grid Transverse Mercator

Rampion Extension Development

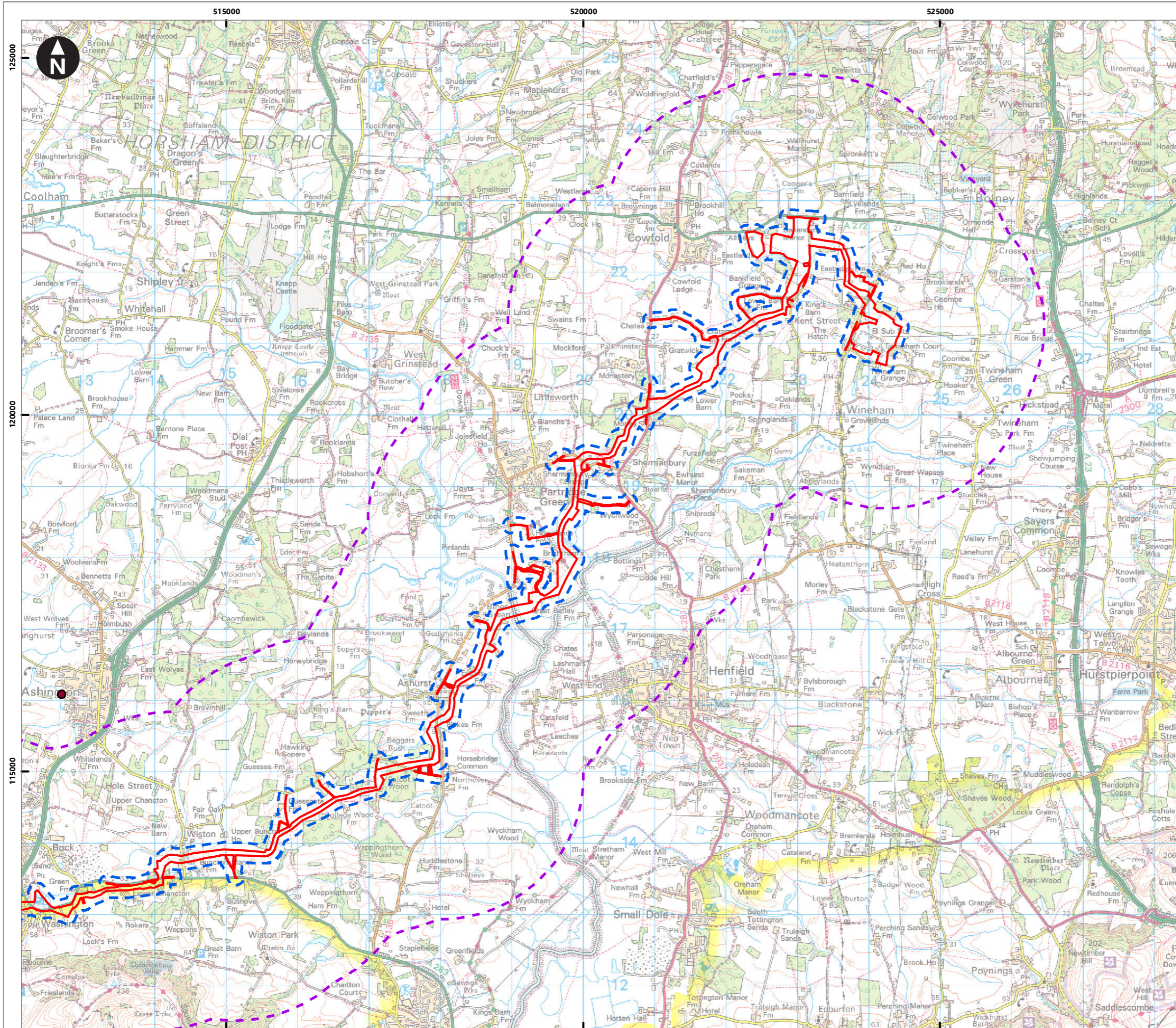
Rampion 2 Offshore Wind Farm

Figure 22.11.1b Water Vole Desk Study Results

Badger, otter & water vole survey report (NON-CONFIDENTIAL)

Environmental Statement

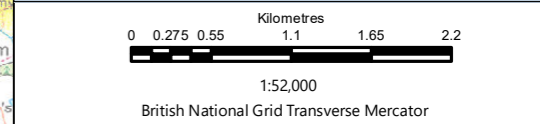
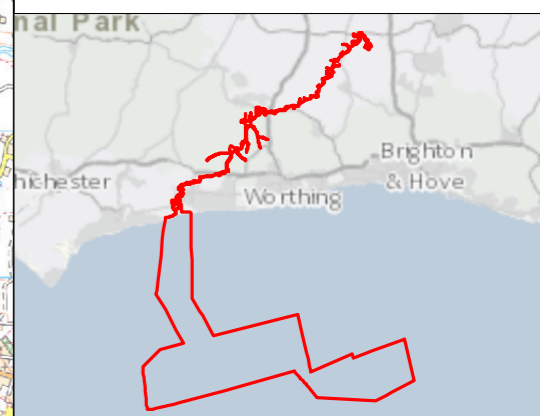
System Identifier: 42285-WSP-ES-ON-FG-OO-2340		Version: 1.0
Company: WSP	Drawn By: HADJE	Chk/Prvrd: SUTET
Drawn Date: 27/07/2023	Status: FINAL	



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**Key**

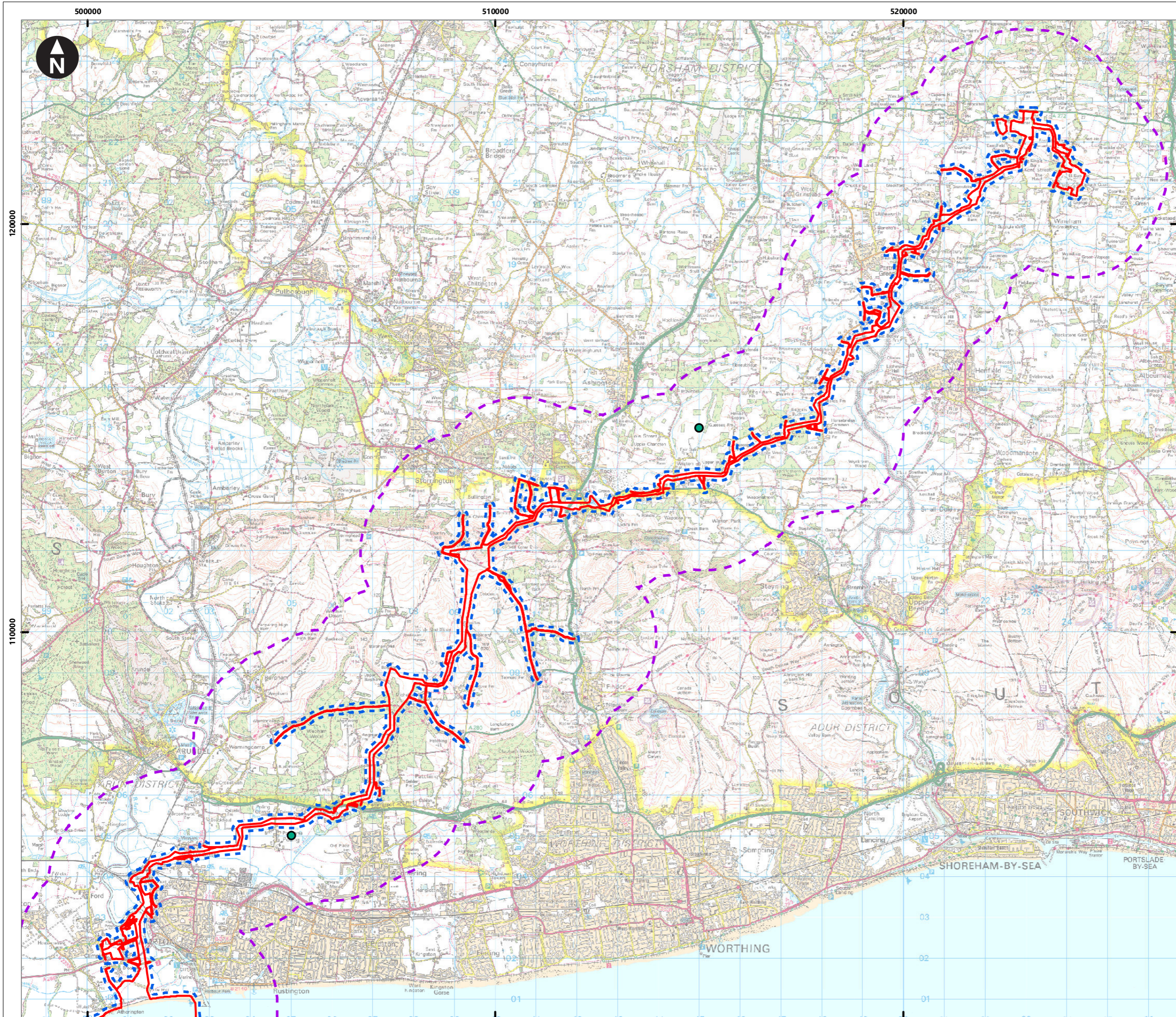
- Proposed DCO Order Limits
- 2km buffer
- 100m buffer
- Water vole desk records



Rampion Extension Development

Rampion 2 Offshore Wind Farm  
 Figure 22.11.1c Water Vole Desk Study Results  
 Badger, otter & water vole survey report  
 (NON-CONFIDENTIAL)  
 Environmental Statement

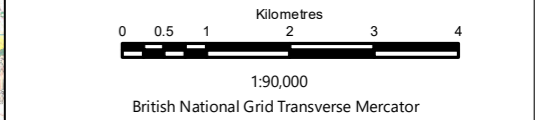
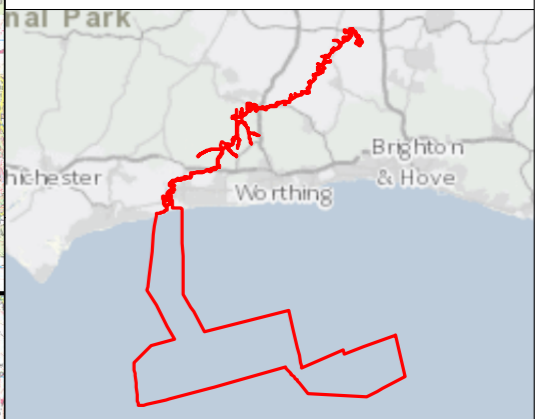
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Company: WSP	Drawn By: HADJE	Chk/Prvrd: SUTET	Drawn Date: 27/07/2023	Status: FINAL



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 © Biological Records Centre 2023

**Key**

- Proposed DCO Order Limits
- 2km buffer
- 100m buffer
- Otter records



Rampion Extension Development



Rampion 2 Offshore Wind Farm  
 Figure 22.11.2 Otter desk results  
 Badger, otter & water vole survey report  
 (NON-CONFIDENTIAL)  
 Environmental Statement

System Identifier: 42285-WSPE-ES-ON-FG-OO-8421				Version: 1.0
Company: WSP	Drawn By: HADJE	Chk/Prvrd: SUTET	Drawn Date: 27/07/2023	Status: FINAL

Figure 22.11.3 Badger desk results

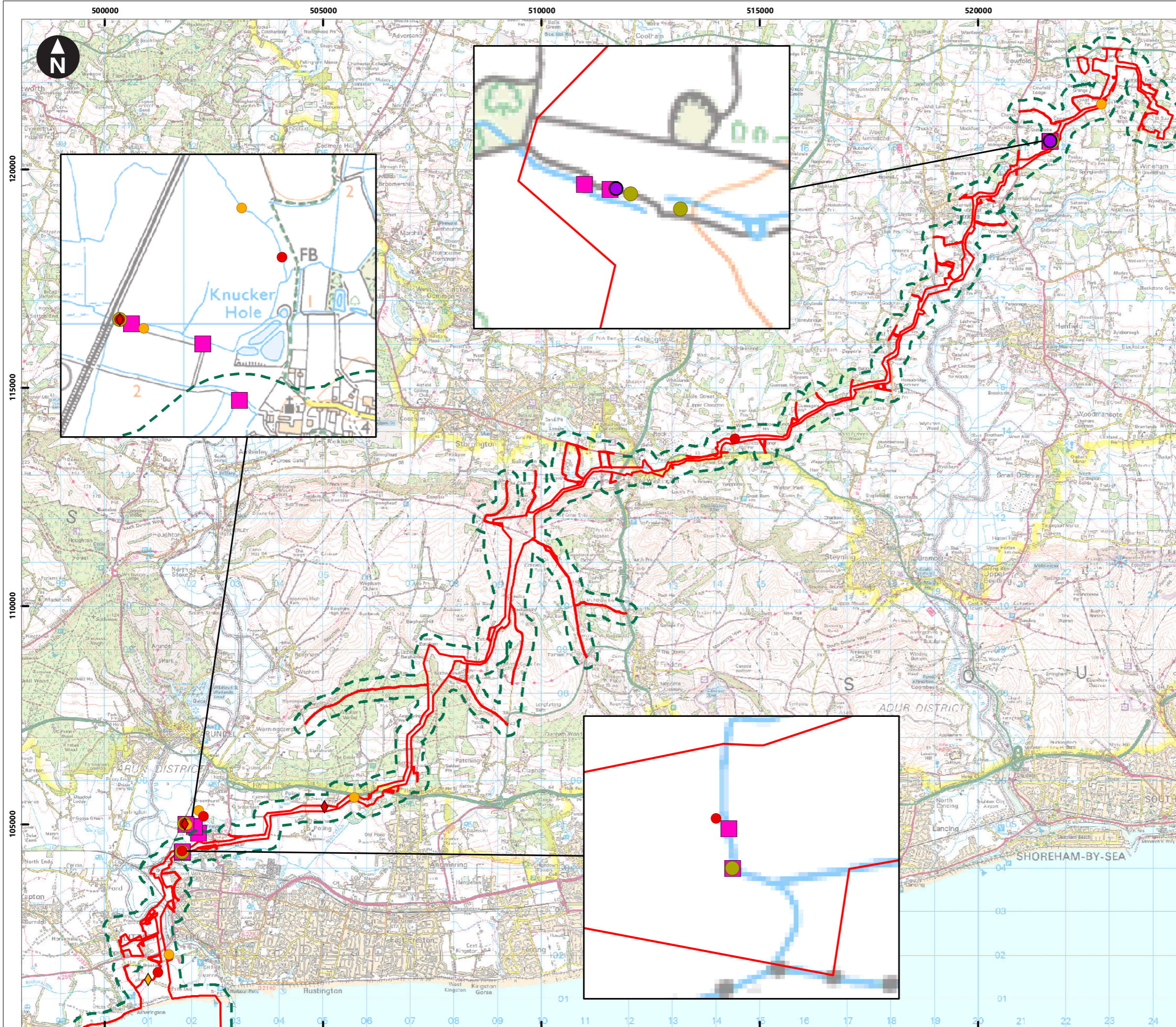
Removed - CONFIDENTIAL

Figure 22.11.4a-j Badger Survey Suitability Results

Removed - CONFIDENTIAL

Figure 22.11.5a-g Badger Survey Field Sign Results

Removed - CONFIDENTIAL



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**Key**

- Proposed DCO Order Limits
- 250m Buffer
- Latrine
- Feeding Remains/ Station

**Footprints**

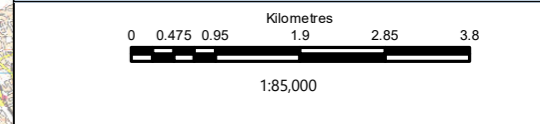
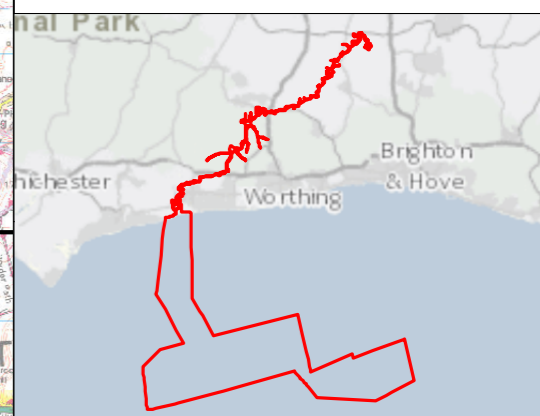
- Possible Footprints

**Runs Present**

- ◆ Possible
- ◆ Yes

**Burrow Present**

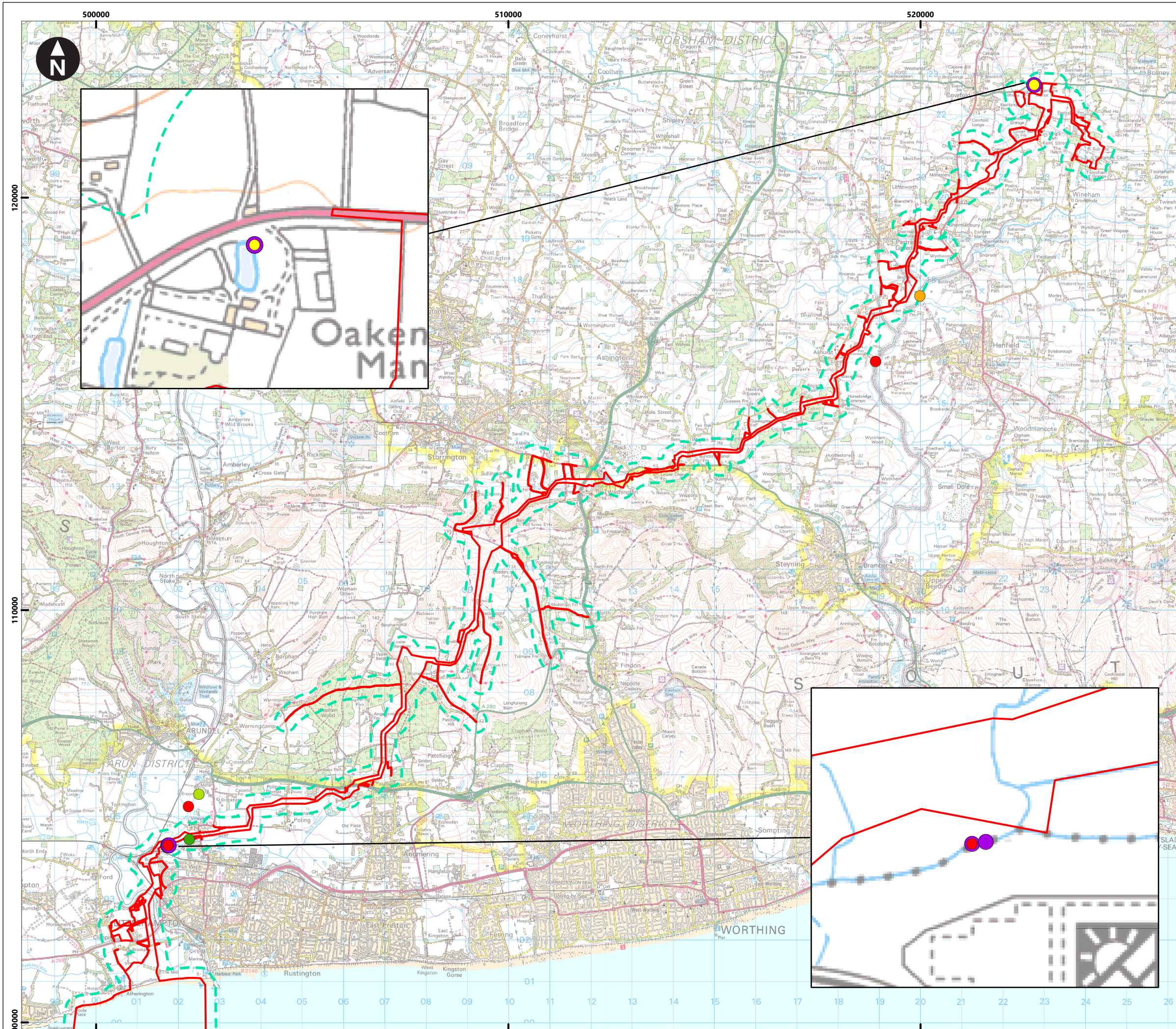
- Possible
- Yes



Rampion 2 Offshore Wind Farm  
 Figure 22.11.6 - Water Vole Survey Results  
 Badger, otter & water vole survey report (NON-CONFIDENTIAL)  
 Environmental Statement

System Identifier: 42285-WSP-ES-ON-FG-OO-8905		Version: 1.0
Company: WSP	Drawn By: HADJE	Chk/Prvrd: SUTET
Drawn Date: 27/07/2023	Status: Final	





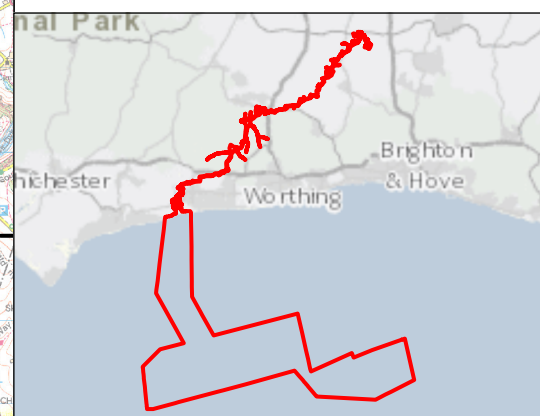
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**Key**

- Proposed DCO Order Limits
- 250m buffer
- Feeding Remains
- Spraint

**Holt Resting Place Potential**

- High
- Moderate
- Low
- Negligible



0 0.5 1 2 3 4  
 Kilometres  
 1:90,000  
 British National Grid Transverse Mercator

Rampion Extension Development



Rampion 2 Offshore Wind Farm  
 Figure 22.11.7 Otter survey results  
 Badger, otter & water vole survey report (NON-CONFIDENTIAL)  
 Environmental Statement

System Identifier: 42285-WSPE-ES-ON-FG-OO-7932				Version: 1.0
Company: WSP	Drawn By: HADJE	Chk/Prvrd: SUTET	Drawn Date: 28/07/2023	Status: FINAL

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# Annex B

## Full survey results

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**Table B-1 Badger field signs and habitat suitability**

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Table B-2 Otter field signs and habitat suitability

National Grid Reference	Field sign					Habitat suitability			Description	
	Spraint	Feeding Remains	Footprint	Holt	Resting Place	Seen	Foraging	Commuting		Holt or Resting Place
TQ1890916025							High	High	High	River with marginal vegetation.
TQ1998517618							High	High	Moderate	
TQ2275422729	Yes	Yes					High			Exoskeleton with fragments seen in spraint.
TQ1901117538							Moderate			
TQ0174904291		Yes					High	High	High	Feeding remains. High quality habitat for foraging and multiple opportunities for holts along ditch.
TQ0176404293		Yes								
TQ0179304306										Well-used slide into water.
TQ0224205233							High	High	High	High suitability foraging and holt habitat present for otter. Farmer has stock proofed waterbody with electric fencing. Bank is earth, bank profile is shallow <45, water current is sluggish. Cannot view banks properly to assess constraints from cattle and dense reed beds. Recommended further survey using public rights of way.
TQ0249505537							Low	Low	Low	Farmer has stock proofed waterbody with electric fencing. Bank is earth, bank profile is steep >45, water current is sluggish, waterbody colonised by nutrient tolerant herbs such as nettle suggesting run off. Cannot view banks properly to assess due to dense vegetation in part. Recommended further survey using waders - due to electric fencing not sure if possible. Low foraging and holt habitat for otter as ditch network across farm is connected to the river Arun and tributaries potential for European eel present as food source.
TQ0226104439							Negligible	Negligible	Negligible	Not suitable. Ditch is dry and offers no suitable foraging or holt habitat to otter.
TQ2220721219										High potential for otter holt, unable to fully assess from bank.

National Grid Reference	Field sign					Habitat suitability				Description
	Spraint	Feeding Remains	Footprint	Holt	Resting Place	Seen	Foraging	Commuting	Holt or Resting Place	
TQ2220921164										High potential for otter holt, unable to fully assess from bank.
TQ2282621490										High potential for otter holt, unable to fully assess from bank.
TQ2195921582										Moderate potential for otter holt, unable to fully assess from bank.
TQ2203621465										Potential otter holt, no otter signs observed
TQ2205021369										Potential otter holt, no otter signs observed
TQ0249405548										Potential otter holt, no otter signs observed
TQ0215405309										Low foraging and holt habitat for otter as ditch network across farm is connected to the river Arun and tributaries potential for European eel present as food source.

Table B-3 Water vole field signs and habitat suitability

National Grid Reference	Field sign							Habitat suitability	Description
	Latrine	Feeding evidence	Footprints	Burrow	Runs	Nest	Seen		
TQ0605405612								Low	<5mm water, 1m Width, banks stoney earth with no burrows or runs evident. Suitable refuge above water.
TQ0572305609				Possible				Low	<5mm water. Bank predominantly ivy, bracken. 90 degree slope.

National Grid Reference								Habitat suitability	Description
	Latrine	Feeding evidence	Footprints	Burrow	Runs	Nest	Seen		
TQ0503905403					Yes			Moderate	Average 60 degrees slope for the bank. Only 1 run on 1 side of the bank. Width of stream around 1.5m. Ditch is heavily clogged with vegetation occupying the edge of the bank. Vegetation is predominantly sedges with some rush, field horse tail and brambles.
TQ0427305260								Negligible	Dry, banks shallow or non-existent.
TQ0370805181								Moderate	1.5m wide, 90 degree banks. Dense vegetation obscuring banks.
TQ0177904368								High	1.5m wide. 20-30cm deep. Bank 45 degree. Access limited due to fencing and herd with calves.
TQ0088702366								High	Wet ditch network with dense reeds on banks and in channel, banks approx 45 degrees with flat area at bottom. Survey required. Moderate potential.
TQ0109801439								Moderate	Ditch with steep banks. No evidence seen. Banks dominated by reed. Water surface covered with weed. Unsure of water depth.
TQ0118402744								Moderate	Open channel with no obvious flow. Banks approx 35 degrees with dense reeds. No in channel vegetation. Water depth approx 30cm. Less suitable than ditch new towel to south.
TQ1899716121								High	Marginal veg along river. High potential to support water vole. Dense vegetation conceals any visible burrows. Too steep to search for latrines.
TQ1998617603								High	Can't check but quality looks good. Banks aren't steep sided but provides good foraging habitat. Heard a water vole 'plop'.
TQ1901116079								High	None an. Likely to provide foraging habitat. Very easy to survey when access is available.
TQ0214704799		Yes						High	
TQ0204904949		Yes							



National Grid Reference								Habitat suitability	Description
	Latrine	Feeding evidence	Footprints	Burrow	Runs	Nest	Seen		
TQ2020718809								Low	Ditch likely outflow from pond. Clear water shallow rushes along length.
TQ2020718809									
TQ2363122319								Moderate	Mostly shaded, still, shallow water, woodland ground flora at top of banks.
TQ2181018824								High	High potential in stream, dense vegetation, 45 degree banks, food plants present.
TQ0212004826									Water vole potential
TQ0146802017				Possible				High	Two burrows in bank facing south, unable to fully assess from bank.
TQ0122501612				Yes				High	Semi-submerged burrow close to water table. Recommend assessing further to view burrow using waders. River is of high quality foraging and burrow habitat to water vole. Plentiful food source available.
TQ0099501453					Possible			High	Trails in water through algae.
TQ0186005001		Yes						High	Feeding station at bank with grass recently eaten
TQ0182905012	Yes			Yes	Yes			High	Burrow with trampled latrine for territory marking. No grass cutting around burrow entrance.
TQ0177604361	Yes	Yes						High	Latrine and feeding station. Feeding remains look old not fresh.
TQ0177404382		Yes						High	Feeding station with cut grass. Slide entering in the water with tail mark in the mud
TQ0176704387				Yes				High	Burrows on the north side of bank.
TQ1443213826				Yes				Moderate	Looks like burrows from bank. Under fallen tree so not safe to assess. Cannot see any recent evidence of water vole so pressure burrows are disused.

National Grid Reference								Habitat suitability	Description
	Latrine	Feeding evidence	Footprints	Burrow	Runs	Nest	Seen		
TQ0189304988				Possible				High	Discarded water vole paw associated with potential an old burrow. Landowner has reported mink on farm. High suitability foraging and burrow/holt habitat present for water vole and otter. Southern bank is poached by cattle.
TQ2163720651		Yes						Moderate	Feeding remains of water vole cut at 45 degrees.
TQ2165620647		Yes							
TQ2166120648			Possible						
TQ2167220644	Yes								
TQ2170920632	Yes								
TQ0215405309								High	Moderate suitability foraging and burrow habitat for water vole. Farmer has stock proofed waterbody with electric fencing. Bank is earth, bank profile is steep >45, water current is sluggish, waterbody colonised by nutrient tolerant herbs such as nettle suggesting run off. Cannot view banks properly to assess due to dense vegetation in part.
TQ0226604438				Possible				High	High suitability foraging and burrow/holt habitat present for water vole. Farmer has stock proofed waterbody with electric fencing. Bank is earth, bank profile is shallow <45, water current is sluggish. Cannot view banks properly due to dense reed beds & electric fencing in places.
TQ0226005177								Negligible	Not suitable. Ditch is dry and offer no suitable foraging or burrow/holt habitat to water vole and otter.
				Yes				High	Water vole burrow recorded at easier access and viewable sections of watercourse. Highly likely evidence is within watercourse but constrained due to vegetation.

# Annex C

## Protected species Classification Criteria

### Badger

**Table C-1 Badger activity classification**

Level of activity	Description
<b>Active</b>	Obvious signs of cleared debris or vegetation around a badger sett or entrance. Discarded old bedding may be present and badger hairs at the sett entrance.
<b>Partly active</b>	Typically badger setts that are not in regular use and have debris such as leaves or twigs at sett entrances or have moss and/or other plants growing in or around the entrance. Partly used entrances could be in regular use after minimal amount of clearance.
<b>Disused</b>	Typically entrances that have not been in use for some time, are partially or completely blocked and cannot be used without a considerable amount of clearance.

**Table C-2 Badger sett classification**

Sett type	Description
<b>Main sett</b>	Usually comprise large numbers of holes with conspicuous spoil heaps and the sett generally looks very active. There will be well used paths to and from the sett and between sett entrances.
<b>Annex sett</b>	These are close to the main sett, normally less than 150m away, and are usually connected to the main sett by one or more obvious well-used pathways. They usually have several holes, but may not be in use all the time, even if the main sett is active.
<b>Subsidiary sett</b>	These often only have a few holes. They are usually at least 50m from a main sett and do not have an obvious path connecting with another sett. They are not continuously active.
<b>Outlying sett</b>	These usually have only one or two holes, often have little spoil outside the hole, have no obvious path connecting with another sett, and are used sporadically. When not in use by badgers, they may be taken over by foes or even rabbits.

## Otter

Habitats considered suitable to otter include the presence of any drainage ditches, streams, rivers, water bodies and other foraging habitat. Water of a significant depth and the presence of fish are important for foraging; however, otters will use sub-optimal habitat to commute through.

Assessment of suitable habitat:

- Type of watercourse or water body;
- The approximate depth and speed of water flow;
- The waterway width;
- Suitability to support fish; and
- Adjacent terrestrial habitats.

During the survey, the following signs that can indicate the presence of otter were searched for:

- Spraints (faeces) – often located on prominent features within the channel or on the bank (including weirs, bridges, rocks and tree roots); and
- Footprints – located in soft mud, silt or sand banks.

Additional evidence of otter presence was also searched for, such as fish remains, suitable holt sites, pathways from the water into dense cover or around bankside trees, 'slides' down banks, or resting up places (often characterised by areas of flattened vegetation). These signs, when interpreted in conjunction with spraints and footprints, can provide data to support an assessment of otter activity on a site. They cannot, however, be used in isolation to definitively indicate otter presence or absence.

## Water vole

An assessment for suitable habitat to water vole was completed on site. Water voles generally prefer wider swathes of riparian vegetation both growing from the bank and in the water, in which to forage and shelter. Earth banks are generally required for burrows and the species prefers slow-flowing water more than 1m deep.

Assessment of suitable habitat:

- Well developed (>60%) bankside and emergent vegetation to provide cover;
- Year-round availability of food sources;
- Suitable refuge areas above extremes in water levels;
- Steep banks suitable for burrowing;
- Permanent open water;
- Presence of berm (ledge at water level);
- Lack of disturbance through poaching, grazing and/or recent management; and
- Nest and building opportunities in vegetation above water level.

During the survey, the following signs which can indicate the presence of water vole were searched for:

- Droppings (faeces) – often located in discrete sites near a nest and at boundary edges of their territory where they leave and enter water;
- Latrines – a flattened mass of old droppings with new ones deposited on top, usually located along a bank, close to a water's edge or hidden underneath vegetation.
- Footprints – star-shaped footprints;
- Feeding signs – often a neat pile of nipped vegetation with sections 5 and 10 centimetres (cm) in length; and
- Water vole burrows – entrances near water's edge and between 4 – 8 cm in width.

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# Annex D

## Protected Species Legislation

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### Badger

Badgers and their setts are legally protected under the Protection of Badgers Act 1992. This makes it an offence to:

- Wilfully kill, injure, take or attempt to kill a badger;
- Interfere with a badger sett by damaging a sett or any part thereof;
- Destroy a sett; or
- Obstruct access to a sett or disturb a badger while it is occupying a sett.

The 1992 Act defines a badger sett as: “any structure or place which displays signs indicating current use by a badger”.

### Otters

Otters are protected under the Conservation of Habitats and Species Regulations 2017, which makes it illegal to:

- Deliberately or recklessly kill, injure or take (capture) an otter;
- Deliberately or recklessly disturb or harass an otter; or
- Damage, destroy or obstruct access to a breeding site or resting place of an otter (i.e. an otter shelter).

Otters are also protected under the Wildlife and Countryside Act 1981 (as amended). They are listed on Schedule 5 of the 1981 Act, and therefore subject to the provisions of Section 9, which make it an offence to:

- Intentionally kill, injure or take otters from the wild;
- Possess or control live or dead otters or derivatives;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place which otters use for shelter or protection;
- Intentionally or recklessly disturb whilst occupying a structure or place used for that purpose; or
- Sell otter or offer or expose for sale or transport for sale.

### Water Voles

As of 6th April 2008, water voles have been given full protection under the Wildlife and Countryside Act 1981 (as amended). They are listed on Schedule 5 of the 1981 Act, and therefore subject to the provisions of Section 9, which make it an offence to:

- Intentionally kill, injure or take water vole from the wild;
- Possess or control live or dead water voles or derivatives;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection;
- Intentionally or recklessly disturb water voles whilst occupying a structure or place used for that purpose; or
- Sell water voles or offer or expose for sale or transport for sale.





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