# FIVE ESTUARIES OFFSHORE WIND FARM

# FIVE ESTUARIES OFFSHORE WIND FARM VOLUME 6. PART 6, ANNEX 4.14: OTTER AND WATER VOLE SURVEY REPORT – NORTH OF A120

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## FIVE ESTUARIES OFFSHORE WIND FARM

Otter and Water Vole Survey Report: North of A120

Prepared for: GoBe Consultants (on behalf of Five Estuaries Offshore Wind Farm Ltd)

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## **1.0** Introduction

Five Estuaries Offshore Wind Farm (VE OWF) is a Nationally Significant Infrastructure Project (NSIP). An Environmental Impact Assessment (EIA) is being undertaken as part of a Development Consent Order (DCO) application under the Planning Act 2008.

SLR Consulting was commissioned by GoBe Consultants, on behalf of Five Estuaries Offshore Wind Ltd, to undertake an otter *Lutra lutra* and water vole *Arvicola amphibius* survey of those relevant parts of the project site that may be affected by the construction and operation of the onshore aspects of the VE OWF project north of the A120. These comprise the installation of a cable within a working corridor and the construction of a substation (hereafter referred to as "onshore infrastructure").

This report provides details of the surveys for otter and water vole survey undertaken in summer 2022, in line with the recommendations in the Preliminary Ecological Appraisal (PEA)<sup>1</sup>.

## 1.1 Survey Area

The otter and water vole Survey Area comprised a 250m up/downstream search area from the draft red line boundary (RLB) available at the time of survey for each water course that may be crossed by the cable corridor and/associated haul road or other infrastructure, as indicated on Figure 1. In addition, habitat survey information gathered by SLR ecologists during fieldwork in 2022<sup>2</sup> has been used to provide additional context for areas within 100m of the draft RLB at the time of survey.

## 1.2 Purpose of this Report

This report presents the findings of the 2022 otter and water vole survey north of the A120. The report seeks to establish baseline conditions and identify habitats that may be important for this species. The assessment of impacts resulting from the onshore elements of VE OWF is beyond the scope of this report and is covered in the Onshore Biodiversity and Nature Conservation Chapter of the ES.

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.

## 1.3 Evidence of Technical Competence and Experience

Hannah McBlain and Charlie Kempson undertook the field surveys in June 2022 and August 2022. Both surveyors are Project Ecologists at SLR with 2 years' experience of habitat and protected species survey, including at least one year of otter and water vole surveys. Both are Qualifying members of the Chartered Institute of Ecology and Environmental Management (CIEEM) and abide by its professional code of conduct.

Hannah authored this survey report and maintains 2 years' experience in ecological report writing including in support of PEAs, EIAs and species survey reports.

Jess Colebrook reviewed this report and is a Principal Ecologist at SLR Consulting with over 20 years' experience as a professional ecologist. She is a Chartered Environmentalist (CEnv) and a full member of CIEEM (MCIEEM).

<sup>&</sup>lt;sup>2</sup> Contained within Five Estuaries Offshore Wind Farm Habitat and Hedgerow Survey N of A120, SLR Consulting, December 2022.



<sup>&</sup>lt;sup>1</sup> Five Estuaries Offshore Wind Farm: Preliminary Ecological Appraisal (Onshore), SLR Consulting, May 2022

Jess is leading the onshore ecological work necessary to inform the EIA for the Five Estuaries Offshore Wind Farm project.

## 2.0 Methodology

## 2.1 Field Surveys

Field surveys were undertaken on 14 – 19th June 2022 and 15 – 18th August 2022. They comprised an assessment of the physical characteristics of each watercourse of relevance to otter and/or water vole requirements, an initial assessment of suitability for supporting otter and/or water vole and a detailed search for field signs.

Otter survey was carried out at all watercourses crossing the draft PEIR RLB available at the time of survey, plus 250m up and downstream, as shown on Drawing 1. Survey methods were informed by current references<sup>3</sup> and surveys took place in conjunction with surveys for water vole (below).

Water vole survey was carried out at all watercourses crossing the preferred cable corridor route, onshore substation or associated construction areas, plus 200m up and downstream as shown on Drawing 1. Surveys were undertaken in accordance with standard methods<sup>4</sup>,<sup>5</sup>, which require up to two visits, two months apart, between April and October.

The surveys involved walking along both banks, where possible, of the identified watercourses to search for field signs of otter and water vole presence, and noting habitat characteristics. Where conditions allowed, the surveyor walked along the watercourse channel to check for field signs near the water's edge. Binoculars were used to survey inaccessible areas at the bank edge and also to scan the opposite banks from distance.

Field data was recorded digitally and uploaded directly from site. Each record included GPS location coordinates for every watercourse and field sign.

All surveys were undertaken in weather conditions considered suitable for conducting otter and water vole surveys (i.e. dry, calm winds). Survey visits in both months were warm, with temperatures recorded between 17°C and 23°C. The August surveys followed a heatwave which showed a significant change in vegetation condition (i.e. dry, shorter, less varied) compared to June.

## 2.2 Limitations

Survey access was impeded at some remaining areas due to encroachment by dense scrub and/or vegetation. However, it is considered that sufficient access was possible at each water course such that the likely presence of either species would have been detected.

England endured multiple heatwaves over the summer with peak temperatures of 40° in July. This brought a prolonged period of drought to Suffolk and Essex that scorched vegetation, changing habitats and landscapes significantly. In the August visit, watercourses were drier, and vegetation was much less preferable for otter and water vole.

An ecological study provides only a "snapshot" of the conditions prevailing at the time of survey. Lack of evidence at the time of survey does not necessarily preclude otter or water vole, both of which are highly mobile species, from being present within an area at a later date.

The above limitations are not considered to be significant and given the site context and the types of habitat present, the level of survey is considered to be sufficient to meet the objectives listed in Section 1.2.

<sup>&</sup>lt;sup>5</sup> Dean, M (2021) Water Vole Field Signs and Habitat Assessment A Practical Guide to Water Vole Surveys. (Exeter, Pelagic Publishing)



<sup>3</sup> Chanin, P. (2003). 'Ecology of the European Otter', in Conserving Natura 2000 Rivers, Ecology Series No. 10, (Peterborough: English Nature).

Chanin, P. (2003). 'Monitoring the Otter', in Conserving Natura 2000 Rivers, Monitoring Series No 10, (Peterborough: English Nature).

<sup>4</sup> Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). 'The Water Vole Mitigation Handbook', The Mammal Society Mitigation Guidance Series, Fiona Mathews and Paul Chanin (eds.), (London: The Mammal Society).

## 3.0 Results

## 3.1 Watercourse Descriptions

Detailed descriptions for each water course surveyed are provided in Appendix A with locations shown on Drawing 1**Error! Reference source not found.**. One water course (W9) was considered suitable for use by otter, t he remainder are suitable for use by water vole, though most are of poor quality<sup>6</sup>. W5 and W8 were the exception, and are considered to be good quality<sup>6</sup> for use by water vole.

## 3.2 Otter Evidence

No evidence of otter was recorded.

## 3.3 Water Vole Evidence

Water vole presence was confirmed at one watercourse – W8 - via the presence of latrines which are considered definitive evidence of presence. A further three watercourses – W7, W11, W12 - had burrows which may have been created by water vole, but since this evidence is less definitive (i.e. other small mammals share similar field signs), this is not considered conclusive. Summary detail is provided in Table 3-1 below and shown on Drawing 1. Full detail for each instance of water vole evidence is included in Appendix B.

Watercourse No.	Date	Evidence details
7	16/08/22	Burrows
8	14/06/22	Latrines
		Burrows
		Feeding remains
8	16/08/22	Burrows
		Feeding remains
11	16/08/22	Burrows
12	14/06/22	Burrows

 Table 3-1

 Water vole field signs identified from watercourse surveys

## 3.4 Other mammal signs

Signs of brown rat *Rattus norvegicus*, and field vole *Microtus agrestis*/ bank vole *Myodes glareolus*, including burrows, footprints, runs and faeces were frequently recorded along the length of many of the surveyed watercourses.

<sup>&</sup>lt;sup>6</sup> Terms used in accordance with definitions within Dean (2021) referenced at footnote 5

## 4.0 Discussion and Evaluation of Results

## 4.1 Otter

The survey area is considered unlikely to support a population of otter at present based on lack of evidence. However, it is possible that W9 could occasionally be used by this species (if present locally) as habitat is suitable for passage and potentially also for foraging (depending on water levels).

## 4.2 Water Vole

Water vole are confirmed to be present at W8; 5 latrines were recorded per 100m of bankside habitat during the first survey, which suggests that a medium density of water vole was present at that time<sup>7</sup>. Burrows and feeding remains were recorded during the August visit, but no evidence of latrines was found. This would indicate that a low population was present at that time<sup>7</sup>.

Since no confirmatory field signs were recorded at the other water courses, it is considered unlikely that population(s) were present at the time of survey. However, as W7, W11 and W12 link with W8 and since water vole is a highly mobile species, it is considered possible these areas could be used seasonally, or could be used in future.

<sup>&</sup>lt;sup>7</sup> Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). 'The Water Vole Mitigation Handbook', The Mammal Society Mitigation Guidance Series, Fiona Mathews and Paul Chanin (eds.), (London: The Mammal Society).



## **DRAWING 1**

Otter and water vole survey results

## **APPENDIX A**

Watercourse descriptions

Watercourse No, June 2022 photo and short description	Width (m)	Channel depth (m)	Water depth (m)	Bank profile	Bank substrate	Water level variation	Water permanence	Channel and bankside vegetation cover	Bankside vegetation type	Otter potential	Water vole potential	Constraints and additional notes
1 A wide ditch bordered by arable fields. The ditch channel comprises tall grasses, and herbs with shallow muddied water. Vegetation was dense making access difficult at points.	3	2	0.25	Steep (45 degrees +)	"Earth (sand, silt, clay, loam, peat)"	Not noticeable	Wet for 2-3 months during summer with permanent water nearby	90- 100%	Tall or tussocky grass, Ruderals	Negligible	Suitable but poor	Road in between but quiet. Heavy vegetation so difficult to enter watercourse.
2 W2 branches off to the west where W1 and W3 meet. It cuts through the same arable fields and is crowded by the bankside grasses. The ditch flows west towards urban habitat where it ends with no further connectivity	2.5	2	0.25	Steep (45 degrees +)	"Earth (sand, silt, clay, loam, peat)"	Not noticeable	Wet for 2-3 months during summer with permanent water nearby	90- 100%	Tall or tussocky grass, Ruderals	Negligible	Suitable but poor	Difficult to survey due to vegetation.



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Watercourse No, June 2022 photo and short description	Width (m)	Channel depth (m)	Water depth (m)	Bank profile	Bank substrate	Water level variation	Water permanence	Channel and bankside vegetation cover	Bankside vegetation type	Otter potential	Water vole potential	Constraints and additional notes
3 W3 continues from W1 and is similar proportionally. The ditch is much drier, appearing damp and less permanent. The bankside vegetation merges with the field vegetation merges with the field vegetation making the ditch less visible at ground-level.	3	2	0.1	Steep (45 degrees +)	"Earth (sand, silt, clay, loam, peat)"	Not noticeable	Wet for 2-3 months during summer with permanent water nearby	90- 100%	Tall or tussocky grass, Ruderals	Negligible	Suitable but poor	Access to watercourse difficult due to thick vegetation.
4 We want the set of t	2	1.5	0.15	Steep (45 degrees +)	"Earth (sand, silt, clay, loam, peat)"	Not noticeable	Wet for 2-3 months during summer with permanent water nearby	60-89%	Ruderals, Trees	Negligible	Suitable but poor	

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Watercourse No, June 2022 photo and short description	Width (m)	Channel depth (m)	Water depth (m)	Bank profile	Bank substrate	Water level variation	Water permanence	Channel and bankside vegetation cover	Bankside vegetation type	Otter potential	Water vole potential	Constraints and additional notes
5 W5 continues east from the end of W3. The channel is densely vegetated by tall grass and ruderals. The ditch runs alongside a small woodland where the trees encroach on the bankside.	2	2	0.25	Steep (45 degrees +)	"Earth (sand, silt, clay, loam, peat)"	Not noticeable	Permanent	90- 100%	Tall or tussocky grass, Ruderals, Trees	Negligible	Good	Dense vegetation.
6 We was accessed via footpath from the south and was not accessible from W5 as it appears in Drawing 1 (watercourses separated by Barlon Road then blocked by impenetrable wood species). Although vegetation blocked either end of W6, most of the channel accessible with deeper and clearer water. South of W6 connects to another watercourse that was not included in the survey.	2	2	0.5	Steep (45 degrees +)	"Earth (sand, silt, clay, loam, peat)"	Not noticeable	Permanent	90- 100%	Tall or tussocky grass, Ruderals, Trees	Negligible	Suitable but poor	Not accessible where it meets W5 - had to find and walk to the other end of W6 (access on public footpath)

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Watercourse No, June 2022 photo and short description	Width (m)	Channel depth (m)	Water depth (m)	Bank profile	Bank substrate	Water level variation	Water permanence	Channel and bankside vegetation cover	Bankside vegetation type	Otter potential	Water vole potential	Constraints and additional notes
7 W7 begins alongside private property with no connectivity to the west. The water course had suitable mudflats for water vole latrines and banksides suitable for burrowing. The ditch is shaded, falling under the canopy of a line of trees. Vegetation is dominated by nettles and bramble.	1.5	2	0.25	Steep (45 degrees +)	"Earth (sand, silt, clay, loam, peat)"	Not noticeable	Permanent	90- 100%	Tall or tussocky grass, Ruderals, Trees	Negligible	Suitable but poor	Some parts along watercourse were hard to access

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Watercourse No, June 2022 photo and short description	Width (m)	Channel depth (m)	Water depth (m)	Bank profile	Bank substrate	Water level variation	Water permanence	Channel and bankside vegetation cover	Bankside vegetation type	Otter potential	Water vole potential	Constraints and additional notes
	1	1.5	0.4	Steep (45 degrees +)	"Earth (sand, silt, clay, loam, peat)"	Not noticeable	Wet for 2-3 months during summer with permanent water nearby	60-89%	Short grass, Trees	Negligible	Good	Heavily vegetated along watercourse at points.
W8 continues east from W7. The ditch												
runs parallel to a reservoir to the north and arable land to the south. The vegetation at the beginning of W8 is similar to W7. As W8 flows east out of the woodland, the channel and water become deeper and the vegetation evolves into sedges and reeds.												

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Watercourse No, June 2022 photo and short description	Width (m)	Channel depth (m)	Water depth (m)	Bank profile	Bank substrate	Water level variation	Water permanence	Channel and bankside vegetation cover	Bankside vegetation type	Otter potential	Water vole potential	Constraints and additional notes
9 W9 continues east from W8. The ditch runs next to a private field and a crop field. Water depth increase and small fish appear in the watercourse. There are sections allowing passage for otters but connectively becomes poor.	3	3	0.7	Steep (45 degrees +)	Stony/ rocky earth	Not noticeable	Permanent	90- 100%	Tall or tussocky grass, Ruderals, Trees	Passage	Suitable but poor	Fish in watercourse. Suitable passage for otters but poor connectivity.
10 The ditch branches off from W11 where it is inaccessible due to overgrowth of vegetation. It runs through a small woodland and can be accessed marginally from the north.	1.5	2	0.3	Steep (45 degrees +)	"Earth (sand, silt, clay, loam, peat)"	Not noticeable	Permanent	90- 100%	Tall or tussocky grass, Ruderals, Trees	Negligible	Suitable but poor	Inaccessible from south due to overgrowth of vegetation.

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Watercourse No, June 2022 photo and short description	Width (m)	Channel depth (m)	Water depth (m)	Bank profile	Bank substrate	Water level variation	Water permanence	Channel and bankside vegetation cover	Bankside vegetation type	Otter potential	Water vole potential	Constraints and additional notes
11 In June, W11 was overgrown and the channel was difficult to distinguish from the surrounding grassland.	1	2	0.25	Steep (45 degrees +)	"Earth (sand, silt, clay, loam, peat)"	Not noticeable	Wet for 2-3 months during summer with permanent water nearby	90- 100%	Short grass, Tall or tussocky grass, Scrub, Ruderals, Trees	Negligible	Suitable but poor	Overgrown and inaccessible after woodland.
12 With rettles in both survey visits. Dense vegetation made it difficult to navigate so the survey was mostly undertaken on the bankside.	1.5	1.5	0.5	Steep (45 degrees +)	"Earth (sand, silt, clay, loam, peat)"	Not noticeable	Wet for 2-3 months during summer with permanent water nearby	90- 100%	Tall or tussocky grass, Ruderals	Negligible	Suitable but poor	Dense vegetation made it difficult to navigate. Mostly tall nettles (wear long sleeves)

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Watercourse No, June 2022 photo and short description	Width (m)	Channel depth (m)	Water depth (m)	Bank profile	Bank substrate	Water level variation	Water permanence	Channel and bankside vegetation cover	Bankside vegetation type	Otter potential	Water vole potential	Constraints and additional notes
13 W13 branches off to the south at the corner of W12 and W14. The ditch is flat and open with a shallow bank profile of <20 degrees. W13 becomes densely vegetated closer towards A120	2.5	0.5	0.15	Shallow (less than 20 degrees)	"Earth (sand, silt, clay, loam, peat)"	Not noticeable	Wet for 2-3 months during summer with permanent water nearby	60-89%	Tall or tussocky grass, Ruderals	Passage, holt	Suitable but poor	Densely vegetated closer towards A120 Mostly flat and open - good for otters very temporarily but does eventually narrow on both ends of watercourse.

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Watercourse No, June 2022 photo and short description	Width (m)	Channel depth (m)	Water depth (m)	Bank profile	Bank substrate	Water level variation	Water permanence	Channel and bankside vegetation cover	Bankside vegetation type	Otter potential	Water vole potential	Constraints and additional notes
	1.5	1.5	0.2	Steep (45 degrees +)	"Earth (sand, silt, clay, loam, peat)"	Considerabl e	Wet for 2-3 months during summer with permanent water nearby	90- 100%	Tall or tussocky grass, Ruderals, Trees	Negligible	Suitable but poor	Densely vegetated parts hard to navigate. Open and shallower slope at beginning. Eventually dries up and full of dense vegetation.
W14 runs between two arable fields. From the east, it the channel begins more open with shallower slopes. The channel eventually dries up and												
becomes inaccessible and full of dense bramble												

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Watercourse No, June 2022 photo and short description	Width (m)	Channel depth (m)	Water depth (m)	Bank profile	Bank substrate	Water level variation	Water permanence	Channel and bankside vegetation cover	Bankside vegetation type	Otter potential	Water vole potential	Constraints and additional notes
15 With a steep depth and few stable entry points.	2	2.5	0.1	Steep (45 degrees +)	"Earth (sand, silt, clay, loam, peat)"	Not noticeable	Wet for 2-3 months during summer with permanent water nearby	90- 100%	Tall or tussocky grass, Ruderals	Negligible	Suitable but poor	Very densely vegetated and mostly inaccessible (steep depth with few stable entry points). Mostly dry
16 With begins close to the meeting point of W14/W15 where it appears to have been previously connected from aerial view. The ditch runs south, parallel to a dirt track before ending at a farmhouse. W16 has no connectivity to other watercourses. Water depth is shallow and vegetation is dominated by dense nettles.	2.5	1.5	0.15	Steep (45 degrees +)	"Earth (sand, silt, clay, loam, peat)"	Not noticeable	Wet for 2-3 months during summer with permanent water nearby	90- 100%	Tall or tussocky grass, Ruderals	Negligible	Suitable but poor	Dense nettles all along to house. Not connected to other watercourses

## **APPENDIX B**

Otter and/or Water Vole Evidence

Watercourse No	Date	Latitude	Longitude	Water vole	Notes
				evidence	
7	16/8/22	51.91648	1.0596	Burrow	Dry, old, disused
7	16/8/22	51.9165	1.059544	Burrow	Dry, old, disused.
7	16/8/22	51.91654	1.059426	Burrow	Dry, old, disused.
8	16/8/22	51.9146	1.063932	Burrow, Feeding remains	Vegetation around burrow dried but surrounded by greener veg
8	16/8/22	51.91464	1.063856	Feeding remains	Old dried up feeding remains
8	16/8/22	51.91468	1.06371	Burrow	Crumbly burrow
8	16/8/22	51.9147	1.063614	Burrow	Cracked and dry burrow
8	16/8/22	51.91529	1.062432	Burrow, Feeding remains	Dried feeding remains, dry vegetation around burrow. Could be active?
8	16/8/22	51.91533	1.062308	Burrow	Dry, old, cobwebs, disused.
8	14/6/22	51.90444	1.075893	Burrow	Potential Water vole
8	14/6/22	51.91462	1.063905	Feeding remains, Latrine	
8	14/6/22	51.91442	1.064403	Feeding remains	
8	14/6/22	51.91443	1.064365	Feeding remains	
8	14/6/22	51.91464	1.063886	Feeding remains	
8	14/6/22	51.91463	1.063836	Feeding remains, Latrine	
8	14/6/22	51.91468	1.063737	Feeding remains	
8	14/6/22	51.91468	1.06377	Feeding remains	
8	14/6/22	51.91464	1.063811	Feeding remains, Latrine	
8	14/6/22	51.91471	1.063733	Feeding remains	
8	14/6/22	51.91468	1.063704	Feeding remains, Latrine	

Watercourse No	Date	Latitude	Longitude	Water vole evidence	Notes
8	14/6/22	51.91471	1.06374	Feeding remains	
8	14/6/22	51.91472	1.063635	Feeding remains, Latrine	Feeding remains found next to latrine
8	14/6/22	51.91502	1.063039	Burrow	Potential burrow but no other signs
11	16/8/22	51.91186	1.074683	Burrow	Vegetation dried around burrow
11	16/8/22	51.91182	1.074824	Burrow	Local area dry
11	16/8/22	51.91196	1.075007	Burrow	Could be active - wet vegetation better than other watercourses in heatwave aftermath
11	16/8/22	51.91202	1.075087	Burrow	Likely active - green veg around and water in ditch
11	16/8/22	51.91205	1.075116	Burrow	New evidence for W11. Vegetation cut back. Lots of burrows
12	14/6/22	51.90858	1.075945	Burrow	
12	14/6/22	51.90927	1.075447	Burrow	
12	14/6/22	51.90738	1.076013	Burrow	

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