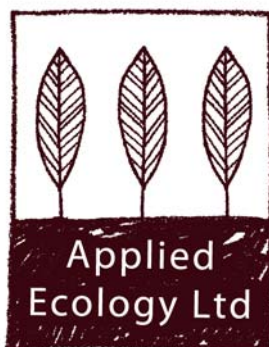


Annex 35.2

South Killingsholme Water  
Vole Survey Report Cherry  
Cobb Sands

*(Applied Ecology)*





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**SOUTH KILLINGHOLME  
WATER VOLE SURVEY REPORT**

**CHERRY COBB SANDS**

Report for

**Able UK Ltd**

November 2010

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**Client:** Able UK Ltd

**Title:** South Killingholme Water Vole Survey Report - Cherry Cobb Sands

**Project No:** AEL 306

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**Signed on behalf of Applied Ecology Ltd:**



Dr Duncan Painter  
Director

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**CONTACT DETAILS:**

APPLIED ECOLOGY LTD  
St. John's Innovation Centre  
Cowley Road  
Cambridge  
CB4 0WS

Tel: 01223 422 116

Fax: 01223 420 844

Mobile: 07725 811 777

Email: [info@appliedecology.co.uk](mailto:info@appliedecology.co.uk)



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# 1 INTRODUCTION

## 1.1 BACKGROUND

- 1.1.1 Applied Ecology Ltd (AEL) was appointed by Able UK Ltd to complete a water vole survey of a land area adjacent to the north shore of the River Humber estuary in an area known as Cherry Cobb Sands, in Yorkshire (central OS grid reference TA 224 209).
- 1.1.2 The water vole survey was commissioned in response to a recommendation made in a Phase 1 Ecology Report for the site completed by in AEL in October 2010<sup>1</sup>.
- 1.1.3 The survey is required to help inform the potential ecological impact of a managed realignment of the Humber flood embankment to create new inter-tidal habitats on farm land as compensation for the future loss of similar habitats on the opposite side of the river in association with a proposed Marine Energy Park development.

## 1.2 WATER VOLE ECOLOGY

- 1.2.1 The water vole *Arvicola amphibius* is distributed throughout Britain, though is scarce in northern Scotland and is absent from Ireland. The species is undergoing a long-term population decline caused by changes in habitat, pollution of watercourses and predation from the introduced American Mink *Mustela vison*.
- 1.2.2 Water voles occur mainly along well vegetated banks of slow flowing rivers, canals, drainage ditches, and standing water bodies. They eat grasses and waterside vegetation. Water voles excavate extensive burrow systems into the banks of water ways. These have sleeping/nest chambers at various levels in the steepest parts of the bank, and usually have underwater entrances to give the animals a secure route for escape if danger threatens.
- 1.2.3 Lawns of closely cropped grass, occasionally with small piles of characteristically bitten plant stems, may be found near burrow entrances. Water voles tend to be more active during the day than at night. Male voles live along approximately 130 metres of bank, while females have ranges about 70 metres long. They deposit distinctive lozenge shaped droppings in latrines. Latrine sites made up of dropping piles occur throughout and at the edges of their range during the

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<sup>1</sup> Applied Ecology Ltd (October 2010) *South Killingholme Phase 1 Ecology Survey – Cherry Cobb Sands*. Report for Able UK Ltd, issued 12 October 2010.



breeding season.

- 1.2.4 Water voles usually have three or four litters a year, depending on the weather conditions. In mild springs the first of these can be born in March or April, though cold conditions can delay breeding until May or even June.

### 1.3 LEGISLATION

- 1.3.1 The protection to water vole under the Wildlife & Countryside Act 1981 (as amended) has been extended since 6 April 2008. This means that water vole is now fully protected under section 9 of the WCA. This legal protection makes it an offence to:

- intentionally kill, injure or take (capture) a water vole;
- possess or control a live or dead water vole, or any part of the water vole;
- intentionally or recklessly damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection or disturb water voles while they are using such a place;
- sell, offer for sale or advertise for live or dead water voles.

- 1.3.2 Offences under Section 9 carry a maximum penalty of a fine (currently up to £5,000), imprisonment for up to six months or both. Licences are available from Natural England to allow activities that would otherwise be offences, but there is no provision under the WCA for licencing what would otherwise be offences for the purposes of development, maintenance or land management.

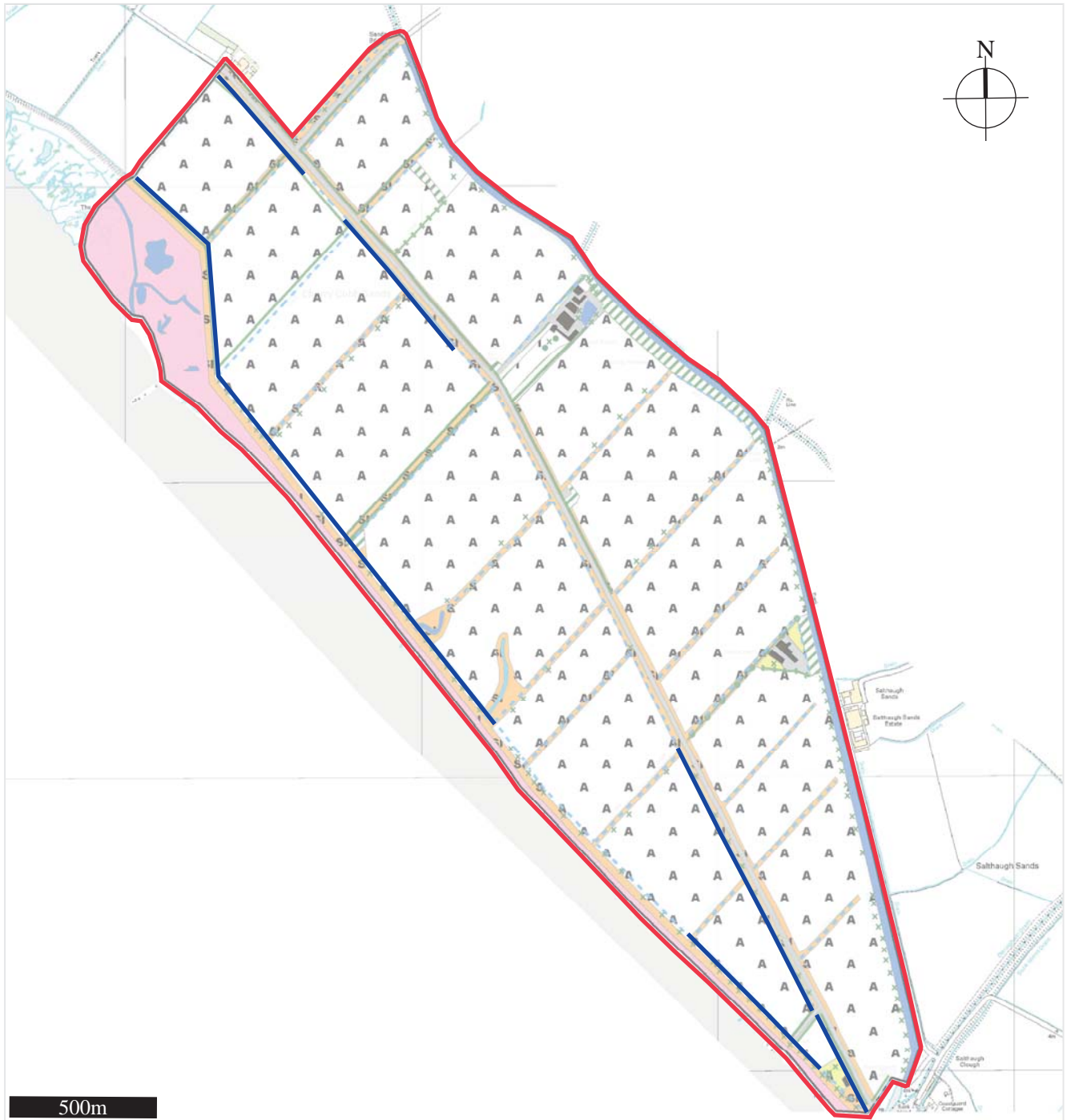
- 1.3.3 Such activities must be covered by the defence in the WCA that permits otherwise illegal actions if they are the incidental result of a lawful operation and could not be reasonably avoided. In practice this would mean agreeing an appropriate mitigation strategy with the Environment Agency to ensure that unnecessary damage is avoided, and all reasonable steps are taken to minimise impacts on water voles and their burrows as part of development construction.



## 2 SURVEY APPROACH

- 2.1.1 The survey was completed on the 6-7 October by two experienced AEL ecologists - Rob Hutchinson MIEEM and Rick Goater MIEEM.
- 2.1.2 The distribution of all wet watercourses (drainage ditches) within the study area is shown by **Figure 1**. Water vole field evidence was searched for along the entire length of all the water filled ditches within the study area. Systematic searches were made of both banks for field evidence of water vole including the animals themselves, their characteristic bank side burrows, runs, grazed grass lawns around burrow entrances, small collections of vegetation bitten off and piled in a manner characteristic of water vole, latrines (consisting of accumulations of water vole droppings often trodden into a paste by the animals), and also more loosely scattered droppings.
- 2.1.3 In order to aid estimation of the numbers of breeding water voles within the site, and to assess their distribution, all latrines and burrow holes found were mapped and the location recorded using a 10-figure grid reference generated from a hand-held GPS unit.
- 2.1.4 For the most part, the ditches were shallow enough for survey to be carried out with at least one surveyor wading 'in-stream', the other observing from one bank and concentrating his search there. Along most survey sections, bank side vegetation did not restrict detailed searching for field evidence of water vole presence. However some channel sections, particularly Sections 2 and 3, supported patches of dense marginal scrub which restricted physical access to the ditch banks especially where in-channel water and/or silt was deep. In these cases, physical access for survey was achieved by a combination of bank-side inspection at points where access was possible and/or in-channel wading.



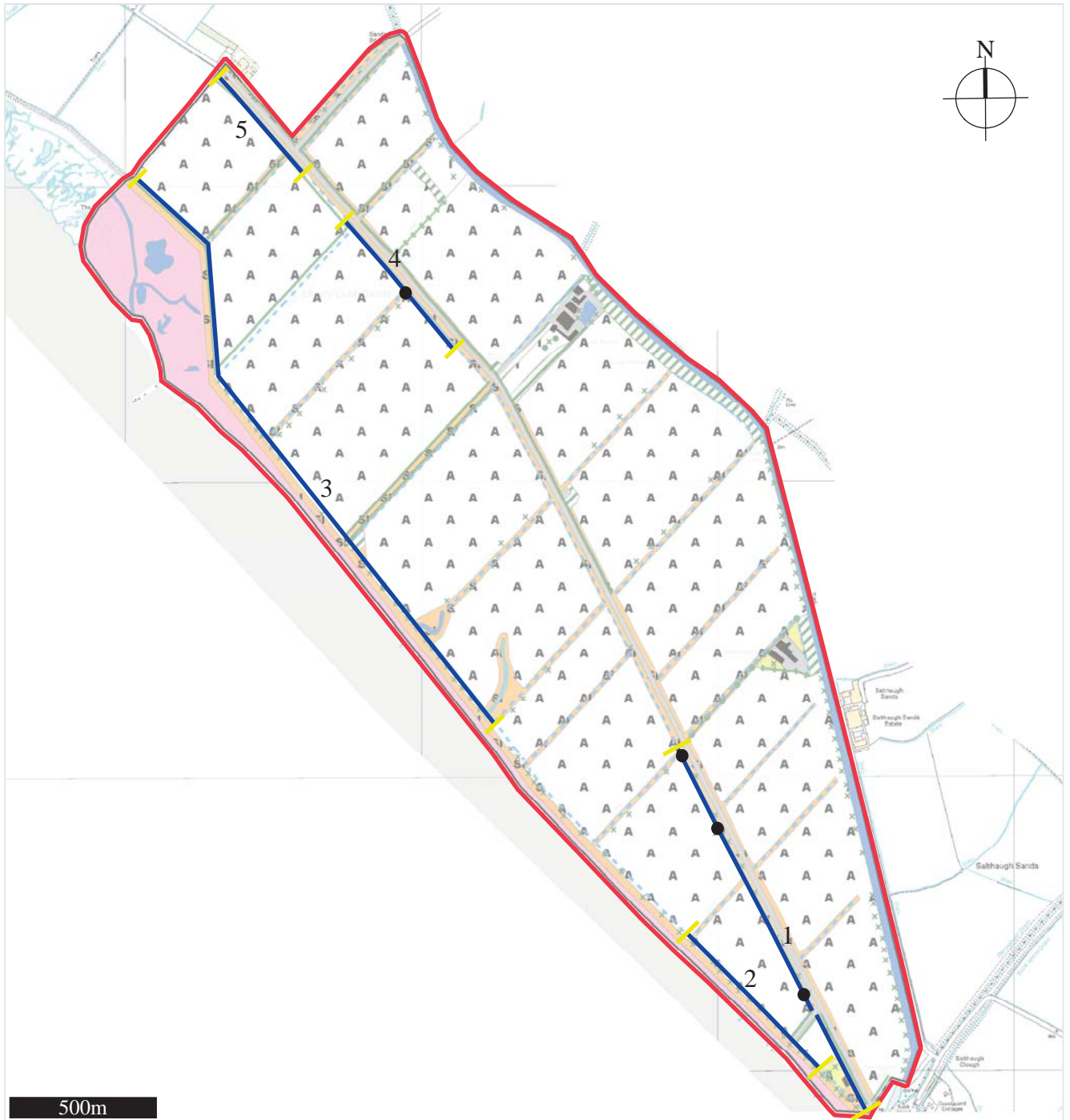


**South Killingholme, Cherry Cobb Sands**  
 Figure 1: Water vole survey area



### 3 SURVEY FINDINGS

- 3.1.1 Very little water vole field evidence was present within the study area, with no evidence whatsoever present in Sections 2, 3 and 5.
- 3.1.2 A total of three widely spaced suspected water vole burrow holes were present within Section 1, and a single suspected water vole burrow hole within Section 4 (see **Figure 2**). It is important to note, however, that no additional water vole field evidence (e.g. footprints, runs, droppings, latrines or feeding signs) was present in association with any of the four holes, and the presence of a small water vole population in these ditch sections is only suspected and could not be verified.
- 3.1.3 It is of note that characteristic field evidence of rat, including their burrow holes with closely associated runs, droppings and footprints was present in isolated locations, but particularly in association with culverts and bridge crossings, within channel Sections 1 and 4.
- 3.1.4 The presence of mink with the site was also reported by local residents, but no obvious field evidence of minks was seen during the survey.



Black dots indicate approximate positions of suspected water vole burrows  
 Yellow lines demarcate water course section numbers discussed in the text

**South Killingholme, Cherry Cobb Sands**  
 Figure 2: Water vole survey results





## 4 CONCLUSIONS

- 4.1.1 Water voles are suspected to occur within the Cherry Cobb Sands study area as a small transient population that may fluctuate in size and distribution according to ditch water levels.
- 4.1.2 Water vole survey work completed concurrently by AEL on the south side of the Humber recorded active water vole and extensive water vole field evidence, and we conclude that the absence of water vole burrow holes and associated field evidence from the Cherry Cobb Sands site is as a result of an absence of the animals themselves rather than any reduction in water vole activity at the time the survey was completed.
- 4.1.3 Reflecting that water vole numbers could possibly increase in response to changing surface water levels in the future, it is recommended that a precautionary follow-up survey is completed in advance of implementing managed realignment of the Humber flood embankment to verify water vole presence/absence, and to enable an appropriate mitigation strategy to be developed as necessary to avoid killing and injury of individual water vole as a result of the managed realignment.