

Appendix 8.8: White-Clawed Crayfish Survey

Land at Barkham Square

Land at Barkham
Square: White-
Clawed Crayfish
Survey
FINAL
November 2025

Approval for issue

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Glossary

Term	Meaning
The Applicant	Crest Nicholson Operations Limited (Chiltern m Division)
The Project	Land at Barkham Square

Abbreviations

Abbreviation	Meaning
ES	Environmental Statement
NERC 2006	Natural Environment and Rural Communities Act 2006
TVERC	Thames Valley Environmental Records Centre.
WCA5	Animal species protected from intentional killing injuring or taking under schedule 5 of the Wildlife and Countryside Act 1981 (as amended).
eDNA	Environmental DNA (Deoxyribosenucleic Acid)

Units

Unit	Description
m	metre
ha	hectare
km	kilometre

1 INTRODUCTION

1.1 Overview

- 1.1.1 This Appendix of the Environmental Statement (ES) has been prepared by RPS on behalf of Crest Nicholson Operations Limited (Chiltern Division).
- 1.1.2 The purpose of this technical report is to present the methodology and results of the white-clawed crayfish *Austropotamobilius pallipes* surveys for the Project. The results of this report have been used to inform Chapter 8: Ecology and Nature Conservation of the ES.

1.2 Site Description

- 1.2.1 The site is located at Barkham Square, Arborfield south-east of Reading, Berkshire (the Site). It comprises approximately 61.3 ha of mainly grassland grazed by sheep. There are blocks of ancient woodland found on Site. There is a pond located to the south, adjacent to the Barkham Brook. The Barkham Brook runs through the centre of the Site in a north-south orientation.
- 1.2.2 The wider landscape is generally rural in nature with parcels of woodland, including ancient woodland. Arable fields are found to the east and north of the Site. Waterman's Lake is located approximately 30m south of the Site boundary.

1.3 Legislation

- 1.3.1 White-clawed crayfish are protected under the Wildlife and Countryside Act 1981 (as amended) through their inclusion in Schedule 5. Under the Act, they are protected from:
- Intentionally kill, injure, or take the animal from the wild;
 - Damage or destroy any structure used by that species for shelter and protection including obstruction of its use or disturbing the animal;
 - Possess the species (dead or alive); and
 - Trading, advertising or selling the species, dead, alive or any derivatives.
- 1.3.2 White-clawed crayfish are also listed on Section 41 of the NERC Act 2006 as a Species of Principal Importance; national objectives & targets include the maintenance of the geographical range and viability of existing white-claw crayfish populations to ensure that it remains in favourable conservation status.

2 METHODOLOGY

2.1 Desk Study

- 2.1.1 A data request was submitted to Thames Valley Environmental Records Centre (TVERC) for records of protected species including white-claw crayfish within 2 km of the Site as part of the ecology desk study. The full results of the desk study are presented in Appendix 8.1: PEA. The results of the desk study pertaining to white-claw crayfish are presented in this report.

2.2 Field Surveys

Study area

- 2.2.1 The white-clawed crayfish survey focused on watercourses within the Project boundary that had been identified as being impacted during the development of the Project design. The survey areas are shown alongside the results of the survey in Annex A.

Environmental DNA (eDNA) Sampling

- 2.2.2 The Site was sampled on July 25th 2024, by a suitably qualified aquatic ecologist.
- 2.2.3 Five samples were taken from a stretch of the Barkham Brook watercourse between SU 7777 66552 and SU 77509 66129. The locations along watercourse of where the samples were taken are provided in Annex A.
- 2.2.4 Field eDNA samples were collected in line with protocols provided by the laboratory undertaking the eDNA analysis (Nature Metrics Ltd). The methodology is outlined below:
- Water is collected from the watercourse in a Whirl-Pack bag.
 - A plastic syringe was then used to draw water from the sample, and the contents were then expelled to calibrate the syringe.
 - The syringe was then used to draw water from the sample repeatedly and push through filter until no more liquid could pass through the filter. The volume of water that was passed through the filter was recorded.
 - The filter was capped, and a DNA primer was pushed in to the syringe.
 - Samples collected are stored in a cold box and dispatched to the laboratory.

Walkover Survey

- 2.2.5 A walkover of the banks of the Barkham Brook was undertaken to inspect for possible white-clawed crayfish burrows. This was carried out following the standard survey method described in Monitoring the White-clawed Crayfish, Conserving Natura 2000 Rivers. Monitoring Series No. 1. (Peay S, 2003).
- 2.2.6 The survey consisted of scoping for suitable habitat features along the watercourse margin and the channel that could be utilised by burrowing white-clawed crayfish. These features include:
- Boulders or large cobbles in groups with crevices between them;
 - Slow-flowing glides and pools;
 - Deep crevices in bedrock;

- Submerged refuges in stable banks (e.g. natural crevices, stone block reinforcement, large trees etc.).
- Margins next to favourable bankside habitat.

2.3 Limitations

- 2.3.1 There are no limitations associated with the surveys, protocols were followed accurately and within the guidelines. Surveys were completed in suitable conditions at the optimal time of year to survey for white-clawed crayfish.

3 RESULTS

3.1 Desk Study

- 3.1.1 The desk study identified one record of white-clawed crayfish, dating from 2020. The record was associated with a stretch of the Barkham Brook approximately 1km north of the Site.

3.2 Environmental (eDNA) Sampling

- 3.2.1 All 5 samples collected from the study area were negative for white-clawed crayfish eDNA.
- 3.2.2 The analysis for the samples was produced as expected and silt concentration within the samples, which could affect the accuracy of the results if high, was low.

3.3 Walkover Survey

- 3.3.1 The Barkham Brook flows through the centre of the Site, and at time of survey sheep were present on the banks. The bed and banks of the Brook consisted of mud and organic materials and were heavily impacted by cattle trampling which makes them unsuitable for crayfish burrows. The presence of cattle also indicates an increased level of siltation within the water column which would affect the water quality. As white-clawed crayfish prefer clean, well-oxygenated water, the condition of the watercourse would deter them.
- 3.3.2 During the walkover survey, no evidence of preferred habitat, or features used by burrowing crayfish were recorded.

4 SUMMARY

- 4.1.1 The desk study (see Appendix 8.1 PEA) identified one record of white clawed crayfish within 1 km of the Site on a stretch of the Barkham Brook.
- 4.1.2 All eDNA samples taken from the watercourse within the Project site boundary were negative for white-clawed crayfish eDNA.
- 4.1.3 During the walkover survey no evidence of burrows were detected and the habitat was considered unsuitable for which-clawed crayfish due to heavy trampling by cattle and sub-optimal bank profiles.
- 4.1.4 This is not a guarantee that the species is absent; however, the samples were collected and analysed in line with suitable protocols and there were no limitations on the survey method. As such, presence on the Barkham Brook as it runs through the Site is considered unlikely.

5 REFERENCES

Peay S (2003). Monitoring the White-clawed Crayfish *Austropotamobius pallipes*.
Conserving Natura 2000 Rivers Monitoring Series No. 1, English Nature, Peterborough.

Annex A Survey Area and Sampling Locations

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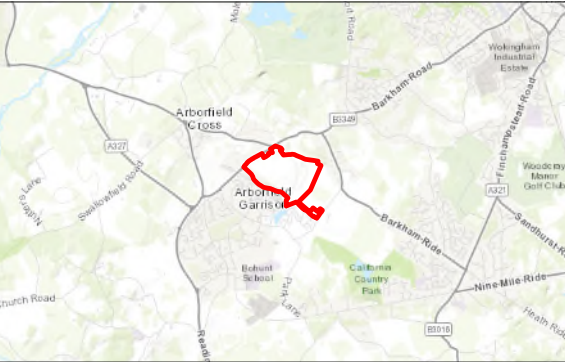
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- Legend**
- Site Boundary
 - Barkham Brook
 - Surface Water (Connected)
 - eDNA Sample Location



Rev	Description	By	CB	Date


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Project **Land at Barkham Square**

Title **White-clawed Crayfish eDNA Sample Locations**

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