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ECOLOGICAL CONSULTANTS

White-Clawed Crayfish Method Statement
River Witham near Little Ponton

ISSUE RECORD

Client name	The Wild Trout Trust
Project name	River Witham near Little Ponton
Project number	WTT01
Report title	White-Clawed Crayfish Method Statement
Issue number	1
Date	23/07/2025
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The information and advice contained in this report has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

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1 INTRODUCTION

1.1 Scope of Report

This method statement has been prepared by Peak Ecology Ltd on behalf of The Wild Trout Trust. It provides the details of how white-clawed crayfish will be safeguarded during the proposed re-meandering of the River Witham near Little Ponton. The purpose of this report is to:

- Describe the existing habitat types present within the site;
- Provide an assessment of habitat suitability for white clawed crayfish
- Provide outline recommendations and a method statement for crayfish rescue plans during the scheme of works;
- Highlight opportunities for ecological enhancement where appropriate; and
- Confirm any further ecological surveys required, for example to confirm presence / likely absence of a specific protected species.

The purpose of this site visit was to gain a greater understanding of the site and the river characteristics to better evaluate and prepare for the potential impacts of the proposed realignment on white-clawed crayfish. An eDNA sample was also taken during this site visit to determine if signal crayfish and crayfish plague are present at this site.

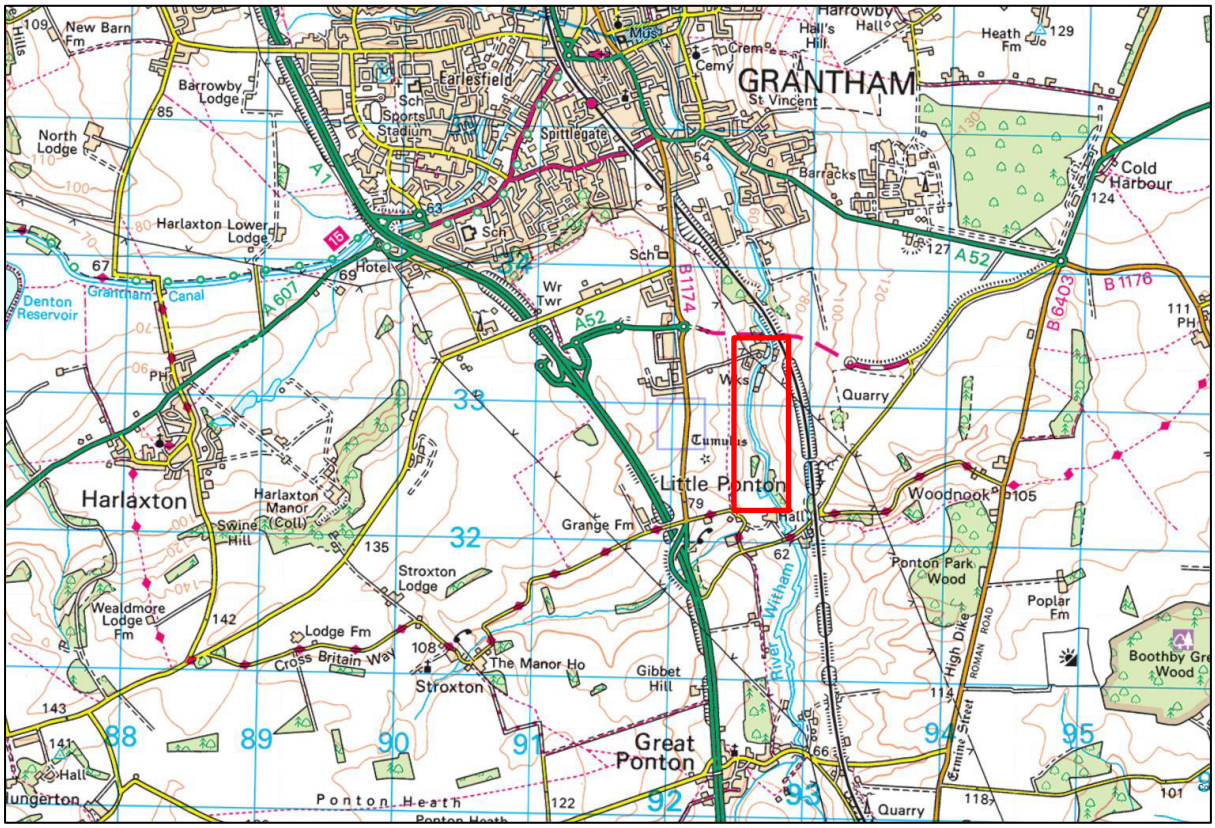
The approach to this ecological appraisal follows best practice published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2013 & 2017) and the British Standards Institution (BSI, 2013). Details of individual survey methods and associated supporting information are provided in Section 2.

1.2 Site Description

The site comprises an approximately 1km stretch of the River Witham on the outskirts of Little Ponton, Grantham (central grid reference: SK 92686 32624). The site itself can be viewed in three distinct sections, downstream/ below the weir, the weir itself and upstream of the weir. Surrounding land use is predominantly agricultural as well as being under private ownership by Little Ponton Hall.

The survey boundary is as per the details outlined on the plan provided by the client (drawing title: Whalebone Lane – Design Elements, date 06 May 2024). The site location is illustrated below.

Figure 1: Location Plan



1.3 Development Proposals

The project aim is to re-meander and naturalise the channel which will involve the excavation of the new channel and backfilling of sections of the existing channel. The full development plan can be found in Appendix A.

1.4 Zone of Influence

The geographical extent of the potential impact of a proposed development is known as the Zone of Influence (ZOI). The ZOI is determined by the nature of the development, the habitat requirements and mobility of individual species relevant to the site, and the distances they typically cover as indicated in best practice guidelines.

In relation to white clawed crayfish, this is considered to be the channel itself from the upstream limit of the works to below the downstream limit where mobilised silt could impact on crayfish

1.5 Planning Context and Legislation

The National Planning Policy Framework 2023 requires that when assessing a planning application all Local Planning Authorities (LPAs) must consider potential impacts on biodiversity that may result from the proposals. In addition to this, county and borough councils

typically have biodiversity policies within their Local Development Frameworks that they must also comply with.

In practice, this means that potential impacts on designated sites, notable species and habitats such as those listed as habitats of principal importance in England (formerly the UK Biodiversity Action Plan) and species that receive legal direct protection (typically via the Conservation of Habitats and Species Regulations 2017 (as amended) and/ or the Wildlife and Countryside Act 1981 (as amended)) are all material planning considerations.

In regards to white-clawed crayfish the following legal protection is applied in the UK:

- Wildlife and Countryside Act 1981 (schedule 5, section 9)

  Under this legislation, white-clawed crayfish are provided partial protection as it makes it an offence to: intentionally take a wild white-clawed crayfish or sell, offer or expose for sale, or have in one's possession or transport for the purpose for sale, any living or dead wild, White-clawed Crayfish, or any part derived from it.

For this reason, any surveys or removal of white-clawed crayfish during the works must be conducted under a licence granted by natural England, the trapping of crayfish also requires further consent from the environment agency.

White-clawed crayfish are also protected under European and national legislation:

- Annex 2 and 5 of the European Habitat's Directive

  Requires the designation of Special Areas of Conservation (SACs) to protect the species and its habitat, and prohibits the taking or disturbance of the species in the wild.

- European Bern Convention

  Lists the white-clawed crayfish in Appendix III as a protected species.

- Schedule 9 of the Wildlife and Countryside Act

  Under this legislation it is an offence to release or allow signal crayfish to escape into the wild in the UK. For this reason, any signal crayfish found during the survey will not be returned to the watercourse and will be disposed of humanely.

2 METHODOLOGY

2.1 Desk Study

Prior to visiting the site, a review of kick net sampling data (EA, 2023) obtained in the river adjacent to Little Ponton Hall, held by the client was reviewed which returned result of white clawed crayfish as well as a variety of other invertebrate species including some fish. A review of multiple online data sources was also carried out to determine the proximity of any white-clawed crayfish or non-native invasive signal crayfish records to the site.

2.2 Surveyors

The site assessment was undertaken on 03/07/2025 by Jonathan Brickland, Director, Niamh Sherborne, Senior Ecologist and Emily Stephenson, Assistant Ecologist. Jonathan has been a professional ecologist for 30 years and is highly experienced in crayfish ecology, formerly of the Environment Agency, founded and chaired the UK Biodiversity Action Plan Steering Group for the white-clawed crayfish for a number of years. Jonathan holds a Natural England licence to handle crayfish and also a Class Licence which enables him to move crayfish during works. Jonathan was be supported by Niamh Sherborne who undertakes much of the company's fish survey work and Emily Stephenson, Assistant Ecologist, who holds a Natural England licence to handle crayfish. Jonathan, Niamh and Emily are appropriately qualified for this type of survey based on the CIEEM competencies guidance (CIEEM, 2013).

2.2.1 *Survey Methods*

White-clawed crayfish habitat assessment

A walkover of the site, beginning at the furthest downstream location of the proposed works and travelling upstream was undertaken. Information was obtained regarding river width, approximate depth, substrate type, bankside composition and any notable river features. This information will inform the method statement detailing how the crayfish rescue will occur and the best methods for ensuring the most efficient rescue methods.

eDNA

Two crayfish eDNA samples were taken using a filter eDNA collection kit from SureScreen Scientifics Ltd. This involved taking 20 samples from different locations heading upstream in the water column, these are then combined and 500ml of the sample is passed through the filtration kit and then stored with a preservative to ensure the sample is kept stable prior to analysis. The kits were then sent off to SureScreen for analysis to test for the presence of white-clawed crayfish, signal crayfish and also crayfish plague.

2.2.2 *Access*

The entire stretch of river to be impacted was able to be accessed from the bank side however the downstream extent was heavily silted and so the channel could not be entered.

2.3 Lifespan of Data

The results and recommendations contained within this report are considered to be valid for up to two years from the date of survey, assuming that there are no significant changes to the site condition or management within this period. After this period, or should the site conditions change, an update may be required in order to inform ecological constraints to development proposals and/or accompany a planning submission.

3 RESULTS

3.1 Desk Study

The desk study returned results of white clawed crayfish consistently recorded at the site in Little Ponton from 2008-2023 with no significant decline in numbers as described in the 'Native Crayfish (*Austropotamobius pallipes*) populations in the Upper Witham and Cringle Brook report' (Charles, 2024). However, signal crayfish have been recorded within the wider area with and they are known to be within the River Witham but it is believed the closest extent of signal crayfish is at Syston Bridge and was recorded in 2023.

Kicknet sampling was undertaken at Little Ponton and between 2020 and 2023 five individual white-clawed crayfish were caught and recorded within the samples.

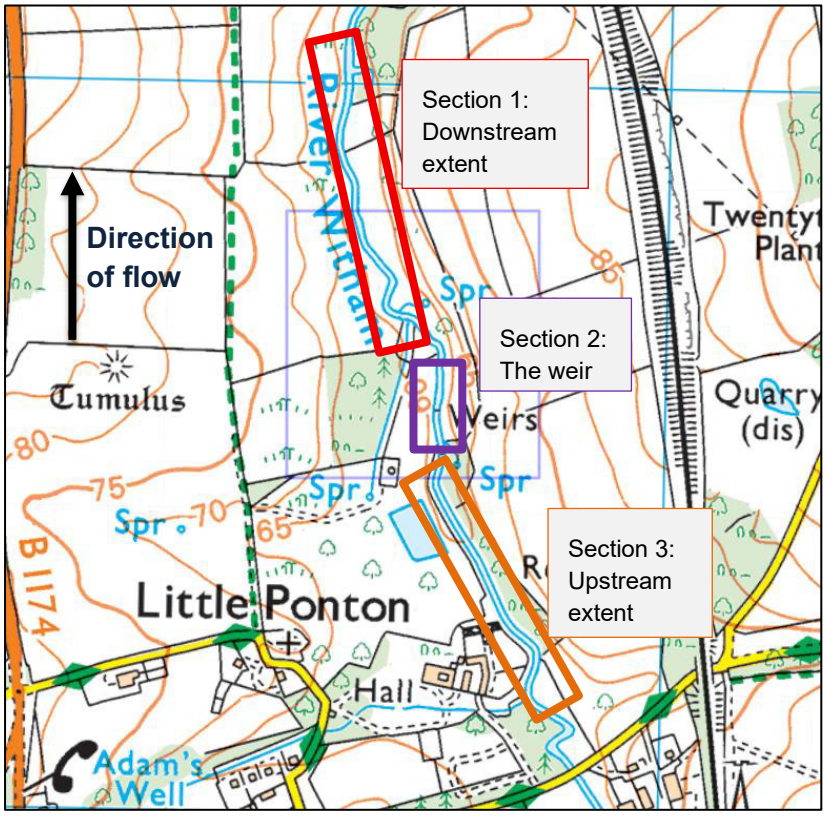
3.1.1 *Historic Survey Data*

A PEA survey was conducted at this site (Chick, 2023) which highlighted the importance of the Upper Witham for supporting a known population of white clawed crayfish and presence was confirmed during the walkover survey as two dead white-clawed crayfish were identified. It was therefore determined that further survey effort must be conducted to minimise impacts.

3.2 Habitat Suitability

The river could be divided into three distinct sections with differing characteristics; these are described below:

Figure 2: Division of the site for ease of reference



3.2.1 *Northern, downstream extent (below weir)*

The downstream extent of the river could be distinguished from the rest of the stretch due to its highly silted nature. The water depth was up to approximately 0.5-1m however, the silt extended to a further 0.5m depth. Silt comprised approximately 80% of the substrate within the river with some stones and cobbles present. The banksides were earthen and the bank tops were heavily vegetated with frequent stands of common reed. The channel was also relatively narrow at this point with approximate width across the section being roughly 2m. The river is bordered on both sides by agricultural land.

At this location, five dead white-clawed crayfish were found whilst conducting the eDNA survey, thus confirming their continued presence; no live white-clawed crayfish were found although a structured survey was not undertaken. There was a small amount of suitable substrate at this location for hiding crayfish and it is likely that any individuals present here would be located at the areas with exposed tree roots or they may have burrowed into the bank sides.

3.2.2 *The weir*

Approximately midway along the stretch of river to be impacted there is a stone-built weir. At this location, just above and below the weir, the water depth varied up to approximately 0.3-1m in depth with the substrate being dominated by stones, cobbles and boulders. The bank sides were comprised a stone wall with numerous faults and breaks which could provide suitable crayfish refugia. At this point the river width was greater at roughly 4-5m. The surveyors were able to enter the watercourse at this location due to the more stable nature of the river bed substrate.

This section provides numerous refuge opportunities due to the abundance of cobbles and boulders as well as the stone wall providing suitable borrowing opportunities in places where the stones were broken and had gaps.

3.2.3 *Southern, Upstream extent (above weir)*

The upstream extent of the river was similar in composition to that at the weir however more in channel aquatic vegetation was present, predominantly mats of filamentous algae. The bed comprised numerous cobbles and appeared shallower overall although the surveyors did not enter the channel. the banksides returned to being earthen and vegetated however the vegetation was less dense that the downstream extent. The river width was approximately 4m.

Similarly to the weir location, there were ample opportunities for a hiding or burrowing crayfish within the cobbles, stones and boulders as well as within the tree roots and woody debris that was noted along this section of the river.

It is also worth noting that throughout the latter two sites, bullhead and brown trout were noted as being present.

3.3 eDNA results

The two stretches of river that were subject to eDNA (upstream and downstream of the weir) returned a positive result for white-clawed crayfish and a negative result for both signal crayfish and crayfish plague (see Appendix B for eDNA report).

4 METHOD STATEMENT

The following method statement outlines the details of working methodologies and avoidance measures that will be taken to minimise the risk of injuring or killing a white-clawed crayfish, which are known to be onsite, during the scope of works. The following is written under the assumption that there is a healthy population of white-clawed crayfish persisting within this stretch of the River Witham based on the results of the eDNA survey.

Prior to any works on the existing watercourse, all contractors will receive a briefing/toolbox talk, to ensure all aspects of the method statement are understood. The toolbox talk will include identification, biosecurity and legislation.

Due to the nature of the works and the cryptic nature of white-clawed crayfish it is assumed that the following will not be exhaustive in capturing 100% of the persisting individuals. However, the following method statement will ensure that the majority of the crayfish will be caught and moved.

All trapping and relocation of crayfish will be conducted by or under the supervision of a suitably licensed ecologist.

All survey and relocation work for white-clawed crayfish must be conducted between July-September (inclusive) in order to avoid the breeding season and disrupting females whom may be carrying eggs.

4.1 Prior to works on the existing river

4.1.1 *Trapping*

- Initially, Peak Ecology will deploy crayfish traps across the length of the watercourse to be impacted. This will allow an estimation of which areas are home to the densest populations of crayfish and thus inform where to concentrate rescue efforts. This will also help assess the rough population density and thus number of individuals that will be inputted into the receptor site.
- Crayfish traps, retrofitted with a fine mesh in order to remove the bias towards larger individuals, will be used and will be baited to encourage individuals to enter the trap.
- The traps will be deployed on day one and left *in situ* overnight and checked the subsequent morning. If a lower number than anticipated are caught after the first night we may opt to return the traps and check them again the following morning.
- Crayfish traps will be deployed approximately 20-25m apart with additional trapping effort focused around points of interest including tree roots, woody debris piles and the weir structure.
- Any crayfish caught in the traps will then be processed and recorded. Recorded information will include number of individuals, size, gender as well as any general comments on health such as presence of porcelain disease.

- This will be carried out a couple of weeks before works are due to start, depending on exact timing the crayfish may be relocated at this point.

4.2 During works

4.2.1 *Re trapping*

- The night before the rescue is due to take place, all the traps (an estimate of 50 in total) will be re-deployed and baited. These will be focused within the downstream section and surrounding the weir.
- Focus on downstream section and the weir has been deemed the best use of this resource as surveyors cannot hand search here due to silt and lack of searchable habitat.
- The traps will then be checked and all captured individuals will be relocated to the receptor site on the following morning, the day of the rescue.

4.2.2 *Hand searching*

- Where accessible, all potential refuge locations will then be manually searched for individual crayfish prior to the drawdown of water, this will be focused around the weir area and upstream where more cobbles and boulders were present and the watercourse is accessible. This is unlikely to be possible in the downstream section due to the high levels of silt making access dangerous for the surveyors.
- At this point, any stones, cobbles or boulders that are searched will not be returned to their original location but will be piled in the centre of the watercourse in order to minimise hiding locations for any final persisting individuals to make further checks more efficient.
- Any captured individuals will be recorded as previously and removed and relocated to the receptor site.

4.2.3 *Water drawdown*

- As the water is drained and rechannelled into the newly excavated area, multiple surveyors will be present to capture and relocate individuals as they emerge from their refuges.
- Effort will be focused around the weir structure as this cannot be hand searched and so any individuals drawn out during the drawdown must be relocated at this time.
- A bathoscope will be used where necessary in deeper water, namely directly beneath the weir where there is likely to be a deep pool that will not be fully drained.
- Once all the water has drained from the channel a manual search of all remaining suitable habitat, where the surveyors previously piled up the stones, boulders and cobbles, will be conducted again to ensure any persisting individuals are removed.

- During the process of draining and rechannelling the water, actions should be taken to manage the movement of silt in order to protect any crayfish populations that may persist downstream.

4.3 The receptor site

This is susceptible to change based on the quality of habitat upstream and the number of crayfish for translocation, any amendments will be determined following the initial trapping period prior to the works (section 4.1.1).

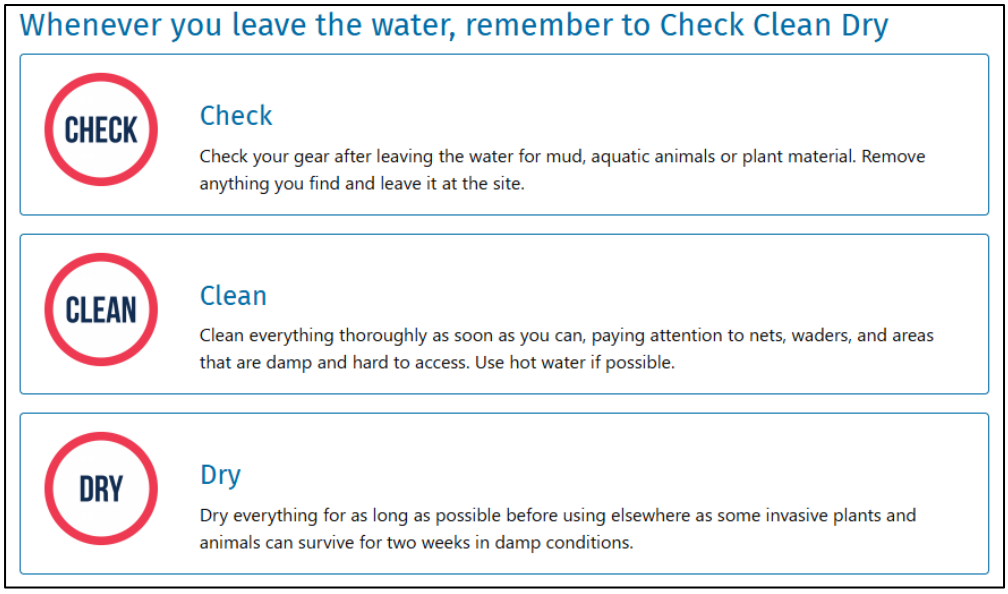
Based on the negative eDNA result for both signal crayfish and crayfish plague, and the lack of records of signal crayfish within the wider area of concern it has been assessed that the safest location for individuals to be relocated to will be just upstream of their current location and the scheme of works.

- It is known that the water chemistry and composition is suitable for supporting white-clawed crayfish as they currently persist there.
- This also allows the individuals the chance to naturally re-populate the re-meandered channel if they choose or if they are displaced by any existing population of crayfish.
- Moving the crayfish downstream would introduce issues as there could be large amounts of silt production which would interfere with the water quality downstream and is unfavourable for crayfish, it would also be much more difficult for individuals to move back upstream to re-populate the new channel.
- Based on the number of rescued individuals this may impact how suitable the receptor site is. If a large number of individuals are rescued it may be likely that the habitat is not suited to host such a large number of individuals, in which case enhancement of the existing area may be necessary and would include creation of suitable refugia.

4.4 Biosecurity

White-clawed crayfish are in major decline and under serious threat from non-native invasive species of crayfish, in particular signal crayfish. Signal crayfish themselves are a threat to white-clawed crayfish, however they also carry 'crayfish plague' which is easily passed between waterbodies. Measures must be implemented to ensure signal crayfish and plague are not transported between waterbodies. Due to this, any equipment that is to enter the water must be biosecure. If it has previously been used in a different watercourse it must undergo the 'check, clean, dry' protocol (NNSS, 2025) to ensure no cross contamination will occur. This includes any footwear that is to be worn onsite and any vehicles that may come in contact with the water. **This is good practice and should be carried out, even where kit is believed to be clean to begin with.**

Figure 3: Check, Clean, Dry Protocol (NNSS,2025)



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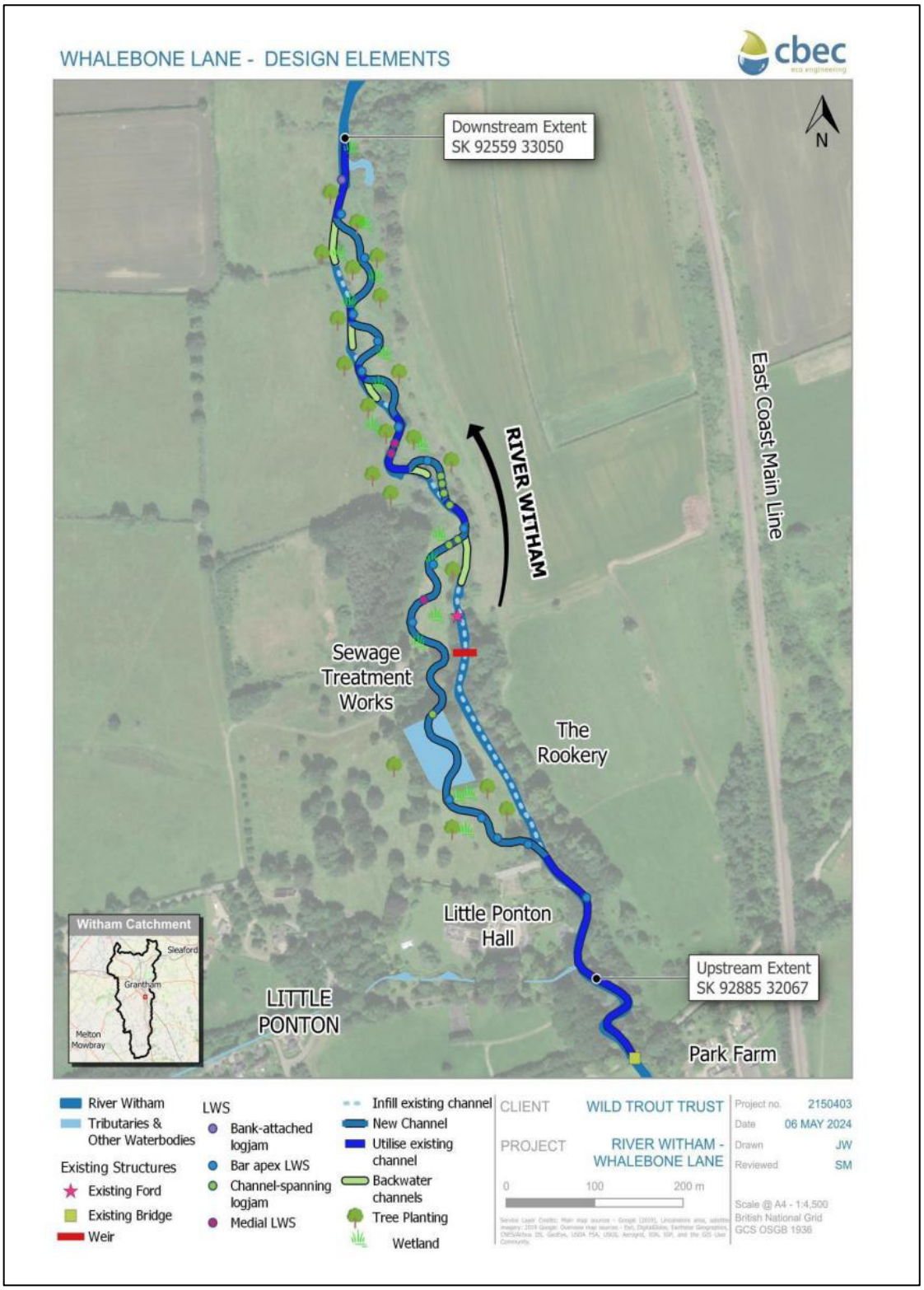
APPENDICES

APPENDIX A : Development Plan



APPENDIX B : eDNA report

Folio No: 3624-2025
Purchase Order: WTT01
Contact: Peak Ecology
Issue Date: 18.07.2025
Received Date: 04.07.2025

SureScreen Scientifics

eDNA Analysis

Summary

When aquatic organisms inhabit a waterbody such as a pond, lake or river they continuously release small amounts of their DNA into the environment. By collecting and analysing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm the presence or absence of the target species within the waterbody.

Results

Lab ID	Site Name	OS Reference	Target Species	Sample Integrity Check	Result	Positive Replicates
FK3404	River Witham - upstream of weir	SK 92570 32827	Crayfish plague (Aphanomyces astaci)	Pass	Negative	0
			Signal crayfish (Pacifastacus leniusculus)	Pass	Negative	0
			White-clawed crayfish (Austropotamobius pallipes)	Pass	Positive	12
FK3405	River Witham - downstream of weir	SK 92715 32412	Crayfish plague (Aphanomyces astaci)	Pass	Negative	0
			Signal crayfish (Pacifastacus leniusculus)	Pass	Negative	0
			White-clawed crayfish (Austropotamobius pallipes)	Pass	Positive	12

Matters affecting result: none

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