

# Promoting internal best practice

February 2014 - Yorkshire crayfish project

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## What we found in Yorkshire

The White-clawed crayfish is considered to be one of the most at risk native aquatic species in the UK today. It is a BAP priority species and is protected under the Wildlife and Countryside Act 1981. The Environment Agency is the lead organisation for conservation of this species.



*The White-clawed crayfish*

Yorkshire as a region is fortunate to still have a number of White-clawed crayfish populations in its river catchments.

However, we also have a large number of expanding invasive American signal crayfish populations. This species out-competes our native crayfish and also carries a disease (known as 'crayfish plague') which is fatal to the White-clawed crayfish. Crayfish plague can wipe out a whole river's native White-clawed population in a matter of weeks.

As no practical control for signal crayfish has been discovered, the only options available at this stage are to move native crayfish to secure sites (known as ark sites) or improve the quality of habitat at sites that have secure native populations.

## The project

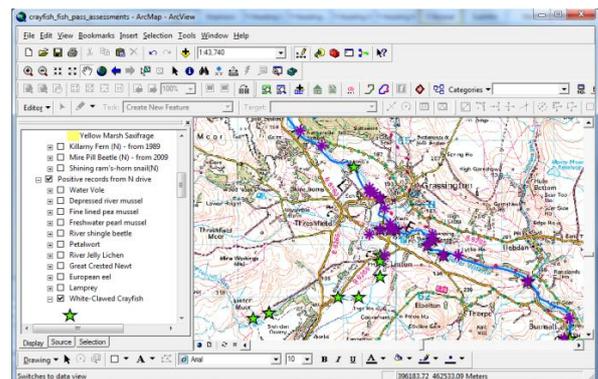
The Yorkshire Crayfish project is a three year project, currently funded through the Environment Programme

Previously, crayfish conservation in Yorkshire was undertaken on an ad hoc basis, with no co-ordinated regional approach. The overall aim of the project is to create an effective catchment based approach to crayfish conservation.

Many of our records of native and invasive populations were woefully out of date, with some areas not surveyed for 30 years. The first step in figuring out how to approach the project was to determine the quality of information we held. This would then direct us to where we needed to focus our survey effort, information required to develop practical conservation actions.

## How

Using Arc GIS, an analysis of EA data on crayfish population locations was undertaken, identifying area of natives and invasive crayfish.



*Arc GIS - Showing crayfish records*

Each native population was assessed for its proximity and defendability from invasive crayfish, as well as other impacts such as sewage work discharges, land use or poor habitat. Invasive crayfish were assessed for their proximity to native populations and the risk of transfer of

crayfish plague by water users (e.g. canal boats, anglers etc).

For each native population an action was then assigned, such as a potential use as donor stock for an ark site or altering in river structures to make them more impassable to American signal crayfish invasion.

This information was then inputted into a 'crayfish catchment profile' which gives a detailed assessment of each native population present in the Yorkshire region.

## Prioritisation

By assessing all populations on a catchment basis, actions could then be prioritised and a programme of work developed.

This prioritisation has been undertaken for work to begin in 2014-2015. By having specific actions, it is easier to plan workloads and determine budget requirements for the project.

## Fish passage

Recently an operational instruction was released which gave priority to native crayfish when structures were a barrier to signal crayfish but were being considered for fish passage

To consider any potential conflict between crayfish conservation and fish passage, detailed barrier assessments were included in the profiles.

Thanks to the work undertaken by Fisheries Technical Specialist Neil Trudgill, the majority of barriers in Yorkshire have been assessed for fish passage and classified for their priority.

Neil's work included many photographs of the weirs, waterfalls and other structures, these proved invaluable to assessing structures for signal crayfish defendability.



*One of the weirs under assessment*

## Partners & media

Another aspect of the work has been to create a forum of local crayfish experts and groups interested in crayfish conservation. Using their local knowledge we have been able to plug any gaps in our knowledge and identified opportunities to create partnerships.

This has led to current funding bids through SITA for crayfish habitat improvements in the Aire catchment and suggesting sites to both CEFAS for their crayfish trap design trials and OPAL for crayfish specific research grants.

Working with the communications team, we successfully organised filming of translocations in Sheffield and Leeds with the BBC for a prime time BBC one documentary. Our work was also covered by local and regional media.



*Filming with the BBC*

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## Case study

The river Wharfe catchment once supported a healthy population of White-clawed crayfish but the presence of signal crayfish was first noted in the early 1990's. Signal crayfish have now spread to the majority of the catchment and have wiped out a significant proportion of the native population.

Native populations were thought to still exist in some tributaries but no surveys had been undertaken to confirm this.

The University of Leeds was approached and students volunteered to take part in a catchment wide survey of all tributaries to map the spread of invasives, find any native populations and to identify potential ark sites.

A training day was organised in summer 2013 where students were introduced to the project and crayfish conservation in general, followed by learning survey techniques.



*A survey being undertaken by students*

Students were then allocated survey areas identified by the catchment profiles and provided with maps and equipment.

This approach allowed us to cover 85% of tributary sites within the catchment and to identify sites which we are currently assessing in more detail for potential ark sites.

## The future

We will now be looking to repeat the success of the Wharfe catchment approach by working closely with both York and Sheffield universities on further catchments.

We have also opened discussions with Yorkshire Water and Natural England into developing an organisational license to use their assets (reservoirs etc) as ark sites. Yorkshire Water have been very receptive and an assessment of potential pilot study sites is being undertaken.

This consistent and effective way to conserve our native White-clawed crayfish populations has been very successful and other regions have approached us for advice on developing similar projects. It is hoped that the approach taken in Yorkshire can now be adopted in other regions as 'Best Practice'.



*Our next ark site?*

*For more information please contact:*

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