

# WHITE-CLAWED CRAYFISH *Austropotamobius pallipes* SPECIES ACTION PLAN

## DESCRIPTION

The white-clawed crayfish *Austropotamobius pallipes* is Britain's only native crayfish species and is our largest freshwater invertebrate. The white-clawed crayfish lives in clean, relatively hard, mineral-rich waters with a pH of between 7 and 9 and calcium concentrations above 5mgL<sup>-1</sup>. In the British Isles it has a widespread, though patchy distribution in England, Wales and Ireland. Populations of white-clawed crayfish have been recorded in a wide range of habitats including lakes, reservoirs, water filled quarries, rivers and streams. In the Yorkshire Dales National Park the white-clawed crayfish is, or was, historically recorded from all of the river catchments. There are good populations in the Ure and Swale catchments although the River Ure population is now threatened by signal crayfish *Pacifastacus leniusculus* that have escaped into the river from a fish farm near West Tanfield. The River Wharfe population has largely been displaced by the introduced signal crayfish *Pacifastacus leniusculus*. There is, however, at least one population of white-clawed crayfish occurring in a side-stream some distance from the main river. The Ribble also held a strong population until it was recently affected by crayfish plague fungus *Aphanomyces astaci* from an unknown source. A number of unaffected individuals were 'rescued' and are currently being held in tanks in order to provide a population for reintroduction once crayfish plague has been eradicated from the river. Malham Tarn held a significant population of crayfish although recent work suggests that this population has now declined. The status of crayfish in the River Aire is not known.

## LOCAL BIODIVERSITY IMPORTANCE

The introduction of signal crayfish into the British Isles has led to the displacement of white-clawed crayfish in a large number of watercourses mainly due to infection by the lethal crayfish plague for which the signal crayfish has acted as a vector. In some cases populations of white-clawed crayfish have not been affected by plague but have been displaced by interspecific competition between the two species, as is the case in the river Wharfe.

This decline in white-clawed crayfish means that any rivers that hold good populations in the absence of signal crayfish are vital for the continued survival of the species in the British Isles. The Yorkshire Dales National Park is still therefore a stronghold for the survival of this species.

## NATIONAL & INTERNATIONAL BIODIVERSITY IMPORTANCE

The white-clawed crayfish is considered as 'vulnerable' in IUCN Red List of Threatened Animals and included in Appendix III of the Bern Convention and Annexes II and V of the European Habitats Directive.

In Britain, the white-clawed crayfish is protected under Schedule 5 of the Wildlife and Countryside Act, which makes it illegal to take it from the wild (without a licence) or to sell it. Under Schedule 14 of the Wildlife and Countryside Act it is illegal to release non-native

crayfish into the wild without a licence and it is also illegal to allow non-native crayfish to escape from holding facilities. 'Reasonable step' and 'due diligence' must be exercised to avoid escapes from holding facilities.

The three species of non-native crayfish (including signal crayfish) that have become established in Britain have been classified as pests and listed on Schedule 9 of the Wildlife and Countryside Act. In 1996 the government imposed 'no go' areas (which include the Yorkshire Dales National Park) in Britain where the unlicensed keeping of these species is banned. Although those crayfish farms in the area are allowed to remain, they must adhere to the terms of the Wildlife and Countryside Act.

## **CURRENT ISSUES, OPPORTUNITIES & THREATS**

The most important issue affecting the future survival of the white-clawed crayfish in the Yorkshire Dales National Park is the presence of signal crayfish. The white-clawed crayfish has been virtually displaced in the main River Wharfe where it flows through the National Park. A small population is surviving in an isolated tributary. Research is currently being undertaken to determine the viability of this population and to determine any conservation measures that need to be taken to protect it.

The implications of the escape of signal crayfish at West Tanfield on the River Ure are severe as there is a strong likelihood that this population could spread and eradicate the healthy white-clawed crayfish population upstream of the escape. Research is currently underway to investigate the spread of this escaped population.

The outbreak of crayfish plague on the Ribble has severe implications, as there are no known signal crayfish populations in this catchment so the source of the disease is unknown. The survival of the species in the Ribble will now depend on a successful reintroduction programme.

The white-clawed crayfish population in Malham Tarn has declined significantly and the surrounding tributaries no longer hold crayfish populations. A strategy for restoring crayfish populations to this area needs to be developed.

Other factors that have a detrimental impact on crayfish populations are habitat loss and pollution, particularly from sheep dip.

### **AIMS OF THE SPECIES ACTION PLAN**

- To maintain all existing white-clawed crayfish populations.
- To prevent the spread of signal crayfish into catchments currently free of this species.
- Where feasible, to restore white-clawed crayfish populations to watercourses within their former range in the National Park.

## **OBJECTIVES**

To achieve these aims we need to:

- Determine the distribution of white-clawed and signal crayfish in the Yorkshire Dales National Park by 2003.
- Ensure that signal crayfish are not introduced to any catchment from which they are currently absent.
- Bring together all partners engaged in crayfish conservation and research within the National Park to develop a co-ordinated plan for the maintenance and recovery of the species in the Park by 2003.
- Complete research on the River Wharfe to determine how to maintain isolated white-clawed crayfish populations by 2005.
- By 2003 develop a strategy for re-establishing white-clawed crayfish in the River Ribble once crayfish plague has been eradicated.
- By 2003 develop a strategy for re-establishing white-clawed crayfish in Malham Tarn and its tributaries.
- By 2010 research the possibilities for introducing white-clawed crayfish into lime-rich lakes established as part of quarry restoration programmes and other suitable waterbodies.

## ACTIONS & TARGETS

To achieve these objectives the following actions should be carried out and the targets achieved within the time-scale given:

| Actions   | Target date | 3 year cost £ |
|---|-------------|---------------|
| Implement the Rivers & Streams, Lime-Rich Lakes, Dales Lakes & Ponds Habitat Action Plans.  | See HAPs    | See HAPs      |
| Establish a working group comprising all those currently engaged in crayfish conservation and research in the National Park to develop a strategy for future work.  | 2003        | 500           |
| Bring together all existing data to produce a crayfish distribution map for the National Park.  | 2003        | Officer Time  |
| Carry out additional survey work to fill in any gaps in the crayfish distribution map.  | 2003        | 1,000         |
| Complete research on the River Wharfe to determine how to maintain isolated white-clawed crayfish populations.  | 2005        | 15,000        |
| Bring together all interested parties to develop a strategy for re-establishing white-clawed crayfish in the River Ribble once crayfish plague has been eradicated. | 2003        | Officer Time  |
| Re-establish a white-clawed crayfish population in the River Ribble.  | 2010        | 20,000        |
| Bring together all interested parties to develop a strategy for re-establishing white-clawed crayfish in Malham Tarn and its tributaries.                           | 2003        | Officer Time  |
| Re-establish a white-clawed crayfish population in the Malham Tarn catchment.   | 2010        | 20,000        |
| Determine potential suitable sites (quarry lakes, reservoirs and other watercourses) for the establishment of new white-clawed crayfish populations.                | 2005        | Officer Time  |
| Discuss with owners of suitable water bodies the possibility of establishing white-clawed crayfish populations and devise a strategy for doing so.                  | 2010        | Officer Time  |
| Ensure that signal crayfish are not introduced to any catchment from which they are currently absent.   | ongoing     | Officer Time  |
| Consider designating further sites vital for the conservation of white-clawed crayfish as SSSI.   | 2004        | Officer Time  |
| Pass information on the distribution of crayfish species to JNCC and the Biological Records Centre so that it can be incorporated into national databases.          | ongoing     | Officer Time  |

## WHO WILL BE RESPONSIBLE FOR THE ACTION PLAN?

| <b>Lead Agency</b>  | <b>Key Partners</b>                     |
|---|---|
| Dependent on the watercourse:   | Yorkshire Dales National Park Authority |
| Ribble: Paul Bradley/Environment Agency   | English Nature                          |
| Wharfe: Yorkshire Dales National Park Authority/University of Durham                        | Paul Bradley                            |
| Malham area: Paul Bradley/English Nature  | National Trust                          |
| Other catchments: Environment Agency/English Nature/Yorkshire Dales National Park Authority | University of Durham                    |
|   | Stephanie Peay                          |
|   | Environment Agency                      |
|   | Yorkshire Wildlife Trust                |
|   | Malham Tarn Field Studies Centre        |
|   | Kilnsey Trout Farm                      |
|   | West Tanfield                           |