NORFOLK BIODIVERSITY ACTION PLAN

Ref 1/S12	Tranche 1	Species Action Plan 12
Plan Author:		Environment Agency
Plan Co-ordinator:		Environment Agency
Plan Leader:		Waterbodies Group
Date:		Stage:
31 December 1998		Final Draft
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WHITE-CLAWED CRAYFISH
(*Austropotamobius pallipes)*

This is a lobster-like crustacean that grows to about 12cm (5 inches) long. They mainly live in clean flowing water and are mostly active by night.

1. CURRENT STATUS

National Status

- White-clawed crayfish is the only native species of freshwater crayfish in the UK. It is widespread in clean, calcareous streams, rivers and lakes in England and Wales and occurs in a few areas in Northern Ireland, but many populations have been lost since the 1970s. The species is listed in Appendix III of the Bern Convention and Annexes II and V of the EC Habitats Directive. It is classed as globally threatened by IUCN/WCMC. It is also protected under Schedule 5 of the Wildlife and Countryside Act in respect to taking from the wild and sale, and is proposed for addition to Schedule 5 of the Wildlife (Northern Ireland) Order 1985.

Norfolk Status

- White-clawed crayfish are found in the Rivers Wensum, Tat, Bure, Glaven and Yare.

2. CURRENT FACTORS CAUSING LOSS OR DECLINE IN NORFOLK

- The habitat required by this species is very vulnerable to modifications through the management of rivers and changes in water quality.

- White-clawed crayfish are out-competed by non-native crayfish (eg signal crayfish *Pacifastacus leniusculus*) In Norfolk, signal crayfish are known to be present in the River Wensum, Reepham Tributary and River Yare.

- Crayfish plague is present in the county and affects the native species of crayfish only.

3. CURRENT ACTION IN NORFOLK

- The Environment Agency has undertaken surveys of selected Norfolk rivers to establish the presence of white-clawed crayfish and non-native crayfish species.

4. ACTION PLAN OBJECTIVES AND TARGETS

National

- Attempt to maintain the present distribution of this species by limiting the spread of crayfish plague.

- Attempt to maintain the present distribution of this species by limiting the spread of non-native species.

- Attempt to maintain the present distribution of this species by maintaining appropriate habitat conditions.

Norfolk

- Maintain the present distribution of this species.
- Limit the spread of non-native species.
- Maintain and create appropriate habitat conditions.

White-clawed Crayfish - Norfolk Action Plan

NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
5.1	**Policy and Legislation**			
5.1.1	Designate “no-go” areas for the keeping of non-native crayfish.	No-go area has been designated which covers Broadland. Consider need to designate other areas. Identify rivers with isolated white-clawed crayfish populations and ensure that existing consultation procedures protect them.	DEFRA (RDS), EN	
5.1.2	Section 14 of the Wildlife and Countryside Act should be used to prevent further spread of non-native crayfish into areas which contain natural populations.	Section 14 of the Wildlife and Countryside Act should be used to prevent further spread of non-native crayfish into areas which contain native populations.	DEFRA (RDS)	
5.1.3	The use of Byelaws to control baiting with crayfish by anglers is being reviewed nationally.	The use of Byelaws to control baiting with crayfish by anglers should be in line with national proposals.	EA	
5.1.4	Seek to control the keeping and trade of non-native crayfish in the UK.	Seek to control the keeping and trade of non-native crayfish in Norfolk.	DEFRA (RDS)	
5.2	**Site Safeguard and Management**			
5.2.1	Consider designating further sites as Sites of Special Scientific Interest for white-clawed crayfish.	Identify key sites for the white-clawed crayfish. Consider such sites for designation as Sites of Special Scientific Interest.	EN, EA	
5.2.2	Ensure appropriate habitat management is undertaken.	Ensure that routine watercourse management takes account of the needs of the species, and that conservation management is targetted at key sites.	EA, EN, IDBs	
5.3	**Species Management**			

NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
	and Protection			
5.3.1	Establish the feasibility of eradicating non-natives from the wild.	Undertake control programme of non-native crayfish at a point source on the River Wensum. Monitor success.	EN, EA	
5.3.2	If feasible, establish reintroduction programmes at selected sites.	Review sites from where the species has been lost to evaluate potential for re-establishment.	EN, EA	
5.3.3	Licences should not be issued for release of non-natives where there are inadequate precautions to prevent escapes into no-go areas.	Licences should not be issued for release of non-natives where there are inadequate precautions to prevent escapes into no-go areas.	DEFRA (RDS), EN	
5.4	**Advisory**			
5.4.1	Provide advice to those involved in conservation of white-clawed crayfish and management of non-natives.	Provide advice to those involved in conservation of white-clawed crayfish and management of non-natives.	EN, DEFRA (RDS), EA, IDBs	
5.4.2	Provide advice on disinfection procedures to prevent transmission of plague.	Provide advice on disinfection procedures to prevent transmission of plague.	EA	
5.5	**Future Research and Monitoring**			
5.5.1	Make inventories of Sites of Special Scientific Interest containing native populations. Monitor populations in protected areas. Maintain databases held at Nottingham University and Biological Records Centre.	Monitor existing known populations and survey for new sites as part of fisheries rolling survey programme. Forward information to Norfolk Biological Records Centre and databases held at Nottingham University and Biological Records Centre.	EN, EA	
5.5.2	Investigate potential for recovery or reintroduction of natives in areas affected by plague.	Investigate and monitor closely any suspected outbreaks of plague.	EA, EN	
5.5.3	Assess morphological and	Assess local morphological	EN	

NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
	genetic variability across range before decisions on stocks for reintroductions are made.	and genetic variability in Norfolk before decisions on stocks for reintroductions are made.		
5.5.4	Pass information from surveys and monitoring to Joint Nature Conservation Committee or Biological Records Centre to be incorporated in National databases.	Pass information from surveys and monitoring to Joint Nature Conservation Committee or Biological Records Centre and Norfolk Biological Records Centre to be incorporated in National and local databases.	EN, EA	
5.5.5	Provide information annually to World Conservation Monitoring Centre.	Encourage people to report sightings.	EA, NWT	Fisheries Managers, Riparian Owners, Public
5.6	**Communications and Publicity**			
5.6.1	Increase public awareness on the presence and threats to the species. Publicise need for conservation and how public can help update databases.	Increase public awareness of the presence and threat to the native species. Publicise need for conservation and how public can help update databases.	EN, EA	Public
5.6.2	Ensure anglers and visitors to Sites of Special Scientific Interest containing crayfish are made aware of risks of spreading plague and releasing non-native species.	Ensure anglers and visitors to Sites of Special Scientific Interest, and other key sites, containing crayfish are made aware of risks of spreading plague and the damage caused by releasing non-native species.	EA, EN	Fishermen, Landowners, Public

NORFOLK DISTRIBUTION

Recent survey data (eg Rogers and Holdich, 1997) indicate that the River Wensum and its tributaries hold the key populations of white-clawed crayfish in Norfolk. Crayfish are listed as one of the interest features for which the River Wensum has been designated a candidate Special Area of Conservation. Existing records suggest that native crayfish are frequent in the main river channel between the source and Swanton Morley, with fewer records for sites downstream. Tributaries of the Wensum with positive records for white-clawed crayfish include the River Tat, River Tud, Swannington Beck and Whitewater River. Detailed surveys of crayfish distribution within the Wensum catchment are currently underway (Autumn 2001).

For the period 1990 onwards, there have also been positive records of white-clawed crayfish from the Rivers Yare, Glaven, Bure, Blackwater, Wissey and Scarrow Beck. Earlier records suggest that crayfish were once more widely distributed in the county.

MANAGEMENT GUIDANCE
(This guidance is a general summary; for detailed information or advice consult the references or contacts below.)

In Britain the white-clawed crayfish is found in habitats such as small streams, brooks, rivers and lakes. Crayfish prefer clear, alkaline, well-oxygenated water and locations without too much fine sediment. They tend to be nocturnal and are omnivorous, feeding on a wide range of vegetable and animal matter including detritus.

Research by Smith, Learner, Slater and Foster (1995) has suggested that in rivers and streams the architecture of the channel banks, the presence of bankside shrubs and trees, and the extension of tree roots into the water are important factors influencing the abundance of crayfish. Tree roots, particularly those of alder and willow, provide shelter, particularly during periods of high river flow, as well as protection from predators. In addition, roots act as debris traps which retain leaf litter, an important food source for crayfish. These river margins provide important nursery areas for juvenile and immature crayfish. Other habitat features of importance include riverbed cobbles and boulders, and woody debris, both of which act as refugia. Emergent and submerged aquatic vegetation provide additional shelter as well as a food source.

Management of rivers and streams supporting populations of white-clawed crayfish should seek, as far as possible, to retain the important habitat features described above. A natural channel morphology provides a diversity of refuge and feeding opportunities for crayfish, resulting in suitable habitat for all stages in their life cycle. Maintenance operations which widen, deepen or straighten river channels reduce habitat diversity and hence the ability of a site to support sustainable crayfish populations. Maintenance operations in watercourses known to support native crayfish should ensure that adequate amounts of in-channel vegetation, woody debris and riparian trees and shrubs are retained. Hard bed material (eg gravel, cobbles) should never be removed from the river.

In addition to habitat management, appropriate management of whole river catchments containing populations of native crayfish is required in order to maintain the water quality and quantity which the species requires. Water quality factors which are important include chemical determinants such as dissolved oxygen and biochemical oxygen demand, as well as physical properties such as concentrations of suspended solids.

CONTACTS

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Conservation Information

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Crayfish Farming

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