

White-clawed Crayfish





A typical stream at Cannock Chase with good water quality and excellent structure provided by woody debris falling into the channel. Cannock Chase is a stronghold for the white-clawed crayfish.

This booklet aims to raise awareness about the plight of our native crayfish with landowners, anglers and the public.

Introducing: The White-clawed Crayfish

Scientific name: *Austropotamobius pallipes*

Global Status: Threatened Species, declining across its range

Distribution: Across Europe from Ireland to Serbia & Montenegro

Protection: Protected, along with its habitats, under UK and European laws. Protected sites (called Special Areas of Conservation) have been designated for this species across much of its natural range

Habitat: Freshwater streams, rivers, canals and lakes

Habitat features: Submerged crevices among stones, tree roots, leaf litter and woody debris. Also burrows into earth banks.

Size: 11 cm long by 8 years old

Life span: About 8-15 years

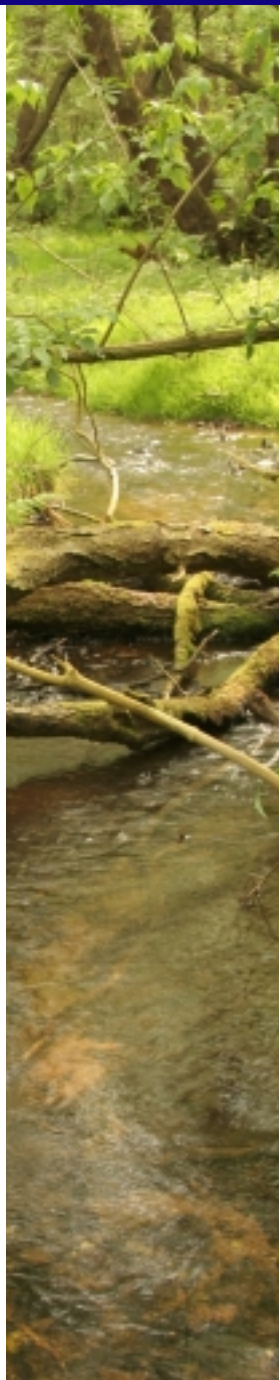
When active: Usually most active two hours after dark and two hours before first light.

Breeding: Takes place in Autumn. A 'berried' female carries about 80 eggs through the winter and spring. These hatch into juveniles which the mother will continue to carry underneath her tail until early-mid Summer.

Main Predators: otter, mink, heron, grebe, carp, trout, eel.

Just one species is native to the British Isles and Ireland: the white-clawed crayfish.

The name 'crayfish' is thought to derive from the Old French word for 'crevice'. This is apt as these fascinating creatures hide up in various nooks and crannies during the day and then come out to forage at night. Its menu is unfussy: it will eat pretty much whatever it can get its claws into including dead fish, insects, plants, detritus and one another. It therefore has an important role to play in cleaning up our freshwater environments. Its presence is generally a good indication of a healthy and balanced wetland habitat.



Prior to the 1970s the white-clawed crayfish was common and widely distributed across much of England, Wales, Ireland and Europe. Since then the population has suffered a catastrophic decline. There is now genuine concern over its future.

Alien invaders & plague

The reason for their swift disappearance is chiefly a result of the introduction of non-native crayfish species. The American Signal crayfish is the most notorious of these alien invaders. It has spread throughout much of Britain and has directly or indirectly caused extinctions of native crayfish from an



American Signal crayfish

increasing number of rivers. Signal crayfish are much bigger, breed faster, disperse quicker, and generally displace white-claws.

The most severe impact, however, has come from a fungal pathogen, which Signal crayfish are immune to, but which is 100% lethal to our native species. This 'crayfish plague' is the number one threat to the white-clawed crayfish: vast numbers –untold millions- have been killed. Crayfish plague can be transmitted by a number of other 'wet pathways' such as fish stocking, angling kit, diving kit, engineering works, birds and mammals. The fungal spores can live for up to two weeks in damp conditions.



Spiny-cheek crayfish

Habitat loss & pollution

There are a host of additional threats that native crayfish have had to contend with. The twentieth century was a rough time for our wetlands and watercourses. Extensive land drainage and engineering works were carried out to deepen and straighten watercourses to increase agricultural productivity and to protect housing and infrastructure established on traditional floodplains. Much of our wetland wildlife was compromised or lost during this time. The white-clawed crayfish was no exception.

Native crayfish are also prone to agricultural, domestic and industrial pollution. A spate of sheep dip (Cypermethrin) pollution incidents since the 1990s has had a severe impact on many upland watercourses and their invertebrate populations. A number have been slow to recover. Water abstraction for drinking, irrigation and industrial uses may also cause problems. Low flows can concentrate the effects of pollution incidents to levels lethal to crayfish.



Impact on a crayfish stream in Derbyshire due to overgrazing

Surveys

Ongoing surveys and 'health checks' for surviving populations are vital to show trends and to identify any threats. One of the most important tasks is to check that the colony is breeding successfully i.e. by identifying the presence of juveniles. Survey results can also be used to prioritise appropriate management and actions to help protect populations.

Due to the breeding season commencing in the Autumn -and the fact that the females carry eggs and young into the summer- surveys for white-clawed crayfish are necessarily squeezed into a small window of opportunity. Mid July to mid September is often the best time for hand searching and trapping (N.B. surveyors need to be licensed. Trapping also requires a further consent from the Environment Agency). Night-time torching surveys, which do not involve catching crayfish, can be carried out until mid October. Please note that these are rough guidelines. The further North, and the higher the altitude, the later the date for the juvenile crayfish to separate from the adult females will occur (potentially up to three to four weeks later).



Juvenile white-claw



Surveying for crayfish in the Peak District

Ark Sites

The number one priority is to protect white-clawed crayfish at sites where they still occur. However, many conservationists have accepted that this species needs additional help to secure its long-term survival. The establishment of 'Ark sites' is being promoted. Ark sites are locations where new populations of white-clawed crayfish can be established. These sites can be selected and modified to provide the crayfish with the best chances of survival, where they are isolated from any contact with non-native crayfish, and are safe from the transmission of plague. Suitable Ark sites might be old quarry pools which are some distance away from any watercourses, but which have a clean, permanent water supply through the ground itself and from rainfall.

Careful assessment needs to take place to identify and create Ark sites. Detailed information about this subject has been prepared by Buglife in 2009 (see Whitehouse et al, on page 11).



Stoney Cove Dive Pool, Leicestershire



The Ribble river catchment

In Britain, the strongest white-clawed crayfish populations survive in the Midlands, the North-West, the North-East and several Southern chalk streams. The most secure colonies tend to be found at isolated locations such as headwater streams, quarry pools, lakes, reservoirs and canal feeders.

Traditional strongholds for this species such as the Peak District, the Ribble river catchment in the North-West have been almost completely wiped out by the spread of crayfish plague recorded in 2001, 2005 and 2008.



An ornamental lake in south Staffordshire. Surveys have identified a large population of white-clawed crayfish with a density of 10-15 animals per square metre in the lake margins. The lake itself has an area of 286,000 sq m.

What Can You Do?

Please!

- Never touch, buy or sell crayfish. Movement of non-native crayfish is a major way to spread plague.
- Never use native or non-native crayfish as fishing bait.
- Report all sightings of native and non-native crayfish to the Environment Agency **0870 8506506**. Ask to talk to biodiversity officers.
- Let us know where you remember seeing crayfish in the past.
- Report all pollution incidents and fish kills immediately to the Environment Agency on their 24 hour emergency Pollution Hotline **0800 80 70 60**. Ask them for feedback.
- Report any suspected illegal crayfish trapping to the Environment Agency.
- Seek advice before planning any schemes that might disturb crayfish and their habitats.
- Avoid fishing, diving or surveying in more than one location in one day.
- Disinfect, or completely dry out, all kit (waders, nets, rods, wetsuits, etc) before using again.
- If it really is necessary to fish, dive or survey at more than one site on a river in a given day, begin with the upstream location first and head downstream. This reduces the risk of carrying crayfish plague past protective barriers such as waterfalls or weirs. It will still be necessary to disinfect and dry out kit between sites. Ideally a spare set of dry clean kit would be used for the additional site visit.



Focus on Cannock Chase AONB

Cannock Chase in the Midlands has a number of small, mostly unmanaged and unmodified streams which run off an area of high ground in a radial pattern.



Recent survey work has found that all seven of the streams assessed so far are home to breeding white-clawed crayfish. The majority of these watercourses are protected at their downstream end as they run through underground culverts beneath towns and, in one case, a formal parkland at the Shugborough Estate.

To date signs of non-native crayfish species have not been seen or reported. With the continued demise of native crayfish elsewhere, Cannock Chase is emerging as a regionally important area for the white-clawed crayfish. However, the AONB is not without its potential threats and these are being addressed through recommended actions from the survey reports.



Large Woody Debris introduced to a Cannock Chase stream. Monitoring has confirmed the importance of this wood for native crayfish as it provides cover and additional habitats.

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Websites

The Wildlife Trusts

<http://www.wildlifetrusts.org>

Buglife

<http://www.buglife.org.uk>

The Environment Agency

<http://www.environment-agency.gov.uk>

Natural England

<http://www.naturalengland.org.uk>

Cannock Chase AONB

<http://www.cannock-chase.co.uk>

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The Sherbrook on Cannock Chase and (inset) mother with babies

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