

PROTECT IRISH CRAYFISH



WHITE CLAWED

White clawed crayfish showing pale underside of claw



Stephanie Peay

SIGNAL

Signal crayfish showing red underside of claw. Claw is paler on female.



Stephanie Peay



Signal Crayfish
Chris Lukhaup

HERE IS WHAT YOU CAN DO:

Do not take foreign crayfish into Ireland, or purchase or release foreign species of crayfish in Ireland for any reason.

If you are involved in angling, be on the lookout for anyone who might use imported crayfish as bait.

Always dry fishing gear fully between use on different water bodies. If you can't dry it, disinfect it with a dilute bleach solution.

If you own a pet shop, do not buy in or sell crayfish.

If you suspect foreign crayfish are in a lake or river, contact the National Parks and Wildlife Service immediately – see the State Services page in the phone book or email natureconservation@environ.ie



White clawed crayfish has no white flash between finger and claw



Signal crayfish has conspicuous white flash at the joint of the finger and claw

Crayfish plague

The fungus-like *Aphanomyces astaci* that causes the lethal crayfish plague is related to potato blight and grape disease, which also crossed the Atlantic to Europe. Each American crayfish species carries a different strain of the plague. The 'Pacifastacus' strain appears completely lethal and eradicates all native crayfish. It is not even necessary for the American crayfish to be present – the plague fungus produces spores which can be transferred on wet nets and boots, on boats, and even on fish for restocking. Crayfish and trout should therefore never be farmed together.

Contacts

National Parks & Wildlife Service (NPWS)
Department of the Environment, Heritage & Local Government
7 Ely Place
Dublin 2
Tel: 1800 405 000

Useful websites:
www.npws.ie
www.noticenature.ie

Text: J.D. Reynolds and C. O'Keeffe
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Crayfish in Ireland and Europe

Freshwater crayfish look like small brownish lobsters. There are about 650 different crayfish species worldwide, but only six species in Europe and only one species in Ireland.

The six European crayfish species are or were widely caught for food, but all are now threatened, chiefly by a fatal disease, the 'crayfish plague' carried by crayfish introduced from North America. There are now ten species of American crayfish across Europe. Many of these alien crayfish now live wild in the UK.

However, Ireland is in the fortunate situation of being the last European country having no alien crayfish and we have one widespread native species, the White-clawed Crayfish, *Austropotamobius pallipes*. It can be found in Ireland, Britain, France, Spain, Italy and Croatia.

Crayfish are a valuable food item for many freshwater species. Otters, herons, trout and pike all feed on crayfish where they are available.

We have good stocks of native crayfish in Ireland, but the future is under a cloud because of the risk of release of alien species into Ireland.



Signal Crayfish
Chris Lukhaup

Crayfish plague in Ireland

Ireland was hit by crayfish plague in 1987, and lost almost all the crayfish from the Boyne and much of the Shannon. Crayfish are now again seen in small numbers in parts of the Boyne system. Two crayfish lakes, White Lake and Lough Lene, were restocked but the latter lost its stocks again a decade or so later. The strain of plague is unknown, but there is reason to believe that the plague outbreak came as a result of visiting anglers from France or the UK, bringing wet gear which harboured plague spores. There have been crayfish mortalities since 1987, but no verified plague outbreak.

Ireland is fortunate to have no alien crayfish, and it is top priority to keep it this way. However, crayfish are easily transported and can survive long periods out of water.

It is illegal to release crayfish into the wild.

There are several sources of alien crayfish, all of them illegal, but none easily policed. Despite legislative controls, the most likely pathway is into Northern Ireland from

Britain, where there are 7 alien species, and Signal Crayfish are now widespread. These were a popular item to farm in Great Britain in the 1980s, but today almost no farms remain, and stocks have escaped into the wild where they are progressively eradicating the White-clawed Crayfish. Despite the clear dangers they present, Signal Crayfish continue to be transplanted around UK and Europe. The UK now estimates that Signal Crayfish have cost the country more than was ever achievable in terms of increased income.



White-clawed Crayfish
Eddie Dunne

Alien invader:

- Over 150 years ago, the first American crayfish were imported to Europe. The Spiny-cheek crayfish, *Orconectes limosus*, is now widespread across Europe. It has ousted the white-clawed crayfish from large French lakes and rivers, and also the larger European "Noble" crayfish *Astacus astacus* from many rivers and smaller lakes further north.
- Less than 50 years ago the Swedish Government introduced Signal crayfish *Pacifastacus leniusculus* from California, in the belief that they would spread through lakes now empty of Noble crayfish. They have done so, but caused the continuing decline of Noble crayfish across Scandinavia.
- 20 years ago the Red Swamp crayfish *Procambarus clarkii* from Louisiana was introduced into Mediterranean deltas in France, Spain and Italy; it has drastically altered the ecology of the deltas and marshes such as the Camargue, and has since spread as far afield as UK.

Control of plague through hygiene:

A parallel approach is to enforce hygiene, so that there is no possibility of plague spores entering Irish waters. Plague spores are easily killed by heat, dryness, salt water, or in extreme cases, by the use of bleach disinfectant. No undisinfected wet gear should be transferred between water systems.



Signal Crayfish
Chris Lukhaup

4 possible pathways for introduction of alien crayfish:

- 1 **For fish-farming:** TV chefs have recently awakened interest in eating Signal Crayfish, and someone may try to introduce them into Ireland, perhaps via Northern Ireland, with the idea that they will be profitable.
- 2 **As bait:** Alien crayfish juveniles are sometimes available as fishing bait, and anglers have often introduced alien fishes by releasing any unused bait into the wild.
- 3 **Import for sale as food:** Plague first reached Sweden around 1900 by someone dumping diseased crayfish into a lake near Stockholm. Live alien crayfish occasionally turn up in Irish fishmongers, and it could be a matter of time before someone dumps undersized, diseased or poor specimens into an Irish waterway.
- 4 **Import for the aquarium trade:** Live crayfish are periodically seen in Irish aquarium shops, but many more are available through the internet. Perhaps the most dangerous is the 'Marmokrebs' or Marbled Crayfish, an *Orconectes* clone which is parthenogenetic, i.e. it can reproduce without mating, and produces large numbers of offspring. These have already been dumped into the wild in two European countries, and a bucket of them was recently intercepted in UK.



Marbled Crayfish
Chris Lukhaup