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SIGNAL CRAYFISH – an unwelcome addition to scottish streams

Crayfish in the UK

Worldwide, there are about 500 species of freshwater crayfish, but only one of these, the white-clawed crayfish, (*Austropotamobius pallipes*), is native to Britain. This crayfish is widely distributed in England and parts of Wales and Ireland, but does not occur naturally in Scotland. The only recorded Scottish population, in the far north of the country, is the result of an introduction in the 1940s.

Several alien crayfish species have been imported into Britain, mainly for aquaculture, and some of these have now established populations in the wild and are officially classified as pests.

Signal crayfish

The signal crayfish, (*Pacifastacus leniusculus*), a North American species, was introduced into England in the mid-1970s. It has established thriving populations in numerous river systems in southern Britain and is now found in several streams in Scotland. Studies in England have demonstrated that it can have harmful effects on native flora and fauna.

What threat do signal crayfish pose in Scotland?

The signal crayfish is an aggressive and invasive species that presents a real threat to the biodiversity of Scottish streams. It can disperse along watercourses through natural colonisation. Also, misguided and illegal movements of crayfish by humans can accelerate the dispersal within and between catchments. As yet, the distribution of signal crayfish in Scotland is believed to be restricted to a few streams in south west Scotland, although isolated specimens have been reported from further north.

Interactions with fish

Signal crayfish can prey on small fish and fish eggs, and can compete for food and cover with some fish species, including bullhead (*Cottus gobio*) and stone loach (*Barbatula barbatula*). Although there is little information concerning interactions between signal crayfish and Atlantic salmon (*Salmo salar*) and brown trout (*Salmo trutta*), which are of high economic importance in Scotland, preliminary studies at MS Freshwater Fisheries Laboratory have shown that crayfish can

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exclude juvenile salmon from shelters during winter. This behaviour would increase the vulnerability of wild salmon to predators.

Crayfish plague

Since the early 1980s, many native crayfish populations in Britain have been decimated by the fungal disease crayfish plague. The spread of this disease has been exacerbated by the introduction of alien crayfish species which can carry the fungus but are generally not susceptible to it.

What does the law say?

Legislation* exists to help restrict the spread of signal crayfish. Under the terms of this legislation it is an offence to release the animal into the wild, and a licence is required to keep live specimens.

It is an offence under the Import of Live Fish (Scotland) Act 1978 under which the Prohibition of Keeping of Live Fish (Crayfish) Scotland Order 1996, is made, to keep non-native crayfish without a licence. Also, the Wildlife and Countryside Act 1981 prevents the release of non-native crayfish into the wild.

How can you help?

Signal crayfish are difficult to eradicate once they have established viable populations in streams. Therefore, to maximize the effectiveness of any control measures, early notification of any new populations or the spreading of established populations is crucial. It is extremely important that there is accurate and up to date information on the distribution of these animals in Scotland. If you observe crayfish in the wild, either live specimens or the remains of body parts discarded by predators, or have any other relevant information, please contact MS Freshwater Fisheries Laboratory.

Contact information

Marine Scotland
Freshwater Fisheries Laboratory
Faskally, Pitlochry, Perthshire
PH16 5LB

01224 876544