

## What are freshwater invasive non-native species?

Animals and plants that have been introduced by human actions to parts of the world outside their natural range are known as non-native species.

Most of these animals and plants do not cause any problems in Great Britain.

However, a few species can cause serious and permanent problems by harming ecosystems. They can be bigger, faster growing or more aggressive than native species, and may also have fewer natural predators to control their numbers. As a result, native species are often unable to compete and the non-native species are able to take over. These species are called invasive non-native species. Freshwater invasive non-native species are non-native plants and animals that have been introduced into GB freshwaters.

## Why should I be concerned?

These species can devastate populations of native species and change whole ecosystems, for example, by competing with and displacing native species, spreading disease, altering the local ecology and physically clogging waterways.

This can adversely affect recreational facilities, for example, by reducing the population of fish, restricting navigation through waterways and affecting the quality of our rivers.

## How are they usually spread?

Water users can unknowingly assist the spread of these species from one water body to another by accidentally carrying individuals, eggs, larvae and viable plant fragments on their equipment, shoes, clothing and other damp places.

## What can I do to stop the spread of these species?

By following three simple steps when leaving the water, we can help stop the spread of freshwater invasive non-native species.



**Check your equipment and clothing for live organisms - particularly in areas that are damp or hard to inspect.**



**Clean and wash all equipment, footwear and clothing thoroughly.**



**If you do come across any organisms, leave them at the water body where you found them.**

**Dry all equipment and clothing - some species can live for many days in moist conditions.**

**Make sure you don't transfer water elsewhere.**

## Freshwater Invasive Non-Native Plants

Freshwater invasive non-native plants can have a negative impact on our waterways leaving them unsuitable for both wildlife and recreation. These plants can grow rapidly, blocking out light and making it very difficult for our native species to survive.

Identification of these problem plants can be difficult with many looking similar to our native freshwater plant species. Expert advice should always be sought if you think you have found one.

The five species included in this leaflet are some of the many freshwater invasive non-native plant species found in the UK that are of most concern to our wildlife and economy.

## New Zealand Pygmyweed *Crassula helmsii*



- Small round fleshy leaves arranged along the stem in opposite pairs
- Flowers very small, white with small petals
- Can be submerged, emergent and terrestrial forms
- Forms dense impenetrable mats, can grow 200 times faster than native pond plants

## Floating Pennywort *Hydrocotyle ranunculoides*



- Fleshy stems and roundish bluntly toothed leaves held horizontal and generally dissected to the middle
- Flowers without petals, greenish, held erect
- Precludes growth of other aquatic plants
- Obstructs movements of animals and boats preventing navigation and recreational use of watercourses

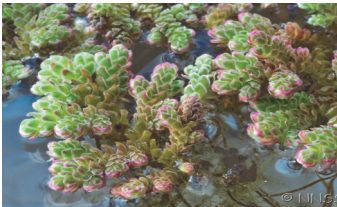
## Water Primrose *Ludwigia grandiflora*



- Creeping perennial water plant with long oval leaves like a willow
- Large, bright yellow flower like that of a primrose
- Plant can produce huge numbers of seed per year
- Currently known from just a few sites in Britain

**Urgent action needed, if found send an image to [alert\\_nonnative@ceh.ac.uk](mailto:alert_nonnative@ceh.ac.uk)**

## Water Fern *Azolla filiculoides*



- Very small free floating water plant
- Leaves have fern like rough granular appearance and range from green to red in colour
- Black brown roots hang below the plant and can be easily broken
- This plant forms dense mats on the surface of still waters which can cause the waters surface to appear solid

## Parrots Feather *Myriophyllum aquaticum*



- Aquatic perennial with both emergent and submerged forms
- Blue-green feather like leaves in whorls of 4-6
- Emergent form is more robust than submerged form
- Can block ditches and dominate ponds
- Dies back in winter although submerged form is present all year

This leaflet was produced by the Cheshire Wildlife Trust with support from Defra and the GB Non-Native Species Secretariat.



Find out more about your local Wildlife Trust visit at:  
**www.wildlifetrusts.org**

Cheshire Wildlife Trust Registered Charity No: 214927



## Freshwater Invasive Non-Native Invertebrates

Freshwater invasive non-native invertebrates can have a negative impact on our freshwater environments leaving them unsuitable for both wildlife and recreation. These organisms can reproduce rapidly, compete with and predate our native species and spread disease and parasites.

Identification of these problem species can be difficult so expert advice should always be sought if you think you have found one.

The following five species are some of the many freshwater invasive non-native invertebrates found in the UK that are of most concern to our wildlife and economy.

### Zebra Mussel *Dreissena polymorpha*



- Invasive mollusc up to 20 mm in length
- Brownish-yellowish colour with a characteristic dark and light coloured ("zebra") zigzag banding
- Can significantly reduce native biodiversity, and alter whole freshwater ecosystems by filtration
- This species has become a major economic pest due to its ability to block water pipes

### Killer Shrimp *Dikerogammarus villosus*



- Up to 30 mm in length, body is curled and semi-transparent with two pairs of antennae and large, powerful mandibles (jaws)
- Predator of native shrimp and other native fauna. Likely to disrupt ecosystems through direct predation and indirect effects across food chains
- Parasites carried by killer shrimps could reduce fish stocks

**Urgent action needed, if found send an image to [alert\\_nonnative@ceh.ac.uk](mailto:alert_nonnative@ceh.ac.uk)**

### Signal Crayfish *Pacifastacus leniusculus*



- Much larger than our native White-clawed Crayfish although juveniles of both species are very similar
- Claws bright red underneath with a small turquoise / white spot on the surface
- Spreads up and down stream and may cross land to colonise adjacent water bodies where it will dominate and replace our native crayfish
- Carries Crayfish Plague which is deadly to our native crayfish

### Chinese Mitten Crab *Eriocheir sinensis*



- Only freshwater crab found in the UK
- Migrates downstream to estuaries in Autumn to spawn
- Green, brown or grey in colour, front white tipped pincers covered in dense matt of fine hairs
- Legs long and hairy, body square and up to 86mm across
- Undermines riverbanks through burrowing leading to increased risk of erosion

### Asian Clam *Corbicula fluminea*



- Invasive mollusc species usually less than 25 mm but can grow up to 50 to 65 mm in length
- Yellow-green to brown rounded triangular shell with evenly spaced ridges on surface
- Reach high densities and outcompete native species for food and space
- Threatens fish spawning grounds and native freshwater mollusc species

### What do I do if I find an invasive non-native species?



#### Alert Species!

It is particularly important to let us know if you see one of the alert species. If you have, send an email with a photograph to:

**[alert\\_nonnative@ceh.ac.uk](mailto:alert_nonnative@ceh.ac.uk)**



**GB Non-native Species Information Portal**

If you think that you have seen one of the other species on this leaflet you can find guidance on where to send a record on the GB Non-native Species Portal.

**<https://secure.fera.defra.gov.uk/nonnativespecies/factsheet/index.cfm>**



Recording Invasive Species Counts (RISC) is a project set up to help monitor a number of non-native species. Visit their website to find out more:

**[www.nonnativespecies.org/recording](http://www.nonnativespecies.org/recording)**

**For more information about this campaign visit:**

**[www.nonnativespecies.org/checkcleandry](http://www.nonnativespecies.org/checkcleandry)**

## Freshwater Invasive Non-Native Plants and Invertebrates

