

Invasive species



The problem

Invasive non native species (INNS) are the second greatest threat to biodiversity, being capable of rapidly colonising a wide range of habitats and excluding native flora and fauna.

Over the last 400 years INNS have contributed to 40% of animal extinctions where the cause is known.

Water is an excellent transport medium for the dispersal of many of these species, rivers and lochs and their banks and shorelines are amongst the most vulnerable areas to their introduction, spread and impact.

Ecological changes wrought by INNS can further threaten already endangered native species and reduce natural productivity and amenity value of riverbanks and water bodies.

The Dee, Cowie and Carron catchments currently have ten INNS, plus two translocated species (native to Great Britain but transported outside its natural range) – see below.

Tackling the Problem

The River Dee Trust is working, alongside other groups, to prevent, detect, control and eradicate INNS within the catchments of the Dee, Cowie and Carron. Our work is focused on three objectives:

1. Reduce the INNS introduction risk within the three catchments
2. Establish optimum surveillance, detection, monitoring and rapid response systems for identified INNS which pose significant threats to local biodiversity and economy
3. Develop effective control and eradication programmes for identified existing INNS

Further information of this work can be found within our [Biosecurity Plan](#).

Information on the INNS currently present in the Dee, Cowie and Carron rivers is given below.

American mink, *Mustela vison*



Occurrence: Present throughout the three catchments but have nearly been eradicated from the western Dee catchment by a sustained trapping programme.

Problem: Mink prey on water fowl, small mammals and fish. They can contribute substantially to juvenile salmon mortality in local areas. Mink are linked to the decline of water voles in the Cairngorm National Park - 94% decline in distribution of water voles since 1950s.

Action: The RDT, through its membership to RAFTS, supports a mink control officer in NE Scotland whose job is to co-ordinate a mink removal programme. [Further info](#).

Japanese knotweed, *Fallopia japonica*



Occurrence: Localised in small dense pockets in the Dee catchment, from just above Ballater downstream. Dense stands in the lower Cowie around Stonehaven and localised in the lower river Carron.

Problem: Forms dense thickets which out-competes native plants and reduces biodiversity through altering the habitat for wildlife. Winter dieback of the plants exposes bank sides to soil erosion.

Action: Control programme on Rivers Cowie and Carron being undertaken, summer 2011, with volunteers. [Further info](#).

Giant hogweed, *Herculeum mantegazzianum*



Occurrence: Individual plants and small groups in the Dee and Cowie catchments. Dense population on the Carron on outskirts of Stonehaven.

Himalayan balsam, *Impatiens glandulifera*



Occurrence: Present throughout the Dee, below Dinnet

Problem: Forms dense stands that shade out native plants, reducing biodiversity and denuding river banks of understory vegetation. Winter

Problem: It is a public health hazard due to the toxins in its sap reacting with UV light to blister skin. Giant hogweed out-competes native vegetation, resulting in a loss of plant and invertebrate diversity. Winter dieback exposes river banks to soil erosion.

Action: Currently preparing to survey distribution of this species. [Further info.](#)

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Water crowfoot, *Ranunculus sp.*



Occurrence: Native to Britain but not northern Scotland. It has been translocated to the Dee and is present in the middle and lower reaches (downstream of Dess); very prolific in some areas downstream of Banchory.

Problem: Dense stands have overwhelmed the stream bed, accumulating sediment and in some areas impacting freshwater pearl mussel beds and salmon spawning gravels.

Action: Dee DSFB in 2010 trialled removal of *Ranunculus* in the main stem of the Dee through hand pulling and digging out the plant by the roots. Will continue in 2011, focusing on salmon spawning areas. [Survey results.](#)

Canadian waterweed, *Elodea canadensis*



Occurrence: Present in slow-flowing locations throughout the Dee downstream of Braemar.

Problem: Spread by disposal of plant fragments near waterways and escapes from garden ponds during floods. Can dominate native macrophyte communities, which can lead to their extinction and thereby impacts local invertebrate communities.

Action: Monitor for distribution. [Futher info.](#)

Nuttall's pondweed, *Elodea nutallii*



Occurrence: Present confirmed in Loch of Skene.

Problem: Spread by disposal of plant fragments near waterways and escapes from garden ponds during floods. Can dominate native macrophyte communities, which can lead to their extinction and thereby impacts local invertebrate communities.

Action: Monitor for distribution. [Further info.](#)

Rhododendron, *Rhododendron ponticum*



Occurrence: Present in a few locations in the middle and lower Dee district.

Problem: Spreads and forms dense thickets which out-compete native plants, indirectly impacting on fish and invertebrate communities. Prevents site access.

Action: Monitor; felling where impacting on riparian habitat. [Further info.](#)

Rainbow trout, *Oncorhynchus mykiss*



Occurrence: Introduced to commercial and angling club fishing ponds throughout the district. Escapees have been caught near some of these ponds.

Problem: Escaped fish are a potential source of viral and bacterial diseases affecting wild fish. They can out-compete our native salmon and trout.

Action: Monitor; close potential escape avenues through liaising with fisheries owners.

American skunk cabbage, *Lysichiton americanus*



Occurrence: In the Lower Dee between Durris and Peterculter.

Problem: Escapes from gardens into the wild, spreading along waterways. Can out-compete native vegetation, having indirect effects on local wildlife.

Action: Monitor for distribution.

Minnow, *Phoxinus phoxinus*



Occurrence: Throughout the mainstem of the river Dee, locally abundant. Present in the River Carron.

Problem: Is a translocated species that has been introduced throughout the district by anglers. Minnows can out-compete native species for resources, but they also provide another food source for kingfishers, herons, sawbill ducks and larger fish.

Action: Monitor for distribution.

Grey squirrel, *Sciurus carolinensis*



Occurrence: Introduced to Aberdeen and have spread along riparian corridors. Abundant as far west as Banchory, present up to Braemar.

Problem: Greys out-compete native red squirrels in mixed woodlands. Red squirrels are becoming more fragmented in distribution. Greys carry squirrel pox virus and are unaffected by it, but it is fatal to red squirrels.

Action: Support monitoring and trapping programme that is underway in Aberdeenshire. [Save Scotland's red squirrels.](#)

Be alert

There is high risk of further INNS invading the catchments. The two biggest threats come from *Gyrodactylus salaris* and North American signal crayfish.

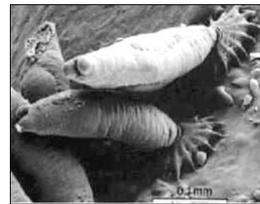
North American signal crayfish, *Pacifastacus leniusculus*



Occurrence: Present in the Esk district, which borders the south side of the Dee catchment. Also present in other Scottish catchments, including the Tay.

Problem: Excludes salmon from preferred habitat and impacts on

***Gyrodactylus salaris*, Gs**



Occurrence: Native to the Baltic States. Spread to Norway where it has wiped out salmon in 41 rivers. Not known to be in the UK.

Problem: Parasitic gill fluke that feeds on Atlantic salmon. If introduced into our rivers, would decimate salmon populations. Any (chemical) treatment would have major impact on biodiversity, if allowed. High

aquatic invertebrates and macrophytes. Burrowing into river banks can undermine banks.

Action: Monitoring annually by DeeDSFB using crayfish traps. Immediate action if any are found.

[Further info.](#)

risk of invasion through unintentional introduction from anglers and water sport enthusiasts.

Action: Awareness campaign run by DeeDSFB and RDT. Disinfection centres set up in Deeside for international anglers to use on their equipment.

Further information on INNS can be found at www.invasivespeciesscotland.org.uk

What you can do

Everyone can take simple steps to help limit the spread of invasive species and ensure that new ones do not establish in our natural environment. Below we have included links to other websites providing straight-forward advice.

1. Pond owners. Follow these [tips](#).
2. Retailers of plants. Follow these [tips](#).
3. Gardeners. Follow these [tips](#).
4. Anglers. If you have fished abroad, ensure Gs and other parasites are not introduced to our rivers. The Dee has several [disinfection facilities](#) for fishing equipment.
5. Water sports enthusiasts. Follow these [tips](#).
6. None of the above:
 - Don't release aquarium fish and plants or other exotic animals into the wild.
 - Plant material should not be disposed of in the countryside or even over the garden fence.
 - Report a sighting of an INNS [here](#).
 - Volunteer - the River Dee Trust will be running programmes for several of the occurring INNS