

Spotter's guide to terrestrial INNS

Invasive and Non-Native Species (INNS) aka Invasive Alien Species (IAS) are one of the leading threats to biodiversity in the modern world and are responsible for the loss of native species and habitats.

Some of the most commonly known INNS in the UK and Ireland are found in the terrestrial environment. Here's our spotter's guide to some of the most common terrestrial INNS.



American mink
Neovison vison
(Image: GBNNSS)

European Otter
Lutra lutra
(Image: GBNNSS)

American mink

APPEARANCE: brown-black fur, narrow snout, small, white chin and white throat.

WHERE: usually in or near water bodies.

SIMILAR TO: otters, polecats or ferrets.

IDENTIFYING FEATURES: mink are smaller than otters, with darker fur and a smaller face. If you see them in the water, mink have a lack of bow wave when swimming where otters create a wave thanks to their large, muscular tail. Polecats and ferrets are similar in size to mink but usually have facial markings where mink do not.

EFFECT ON BIODIVERSITY: voracious predators, mink eat a wide range of other animals including fish, frogs, birds and water voles, which are now under threat of extinction in the UK due to American mink.

If you need help identifying a mink or signs of one, look at the [Non-native Species Secretariat \(NNSS\) website](#). You can report evidence of mink to the [Scottish Invasive Species Initiative](#) if it's within their project area (generally Perthshire, Angus, Aberdeenshire, Moray and Highland).



Giant hogweed leaves are not divided at the base
(Image: GBNNSS)

Giant hogweed
Heracleum mantegazzianum

Giant hogweed

APPEARANCE: can grow to up to 5 metres tall, with wide, white, umbrella-like flower heads.

WHERE: derelict spaces and by river banks, where its seeds are transported by water.

SIMILAR TO: common hogweed (*Heracleum sphondylium*), which is much smaller and a native species; Cow parsley (*Anthriscus sylvestris*) which has tripinnate (divided) leaves; ground elder (*Aegopodium podagraria*), another invasive species that is much smaller than giant hogweed.

IDENTIFYING FEATURES: grows much taller and has wider flower heads and leaves than other similar native species. Its sap is dangerous, causing blistering and burns to exposed skin.

EFFECT ON BIODIVERSITY: out-competes native plant species for space and can lead to river bank erosion.

There is no legal obligation for landowners to take action about giant hogweed. However, as they must not grow any invasive, non-native plants, they should be aware of moving contaminated soil or cuttings. It's always best to get help in identifying and eradicating.



Asian hornet abdomen

Native hornet abdomen

Asian hornet

APPEARANCE: the Asian hornet (*Vespa velutina*) is smaller than its European counterpart and easily identified by its yellow-tipped legs and dark body.

WHERE: sightings have been mostly recorded in the South of England and Wales and around major ports. Look out for them around beehives, flowering plants or compost heaps.

SIMILAR TO: European hornet, which is larger with brown legs; hornet mimic hoverfly (has only one pair of wings, not two like hornets); median wasp (has more stripes and yellow markings on its thorax).

IDENTIFYING FEATURES: dark brown or black, velvety body, with a yellow/orange fourth segment. It can be identified by its yellow-tipped legs.

EFFECT ON BIODIVERSITY: although Asian hornets are no greater threat to human health than native European hornets, they predate heavily on bees and other insects – so are a real issue for native pollinators.

Asian hornets are a horizon species (not yet firmly established). Sightings should be reported with a photograph and location details via the app Asian Hornet Watch or on the [Non-native Species Secretariat website](#).



Purple pitcher plant
Sarracenia purpurea

Purple pitcher plant

APPEARANCE: a carnivorous plant up to 30cm long with a rosette of up to 100 purple/red pitchers.

WHERE: throughout the UK, in small clusters. Spread is limited due to its favoured habitat being fragmented. It is believed to be planted deliberately by carnivorous plant enthusiasts.

IDENTIFYING FEATURES: distinctive purple/red pitchers.

EFFECT ON BIODIVERSITY: has a preference for high quality bog habitat, so there is a greater impact on SSSIs, SACs and NNRs, where it can outcompete native bog vegetation, particularly bog mosses, liverworts and sphagnum. May have an impact on invertebrate populations and disrupt nutrient cycling.



Upright tail
(Image: GBNNSS)

Ruddy duck
Oxyura jamaicensis
(Image: GBNNSS)

Ruddy duck

APPEARANCE: small and compact with a stiff, upright tail. Males have a distinctive blue bill and white face with a black hood.

WHERE: mainly around the English midlands, but there are major concentrations around Cheshire, Greater Manchester, the Home Counties, Yorkshire and Anglesey.

SIMILAR TO: tufted ducks, common scoter and smew.

IDENTIFYING FEATURES: between autumn and early spring, the plumage of male ducks fades and its bill turns grey, making it harder to identify.

EFFECT ON BIODIVERSITY: a serious threat to native populations of white-headed duck (a globally-threatened species) as a result of hybridisation. A UK-wide eradication programme is ongoing with success in Northern Ireland, Wales and Scotland.

Sightings of ruddy duck should be recorded on [iRecord](#).

Japanese knotweed
Fallopia japonica



Japanese knotweed

APPEARANCE: tall, with shield-shaped leaves and bamboo-like, purple-speckled stems and distinctive rhizome (underground root-like stems).

WHERE: found across the UK in derelict land, railways and river banks.

SIMILAR TO: other INNS such as giant knotweed (*Fallopia sachalinensis*) and bohemian knotweed (*fallopia x bohémica*).

IDENTIFYING FEATURES: zig zag stems and underground rhizome which are bright orange when cut open.

EFFECT ON BIODIVERSITY: outcompetes native flora, contributes to river bank erosion and increases the likelihood of flooding. It can grow through asphalt and other surfaces, affecting construction and existing structures.

Japanese knotweed spreads rapidly by fragments of rhizome or stem, so cutting or removal should only be attempted by professionals. Incidents on public land should be reported to local authorities and suspected fly tipping should be reported immediately to the [Environment Agency](#) to prevent spread.

APEM are experts in the monitoring, risk assessment, and management of INNS in the terrestrial and aquatic environment. Early detection leads to informed decision making, reducing environmental impact and saving our clients time and money.

Management of INNS is vital to maintain biodiversity in the natural environment and can take different forms depending on the risk of introduction, scale of infestation and the species present. APEM regularly prepare risk assessments, management strategies, and biosecurity plans, as well as managing specialist contractors for eradication measures.