# Invasive Species Action Plan


**Summary**

Non-native species are species, subspecies or lower taxon, introduced (i.e. by human action) outside their natural past or present distribution. Invasive non-native species (INNS) are any non-native animal or plant that has the ability to spread causing damage to the environment, the economy, our health and the way we live. It is important to make the definition between non-native and invasive as there are many non-native species that are not invasive and do not pose a threat.

Invasive non-native species occupy and dominate ecological niches where they were not previously part of the flora or fauna, their success often causes local eradication of native species. These species become a concern when their growth reduces the biodiversity value of an area.


**Current Status**

Globally, INNS have contributed to 40% of the animal extinctions that have occurred in the last 400 years (CBD, 2006). Many countries including Scotland are now facing complex and costly problems associated with invasive species; invasive non-native species may cost up to £2 billion pounds each year in Great Britain, and as much as £200 million for Scotland alone.

The main recognised INNS in Scotland, listed in this plan, are commonly found across North Lanarkshire. Some survey work has been undertaken, mainly along the river corridors of the North, South and Rotton Calders, the Kelvin and the Glazert Water. The Native Woodland Survey of Scotland (NWSS) recorded 32.8ha of invasive non-native plant species in North Lanarkshire's native woodlands or plantations on ancient woodlands.

**Current Issues**

- Threats to native plants and animals
- Damage to property and buildings
- Impacts on human health
- Increased risk of flooding a soil erosion
- Damage to forestry and crops
- Extensive costs to treat established INNS

Reinvasion after initial invasive species control can occur from neighbouring land. Opportunities to work with partners and neighbours to control invasive species will reduce the chances of reinfection by a species.

This is the kind of situation that the new WANE Act tries to deal with through voluntary Special Control Agreements (SCAs) and (if they don't work) statutory Species Control Orders (SCOs). For example, it is an offence for plants to escape from a garden (or some other highly managed "non-wild" land) into a woodland or open ground habitat (which is now defined as "wild" land). Scottish Natural Heritage is the usual lead for this, with Forestry Commission Scotland taking the lead for woodland habitats and the two agencies work together. The process for SCAs and SCOs isn't yet fully set up. The grounds for action will probably be to prevent an invasive non-native species from becoming established in a location if the landowners have shown clear unwillingness to comply with the law. First contact will be with the local SNH office for advice.

**Species and their Control**

Rhododendron *(Rhododendron ponticum)*

Once Rhododendron has invaded an area, few native plants survive. In woodlands, only those trees which manage to grow above the level of the Rhododendron canopy will persist. When such trees die, they cannot be replaced because seedlings cannot become established under the lightless canopy. At this point, the Rhododendron completely dominates the area. Stands accumulate thick litter layers.

Rhododendron control can be planned by follow the guidance in the Managing and Controlling Invasive Rhododendron Practice Guide.
http://www.forestry.gov.uk/pdf/fcpg017.pdf/$FILE/fcpg017.pdf.

Volunteers often get involved by cutting and burning bushes; to be effective this should be followed up with herbicide application to the stumps. Volunteers also pull seedlings; however this should only be done when all of the root can be removed.

Japanese knotweed *(Fallopia japonica)*

Japanese knotweed damages native riparian communities by reducing light availability, through the alteration of the soil environment and through the release of allelochemicals. Soil Potassium and Manganese is greater under Japanese knotweed than under native vegetation. Japanese knotweed decreases soil bulk density and increases organic matter content, water content and nutrient levels. It affects other trophic levels.

Prolific rhizome and shoot growth can damage foundations, walls, pavements, and drainage works, and causes flood hazards by increasing resistance to water flow and damaging flood prevention structures.

Control should follow the guidance in Scottish Environmental Protection Agency (SEPA) Technical Guidance Note: On-site management of Japanese knotweed and associated contaminated soils. Effective *c*ontrol will require herbicide including follow up after the initial control using stem injection or foliar spraying. Cutting the stems is not an effective control and the control of Japanese knotweed is not a suitable task for volunteers.

Japanese knotweed should not be stockpiled within 10 metres of a watercourse. Any movement of contaminated soil and Japanese Knotweed for treatment could involve the treatment of waste and will require a waste management licence. The relevant

local SEPA office should be contacted prior to any such movement and treatment of Knotweed material or associated contaminated soil.

Himalayan balsam (*Impatiens glandulifera*)

This robust species often grows alongside riverbanks and produces showy pink blossoms which bees and other pollinating insects love. For some, bee-keepers included, this appears to be a good thing as native bumblebees and honey bee populations have drastically declined over the last 30 years, partly due to disease, but also as a result of losses of wildflower food sources.

However, pollinating insects and their food plants are locked into a delicate cycle of natural balance, each one depending on the other. Therefore, the loss of native wildflowers in traditionally managed meadows and along riverbanks, hastens the decline of pollinating insects, such as bees. A reduction in populations of pollinators means that wildflowers do not get pollinated and their populations in turn decline.

Introducing a non-native species such as Himalayan balsam can appear to solve one aspect of this problem by providing a food source for pollinators; however, Himalayan balsam is an invasive species and will rapidly spread across vast swathes of countryside, aided by rivers and streams. As this non-native species spreads, so it swamps out the natural variety of wildflowers which provide a diverse food source for pollinating insects.

Eradication of this species is not possible due to reinfection of sites through seed moving in waterways, on people's boots or on animals. Control can be carried out by volunteers hand pulling seedlings, all plant material should be removed from site to landfill. However, larger patches are difficult to manage by hand-pulling as there are many small seedlings among other vegetation, and there can be a large amount of material to remove from site. Therefore, large patches can be sprayed off with Glyphosate and in the following years volunteers could hand pull or spray for up to 3 years.

Snowberry *(Symphoricarpos albus)*

Snowberry is a native of North America and was planted as game cover in the UK in the early 20th century. It is a 1-3m high shrub which spreads by means of suckers to form dense thickets. It has distinctive white berries.

Clearance of snowberry can be done by volunteers cutting the bushes and in the following years spraying the regrowth with glyphosate using certified staff or contractors.

Giant hogweed *(Heracleum mantegazzianum)*

The species may form dense stands reducing species diversity and has large white umbrella-like flower heads producing 50, 000 or more seeds; these remain viable in the soil for up to 15 years and are easily spread along watercourses. It is often found on riverbanks, waste ground or where plant material has been dumped, and can tolerate permanent waterlogging. When the plants die back in the autumn they often leave river banks free of vegetation and liable to erosion. The stems and leaves are covered with small hairs coated with toxic sap containing furocoumarins. The slightest contact with this sap causes severe blistering and skin irritation, triggered by exposure to sunlight. Cut material remains active for several hours after cutting. The

economic impact has not been defined but it clearly lowers the recreational value of the landscape due to human health risk.

The most important way of avoiding the problem is to rapidly treat infested areas to prevent further spread. Glyphosate is a very effective treatment if applied sufficiently early to prevent flowering and applications in or near water may be permitted subject to approval from the relevant environment agencies, as long as flowering is prevented.

Giant hogweed should be cut or foliar-sprayed, this will require follow up control for 3 or more years. Due to the severe skin reaction in people, control should be by trained staff or contractors.

Spanish Bluebells *(Hyacynthoides hispanica)*

The Spanish bluebell becomes established in woodlands replacing the native bluebell (*Hyacynthoides non-scripta*) as it is larger and more vigorous than our native Bluebell and also hybridises with it. There is concern that it will threaten the local genetic integrity of our native Bluebell.

Grey Squirrel *(Sciurus carolinensis)*

There are no plans to control or manage grey squirrels.

American Mink (*Neovision vison*)

There is substantial evidence of detrimental impacts by American Mink on native fauna including waterfowl and aquatic mammals, especially water voles. Mink may also account for a large proportion of salmonid mortality in some river systems.

Evidence suggests that habitat management may mitigate the effect of minks on water voles; in particular reed beds and isolated ponds may provide refuges.

There is no intention to extend the successful northern Scottish Mink Initiative control project to central Scotland. There will be no mink control, unless the Scottish Mink Initiative, or another similar partnership project, starts in the central belt of Scotland.

North American Signal Crayfish (*Pacifastacus leniusulus*)

Documented harmful impacts include eradication of indigenous population of white-clawed crayfish *Austropotamobius pallipes* through direct competition and transmission of lethal crayfish plague *Aphanomyces astaci*. They will also exclude salmonids from their preferred habitat and will undermine the stability of riverbanks through burrowing.

Spreads up and downstream and may cross land to colonise adjacent water bodies. Human transfer, although illegal, still continues.

Trapping is the main method of control.

**Relevant National, UK, European policies, legislation, guidance.**

The Wildlife and Countryside Act 1981 (WCA) provides the primary controls on the release of non-native species into the wild in Great Britain. It is an offence under the

act to ‘plant’ or ‘otherwise cause to grow in the wild’ a number of non-native plant species.

The Wildlife & Natural Environment (WANE) Bill came into effect in June 2011, with Forestry Commission Scotland, SNH, SEPA and Marine Scotland all being designated as ‘Responsible Bodies’ in co-ordinating control measures for problem INNS, with SNH in an overall co-ordinating role. The WANE act strengthens the Wildlife and Countryside Act stating that it is an offence to “allow to grow” rather than just cause to grow.

**Aims and objectives of plan**

The aim of this plan is to provide context, focus and direction for the management of invasive species in North Lanarkshire. Designated sites such as Sites of Special Scientific Interest (SSSIs), Local Nature Reserves (LNRs) and Sites of Importance for Nature Conservations (SINCs) and UK Biodiversity Action Plan (UKBAP) habitats should be the priority for control.

Prevention is the first level of protection against INNS and therefore should be considered in depth. Comprehensive, appropriate and effective prevention can result in significant financial savings to land managers which include government bodies, agricultural industries, biodiversity partners and broadly the larger community. This also results in the safeguarding of our wildlife and natural environments, as effective prevention avoids INNS becoming a major regional or national issue.

**Current Actions**

- Landscape scale project was undertaken by Greenspace Development and SEPA in order to naturalise the Garrell Burn and alleviate flooding. Part of this project is to survey and treat INNS within the site. The project finished this year; however, the treatment of INNS will carry on for several years.

- Greenspace Development in partnership with Cumbernauld Living Landscapes employed contractors to undertake a project to survey for invasive species within the Cumbernauld Living Landscapes catchment area – concentrating on the Luggie Water. As part of the project training was also given to external volunteers and internal staff.

- A new project is underway to facilitate the continuation of the Garrell Burn INNS project. This will involve surveying up-steam of the Garrel Burn project and further treatment. It also involves surveys of several of our Local Nature Reserves and treatment to any INNS recorded.

**Objectives**

1) Create catchment based control projects, using partnership working.

2) Increase the information available on the location of invasive species and the control that is occurring in North Lanarkshire.

3) Share information on identification, prevention and good practice for control.

## Targets

| Action | Meets objective number | Action by | Target |
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| **Policy and Legislation** | | | |
| 1.1 Encourage the adoption of existing campaigns to prevent the spread of INNS. Including but not limited to '*Be Plantwise'*, '*Horticultural Code of Practice' and* '*Check, Clean, Dry'* campaigns. | 4 | NLC, NS | Promote campaigns at events and on websites annually. |
| **Site Safeguard and Management** | | | |
| 2.1 Develop partnerships to provide synergy and a coordinated approach to INNS mitigation, control and eradication between land managers and community groups | 1, 2 | NLC | Develop existing partnership to include further volunteer engagement. |
| 2.2 Developing a sensible control programme to reduce likely reinfestation from neighbouring ground/up stream using available data | 2 | All | Each partner to inform the group of the current extent of non-native invasives & the resources available for control.<br><br>Produce a map of high risk pathways.<br><br>By 2025 |
| 2.3 Control Rhododendron ponticum in native woodland & designated sites | 2 | SF, NS, NLC, , Scottish Wildlife Trust (SWT) | 15ha by 2028 |
| 2.4 Control Japanese knotweed in native woodland, key water courses & designated sites | 2 | SF, NS, NLC, SWT | 4ha by 2028 |
| 2.5 Control Himalayan balsam in native woodland, key water courses & designated sites | 2 | SF, NS, NLC, SWT | 3ha by 2028 |
| 2.6 Control snowberry in native woodland & designated sites | 2 | SF, NS, NLC, SWT | 1ha by 2028 |
| 2.7 Establish native vegetation on sites of invasive plant species control | 2 | SF, NLC, NS, SWT | 23ha by 2025 |
| 2.8 Agree and use methods for invasive species data collection and control planning including follow up monitoring and control that will be necessary to effectively manage invasive species. | 3 | GATrust, NLC | Encouraging people to submit records directly, through Planttracker and access this data to plan control |
| **Communications and Publicity** | | | |
| 3.1 Hold events to train & educate people to ID and map INNS. | 4 | NLC, SNH | 6 events, by end of 2028. |

Note the area figures are based on the information from the NWSS invasive areas

## References

http://www.europe-aliens.org/default.do Information on invasive species in Europe.

http://www.nonnativespecies.org/home/index.cfm Information on invasive species in GB

http://www.csft.org.uk/out-a-about/inns Information on invasive species in Central Scotland

http://www.snh.gov.uk/protecting-scotlands-nature/nonnative-species/

Scottish Natural Heritage information on invasive species in Scotland, including sections on legislation, local projects, and what you can do to help.

http://www.cbd.int/doc/gbo/gbo2/cbd-gbo2-en.pdf

***Author:***

**Yvonne Grieve, Forestry Commission (2014), updated by Laura McCrorie Conservation and Biodiversity Manager 2022.**