

Invasive Non Native Species

WILD CHALLENGE – INVASIVE NON NATIVE SPECIES (INNS)

Invasive non-native plants literally invade, spread and settle resulting in a significant loss of native plant and invertebrate biodiversity.

The native plants in these habitats are used to co-existing with each other, evolving over a significant period of time together. When a non-native species is introduced to this established habitat, the native species are out-competed.

In the National Park our focus is on the following 5 Invasive non-native species

1. RHODODENDRON PONTICUM

Rhododendron ponticum escaped from beautiful, managed rhododendron gardens taking over whole sections of our native woodlands and forests. It blocks out light to the forest floor so no other plants are able to survive.



2. JAPANESE KNOTWEED.

Japanese Knotweed as the name suggests is originally from Japan, where it is in fact a rare plant. It was first recorded in the wild in the UK in South Wales, in 1886. It was introduced to large gardens as an ornamental plant.

All plants in the UK are a male-sterile clone, so luckily no seeds are produced, however, the plant can spread easily from small fragments of the roots, stems or leaves. Large stands of knotweed often become established in the wild, particularly along waterways where fragments of the plant or soil containing its roots are washed downstream during floods. The small fragments of the plant become established on the banks of rivers and lochs growing into dense stands over time.



These dense stands rapidly expand and take over, replacing the native plants which once grew there, often resulting in an ever increasing lifeless monoculture of knotweed. As well as having a negative impact on biodiversity, large patches of the plant can prevent access to riverbanks and lochsides, and can also cause structural damage to property.

The best method of controlling it is by using chemicals. This is usually done by spraying the leaves directly but can also be done by injecting the chemical directly into the hollow stems of the plants. This is a time consuming process and it can take several years before the plants are showing no signs of regrowth.

3. HIMALAYAN BALSAM

These attractive plants with purple flowers are native to the western and central Himalaya. They were introduced to Kew Gardens in London in 1839. Unfortunately it is now a major weed problem throughout the UK, especially on riverbanks, wet woodlands and waste land.



Himalayan Balsam

Himalayan Balsam only spreads by seeds, not from fragments of roots or leaves. The plants flower from July to October, setting seed from mid-July onwards. Each plant can easily produce as many as 800 seeds, scattered widely from explosive pods. The seeds float and can travel long distances before becoming lodged and germinating in soft muddy areas such as riverbanks.

Where plants have become dominant they quickly shade out native species resulting in the loss of native biodiversity.

There are a few ways to control Himalayan Balsam. If the plant has formed very dense stands then spraying with chemical is an option, however, the most common way to control it is by pulling them up by hand before they have a chance to set seed. The plants are very shallow rooted and are easy to pull up. This is usually done in early July as the plants come into flower. The uprooted plants can simply be left to rot down in a pile.

4. AMERICAN SKUNK-CABBAGE

Native of western North America, its normal habitat is wet woodland, where it grows in nutrient-rich mud. It produces large yellow flowers in spring which emit a strong odour like that of a skunk. The plant has large leathery leaves which can grow up to about 1 m in length. In the UK it has been widely planted beside ponds and bog gardens and is still widely available from garden centres and plant catalogues.



American Skunk-cabbage in flower

Unfortunately, under the right conditions, it is very invasive, especially in muddy ditches and wet woodlands. The plant produces green berries which ripen in July. The berries can be transported downstream where they become lodged on muddy loch-shores and riverbanks. New colonies of the plant establish and replace native plants by competing with them for light, nutrients and water.

These plants can be dug up but this is very muddy hard work and not always successful. A more practical solution is to spray them with chemical. Removing the flowers can also help prevent the plants from setting seed.



Giant Hogweed

5. GIANT HOGWEED

Aptly named 'giant', this plant has flowering stems typically 2-3 m high bearing large white flowers which can grow to be over 1 m in diameter with leaves often 1 m or more in size. It is especially abundant by streams and rivers, but also occurs widely on waste ground. Originally from south-west Asia it was planted as an ornamental in gardens beside streams and ponds.

It spreads entirely by seeds which are dispersed by wind, water and in contaminated soils. A single plant can easily produce over 20,000 seeds each year.

The mature plants form dense impenetrable stands, preventing access to riverbanks, reducing species diversity, and posing a serious health risk. The plant produces phytotoxic sap which in contact with human skin and combined with sunlight causes severe burns and blisters.

Chemical treatment is an effective method of control and is best carried out during late spring or early summer when the plants are still small and pose less of a risk.

Our Wild Challenge

We're working in partnership with landowners, fishery trusts, government agencies and volunteers to reduce the extent and damaging impact of these species. Wherever possible, we are seeking to remove invasive non-native plants completely. This collaborative effort includes:

- rapid response to plant diseases and new outbreaks of invasive non-native plants
- training volunteers to get involved in projects to control these plants
- actively controlling the spread of invasive non-native plants on our riverbanks and lochsides
- raising awareness of how to avoid spreading plants or plant diseases.

Action Plan for Rhododendron

The Loch Lomond & The Trossachs National Park Authority has a long term vision that no semi natural habitat within the National Park will be at risk from invasive Rhododendron.

In order to move towards achieving this vision, several pieces of work are being undertaken, starting with the production of a strategic plan for rhododendron control within the National Park.

The strategic plan will prioritise coordinated control in specific project areas. It will build on the existing established control programmes to ensure that landscape-scale control is achieved through best use of public and private money.

As complete removal of rhododendron from any location requires persistence, longer term work will be required to continue to 2020 and beyond. We will ensure that rhododendron control is being carried out on National Park Authority land and that preventative action is taken through the development planning process to control and manage invasive rhododendron from any development site where it is posing a risk to a semi natural habitat.

We will also keep working to ensure that no designated site is in unfavourable declining condition due to the presence of invasive rhododendron. Monitoring is in place to demonstrate successes and areas where follow up-clearance or habitat restoration work is required.



Rhododendron ponticum

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Action Plan for Riparian INNS

Riparian INNS is a term used to describe invasive non-native plants such as Japanese Knotweed, Giant Hogweed, American Skunk-cabbage and Himalayan Balsam which spread along water courses such as streams, rivers and loch shores, often referred to as riparian zones.

The removal of INNS from beside rivers and lochs will allow other native plants to recolonise resulting in an increase in native biodiversity and has the potential to encourage the expansion of vulnerable native species. Increased biodiversity will provide better habitat for insects, birds and mammals and support these populations.

Wild Challenge - Riparian INNS is one of the main challenges set out in `Wild Park 2020` biodiversity action plan. This Wild Challenge aims to prevent, monitor and control the introduction, spread and extent of riparian INNS that affect rivers and lochs in a sustainable manner on a catchment-wide scale. The programme is a partnership between Loch Lomond & The Trossachs National Park Authority and a large number of organisations and bodies.

It is recognised that complete eradication of INNS may not be attainable due to the high risk of re-infestations, especially where only the lower part of a river catchment lies within the National Park. The strategy is to manage INNS so that they do not negatively affect the Park's water courses.

Upper Tay Invasive Non-Native Species Project

The Upper Tay Invasive Non Native Species Project (UTINNS) was established in 2012. The project is a key part of the Riparian INNS Wild Challenge set out in National Parks Biodiversity Action Plan, Wild Park 2020.

The aim of the project is to improve the quality of habitats by controlling the spread of Japanese Knotweed, American skunk-cabbage, Himalayan Balsam and Giant Hogweed, within the upper catchment of the River Tay within the National Park.

Control of these non-native invasive plants will result in the restoration and enhancement of degraded riverside and lochside habitats including woodlands and wetlands.



The project is working in partnership with land managers, local communities and volunteers and has assisted 29 landowners within the project area including several large Estates, local businesses, community groups and private households. The co-ordinated, innovative approach to the project has allowed for flexible, proactive treatment of INNS providing multiple benefits including habitat enhancement, improved access and improved water quality.

UTINNS Project Outputs & Outcomes

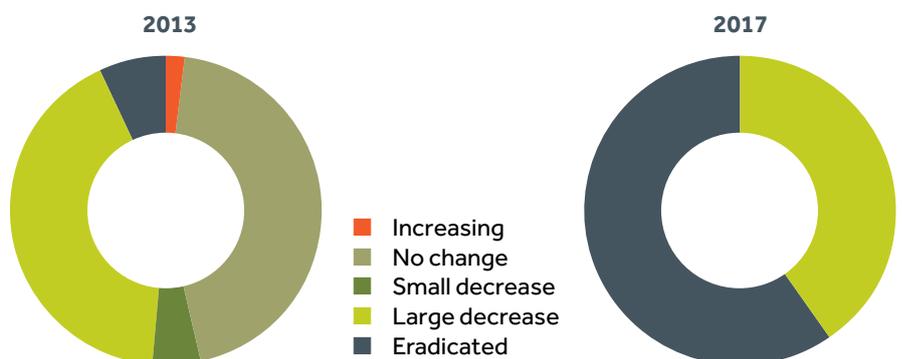
PROJECT OUTPUTS 2012 - 2017

- 6 volunteers trained in PA1 and PA6Aw safe use of pesticides
- 202 hours of volunteer time spent spraying Japanese Knotweed
- 74 hours of volunteer time spent hand pulling Himalayan Balsam
- 2 locations of Giant Hogweed eradicated

PROJECT OUTCOMES 2017

- 7 locations of Himalayan Balsam hand pulled
- 102 locations of Japanese Knotweed chemically treated
- 11 locations of American Skunk-cabbage chemically treated
- In 2017 Giant Hogweed remains absent from the entire project area.
- In 2017 the number of locations where no regrowth of Japanese Knotweed and American Skunk-cabbage has risen from 33 sites to 47 sites.
- In 2017 69 INNS locations have shown a large decrease in size and density.
- Himalayan Balsam has been significantly reduced from all lochside and woodland locations within St Fillans and Lochearnhead, preventing further decline in habitat quality. For the first time since hand pulling began in 2012 no Himalayan Balsam was recorded in south east Loch Earn. Three sites in St Fillans are now known to be clear of Himalayan Balsam.
- Improved partnership working with landowners, community groups and local businesses, achieving multiple public benefits.
- Providing opportunities for volunteers to become actively involved in a landscape scale conservation project within the National Park.

Pie charts showing the change in size and density of known sites of invasive non-native plant species in the Upper Tay project area between 2013 and 2017



Our focus in the National Park is controlling/eradicating these 5 Invasive non-native species



1
RHODODENDRON
PONTICUM



2
JAPANESE
KNOTWEED



3
HIMALAYAN
BALSAM



4
AMERICAN
SKUNK-CABBAGE



5
GIANT
HOGWEED

Questions and pupil enquiry ?

- What are the main causes of the spread of invasive non-native species?
- Explain how invasive non-native species out compete native wildlife.
- List the number of ways to remove invasive non-native species.
- What are the benefits of a removing invasive non-native species?

FURTHER READING

Online

Find out more about our Invasive Non-Native Species Wild Challenge Action Plans:

➤ [Rhododendron Ponticum](#)

➤ [Riparian Invasive Non-Native Species](#)

Video clips

[Wild Challenge 2 - Invasive Non-Natives](#)

Site visits

- Balmaha on east Loch Lomond is a great location to base a field visit, with the National Park Visitor Centre and Outdoor Classroom available for school groups. If you follow the Millennium path look out for rhododendron ponticum where the path goes through woodland alongside the visitor centre car park. You will also see Japanese Knotweed and Himalayan Balsam growing beside a small stream where the path drops down towards the main road through the village.