

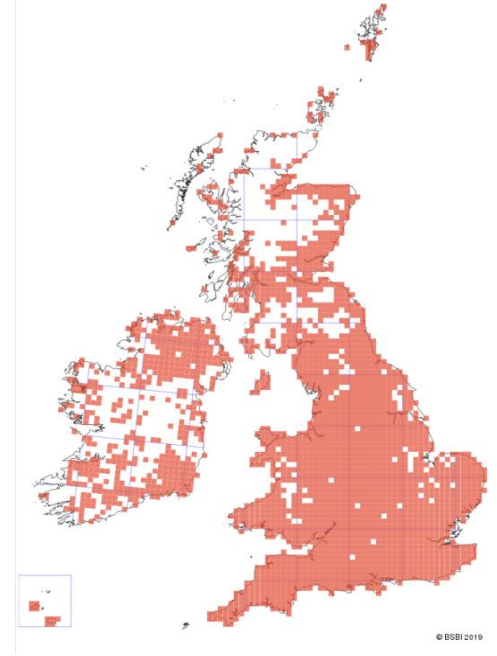
Himalayan Balsam

Impatiens glandulifera

Invasive Species Identification and Control Guide

Species Description

Himalayan Balsam is a native species to the western Himalayas in North India. It was introduced to the UK in 1839 for ornamental purposes but escaped from gardens and became naturalised in Britain in the 1850s. It rapidly colonises the river banks and areas of damp ground at the rate of spread of 645km² annually with seeds viable for up to two years. This species is now well established across the United Kingdom, as illustrated on the right. The species grows in dense thickets along river banks, damp areas and wet woodlands. Each plant can produce up to 800 seeds which can be ejected up to 7m from the plant and spread along watercourses. The species dominates wet habitats suppressing the growth of native plant species and dies back in autumn leaving riverbanks bare throughout winter increasing riverbank erosion.



Affect on Aquatic Environment and River Users

Himalayan Balsam's ability to spread seed widely enabling colonisation of vast sections of riverbanks and wet habitats creates detrimental affects on the riparian and aquatic environment:

- Large dense populations reduce available light and space on the riverbank outcompeting native plant species. This leads to a less diverse plant community resulting in habitat degradation.
- In autumn the plants die back leaving riverbanks bare increasing riverbank erosion. This results in siltation of the river bed reducing the amount of vital fish and aquatic invertebrate spawning habitat.
- The plant produces high amounts of nectar attracting local pollinators to the Himalayan Balsam possibly to the detriment of other native flowering plants.

The species also negatively affects river users accessibility and enjoyment of watercourses affected by Himalayan Balsam, spoiling aesthetics and reducing the diversity of wildlife along the river.

Preventing the Spread of Himalayan Balsam

Himalayan Balsam spreads through natural transport pathways such as flowing rivers and wildlife, as well as through human transportation such as boats and footwear. To reduce the spread of the invasive species annual control programmes and good biosecurity control are essential. Biosecurity is extremely important to prevent cross contamination of water bodies especially as the specie's seeds are viable up to 2 years and spread easily by water. Any equipment used when working with Himalayan Balsam needs to be checked and cleaned of plant material, followed by sterilisation and drying of the equipment before the next usage.



CHECK → **CLEAN** → **DRY**

Report Sightings

All sighting of Himalayan Balsam should be reported to help direct control action to prevent their spread. Please report to non-native species recording database in the Colne Valley: cvfc.org.uk/nnis

Responsibilities

Legal responsibility – Himalayan Balsam is listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and the updated EU Invasive Alien Species Regulations 2017, making it an offence to plant it or cause it to grow in the wild.

Riparian Landowners – have an obligation to control Himalayan Balsam populations on their land and help prevent the spread of the non-native invasive species.

Environment Agency (EA) - The EA is under no obligation to remove Himalayan Balsam.

Key Identification Features



Flowers

Large pinkish flowers from June to August. Slipper shaped flowers with a helmeted upper petal and short spur (2.5-4cm)

Seeds

Elongated exploding seed pods from July to August up to 800 seeds per plant.

Roots

Shallow fleshy root system.



Stem

Hollow, sappy, and brittle stems. Grow up to 3m high. Green to red.

Leaves

Green large narrow leaves with serrate edges. Up 15cm long. Grow on stem in whorls of three.

Control Measures:

Himalayan Balsam regrows annually from the seeds which are viable for 2 years therefore any control efforts must be carried out **before the seed pods are produced** for maximum effect. The species has the ability to regrow from the lowest node in the same season therefore control efforts need to remove the plant and root system or ensure to cut below the lowest node.

A control programme can eradicate the population over two – three years. However re-establishment of seeds from infestation located upstream is likely therefore co-ordinated management is beneficial for long term success. The methods of control that can be used are summarised below. If you require bespoke advice for a particular site please contact our Landscape Partnership Team.

Chloe Crompton: Email: chloe.crompton@groundwork.org.uk T: 01895833375M: 07736133057



Mechanical Control:

Large populations of Himalayan Balsam can be controlled using cutting machines such as **strimmer** which quickly reduce population density prior to seed pod formation preventing reestablishment. Use of machines can be limited due to adequate access to the site, and contractors must ensure to cut below the lowest node to prevent regrowth. Small population or populations located in sensitive or difficult to access areas are best controlled via hand. **Hand pulling** is an easy activity as the species has a shallow root system which is easily removed with a gentle tug, no skill or expertise is required. Volunteer groups are great way to engage with local community and remove the small populations of the species at a minimal cost. Ensure strict biosecurity methods; check, clean, and dry all equipment used.

Himalayan Balsam germination occurs in February-March, followed by rapid shoot extension and leaf expansion from April. It is essential to complete control methods before the seed pods are produced from mid July onwards. Cut plants can be left to decompose on site but the roots must not touch the ground or must be in a dry open area to prevent re-rooting. It's recommended to check the site for re-growth from August - September to monitor population density.

Method	Pros	Cons
Strimming	<ul style="list-style-type: none"> - Great for quickly removing large established populations. - Stems are soft and can be cut with ease. - A repeat cut can be used to tackle regrowth. 	<ul style="list-style-type: none"> - Requires proper site access. - On uneven ground it can be difficult to get below the lowest node. - Not suitable for Himalayan Balsam growing closely with other species. - Not suitable if sensitive species and habitats present on river e.g. water voles.
Hand Pulling	<ul style="list-style-type: none"> - Very good for selective picking in sensitive areas. - Can reach difficult access areas. - Easy to pull & remove whole plant & roots. - Sensitive to surrounding wildlife, minimal affect to native species. - Can be undertaken by anyone. 	<ul style="list-style-type: none"> - Can be physically demanding for those less able. - Time consuming. - Labour intensive.



Chemical Control:

Herbicide treatments can work well for large populations of Himalayan Balsam. The recommended **herbicide** is **glyphosate** via foliar for large dense swards and via weed wiper for small infestations, mixed swards and individual plants. The plants should be treated in spring when germinating seedlings are established but before they flower, recommended months are late April to July. Herbicides must not be used in areas with sensitive habitats or species for example water voles.

Chemical control near water requires an Aqherb01 licence and an agreement must be obtained from the local Environment Agency office before application of herbicides in, on or near water. Check your contractor has these documents before work begins.

Pros	Cons
<ul style="list-style-type: none"> - Less invasive and disruptive to surrounding wildlife. - Allows for treatment of large areas in a short length of time. 	<ul style="list-style-type: none"> - Not always suitable for sensitive habitats - Should be used in conjunction with other methods to ensure complete eradication. - Aqherb01 licence required http://www.gov.uk/government/publications/application-to-use-herbicides-in-or-near-water



Biological Control

An effective biological control has identified by The Centre for Agriculture and Bioscience International (CABI). The control is a rust fungus, a *Puccinia* species from India Himalayas which specifically feeds on Himalayan Balsam. A comprehensive scientific dossier (Pest Risk Assessment) was completed and approved by DEFRA authorised release locations across the UK. For further information and control application possibility please contact CABI: biocontrol@cabi.org / +44 (0)1491 832111

	Pros	Cons
Rust Fungus	<ul style="list-style-type: none"> - Specific to Himalayan Balsam. - Not disruptive to native wildlife. - Treats large populations. - Not energy intensive. 	<ul style="list-style-type: none"> - Requires authorisation from CABI. - Can be expensive.