

Himalayan balsam is a highly invasive annual weed



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Himalayan balsam in flower



Himalayan balsam in Devon

What is Himalayan balsam?

Himalayan balsam (*Impatiens glandulifera*) is a highly invasive annual weed, which has spread rapidly throughout the UK since its introduction in 1839. Native to the Himalayas, this vigorous growing annual has the ability to reduce biological diversity by out competing native plants for space, light and resources.

Why is it a problem?

Himalayan balsam grows mainly in riparian systems and damp woodlands where its spread is aided by prolific seed production coupled with a highly effective dispersal mechanism. Himalayan balsam can attain a height of 2.5 metres and when it invades the riverbank it forms monocultures shadowing out native plants and restricting access to the river.

In the autumn when the plant dies back it can leave the bank bare of supporting vegetation and prone to erosion, dead plant material can enter the water body thereby increasing the risk of flooding.

During the summer months Himalayan balsam attracts pollinators away from native species with its high sugar nectar content and extended flowering period. This form of indirect competition can reduce the genetic diversity of native species and lessen their fitness by reducing seed set.

Why are current control methods unsuitable?

Currently, chemical and manual controls are the only management options available for this species, however, due to the often inaccessible and vulnerable habitats where Himalayan balsam grows, current control methods are often severely restricted. Ideally, to control this weed, management must be on a catchment scale, but this is fraught with problems due to multiple landowners and neighboring habitats harboring populations of the weed.

It is currently estimated it would cost between £150-300 million to eradicate Himalayan balsam from the UK.



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Rob Tanner

What is CABI doing?

CABI is working on two nine month projects looking at the biocontrol of Himalayan balsam: 'Phase 1: The biological control of Himalayan balsam in the UK' and 'The potential damage to exposed riverine sediment (ERS) habitats due to invasion by Himalayan balsam'.

Phase 1: The biological control of Himalayan balsam in the UK

CABI has been asked to explore the feasibility of biological control as a management option for *I.glandulifera* in a first phase of a biological control programme. In the plants' native range the weed is kept in equilibrium with the surrounding plant community by an array of herbivorous insects and plant pathogens. Some of these natural enemies may be host specific to just Himalayan balsam alone, and it is these organisms that could be used to control the weed in the introduced range.

Scientists at CABI will survey Himalayan balsam in its native range in the summer of 2006, to collect natural enemies of this weed and ship them back to CABI's quarantine facility at Ascot, for identification and initial host range testing.

The potential damage to exposed riverine sediment (ERS) habitats due to invasion by Himalayan balsam

Riverine sediment systems (ERS) are a valued resource, due to the high invertebrate diversity found in such habitats. ERS are created when the water levels lower in the spring and the sediment carried by the river in times of spate are deposited near the bank.

Few studies have looked at the effect of Himalayan balsam invasion on invertebrate species and none have explored the potential damage this weed may have on the ERS and associated species. CABI scientists have been contracted to explore the potential damage to ERS by *I.glandulifera* on river systems in Devon and Cornwall.

Between April and November 2006 CABI is being funded by consortia of funders to research these projects and is partnered with the Royal Holloway University, on the riverine systems project and CABI Pakistan for the biological control programme.

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Himalayan balsam flower



Himalayan balsam



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