

# Controlling invasive plants

## Background

Non-native plants have been introduced to Britain for over 2 millennia. When they become invasive, they cause significant problems to agriculture and nature conservation. Japanese knotweed, Himalayan balsam and giant hogweed are considered here but others such as water fern, parrot's feather, and floating pennywort are very problematical on stillwaters and slow-flowing rivers in some areas of the UK.

Once in the wild, the plants can be transferred from site to site by humans and animals but generally their dispersal is via water in a downstream direction.

It is not realistic to expect to eliminate these species from all our rivers. It is possible to remove them from an individual reach, and by careful co-ordination of resources, perhaps even from a sub-catchment or catchment. Some local Rivers Trusts and Wildlife Trusts have organised such programmes, for example concerted action on the River Monnow by the local Rivers Trust has virtually wiped out Himalayan balsam from the river system.



*Giant hogweed, .....*



*.....growing stems of Japanese knotweed with Himalayan balsam seedlings underneath,.....*



*.. Himalayan Balsam.....*



*.....and mature Japanese knotweed.*

## Location

Because these plants spread downstream via river flow, a control programme must begin upstream and work downstream. It is important to identify and treat 'hotspots' where there are dense stands of invasive vegetation. Smaller stands of the plants growing along the river corridor can then be treated.

## Timing

The timing of treatment is crucial and depends on the method adopted for removal. Where hand pulling or cutting of Himalayan balsam is proposed, this must be undertaken prior to the setting of any seed. Herbicide application is very specific, and must follow best practice guidance and manufacturer's instructions.

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## Method

There are three main methods of treatment: hand pulling, cutting and the use of herbicide. The suitability of these techniques for the three main species are detailed in the table below:

Technique	Species		
	Himalayan balsam	Giant hogweed	Japanese knotweed
Cutting	Yes, prior to seeding. It is vital to cut below the lowest node to avoid re-growth. This is difficult to do with a strimmer on un-even ground	Cut 15cm below ground using spade. <b>BEWARE**</b> . Wear full PPE to avoid contact with plant	Yes, with a single cut at the stem base. <b>DO NOT FLAIL OR STRIM</b> . Dispose of cut material in line with the knotweed code of practice
Pulling	Yes, prior to seeding	No.	No. Pulling can leave knotweed fragments in the soil
Herbicide control	Yes, using glyphosate or 2-4 D amine*	Yes, using glyphosate*	Yes. Stem injection of glyphosate* is particularly effective
Digging	Yes, though lightly rooted, so pulling is the norm	Yes. Dig out growing crowns. <b>BEWARE**</b> . Wear full PPE to avoid contact with plant	Impractical. Root systems can cover a vast area and fragments left in soil can re-grow

## Notes

\*All herbicides require the written consent of the River Authority for use on or near to water. Only suitably qualified operators, wearing appropriate Personal Protective Equipment (PPE) should use and apply herbicides.

\*\* Giant hogweed produces a phototoxin. If the plant sap touches bare skin, it can produce large, painful blisters when exposed to sunlight. Avoid physical contact with giant hogweed at all times, unless wearing suitable personal protective equipment.

More detailed advice is available at

<http://publications.environment-agency.gov.uk/PDF/GEHO0410BSBR-E-E.pdf>

## Monitoring

Monitoring is important. Checks on treated areas should be undertaken twice a year, with repeat treatments made where necessary to ensure elimination of all plants. It is also vital to revisit the whole of each reach at least once a year to ensure that plants have not spread. Constant vigilance and prompt treatment is needed to control invasive plants on any watercourse.