



Non-Native Species Newsletter: Summer Edition 2014

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Himalayan balsam biocontrol: a new fungus for policemen's helmet

Himalayan balsam, policemen's helmet, bee-bums, *Impatiens glandulifera*; call it what you like, most agree it is a pernicious invader across lowland Britain. It may have just met its nemesis.

For the last eight years, [CABI](#) has been researching the potential for a [biological control for Himalayan balsam](#). The research has been largely funded by Defra through the Water Framework Directive (WFD) project fund.

After extensive host-specificity testing, a rust fungus, *Puccinea komarovii* var. *glandulifera*, has been shown to provide highly specific and potentially damaging levels of control to Himalayan balsam. The fungus overwinters as resting spores amongst the leaf litter. In Spring, spores infect the stem, causing distortion and elongation, which kills many of the seedlings. The surviving seedlings produce a fresh inoculum of spores that attack the leaf of the plant. The rust fungus then produces cycles of infection on the leaves, the number of cycles depending on

temperature and conditions at the site, before forming the resting spore stage just before leaf fall. Thus, the fungus can complete its entire life cycle on a single host and Himalayan balsam receives a 'double whammy' attack that reduces its abundance and vigour.



The decision to release the rust fungus has been subjected to extensive peer review, including the Chief Scientist, public consultation and finally, ministerial approval. Initial releases have taken place at four locations in Berkshire, Surrey and Cornwall. A more extensive release programme will take place in Spring 2015. The release is performed by planting infected Himalayan balsam plants amongst wild populations. Himalayan balsam is listed under Schedule 9 of the Wildlife & Countryside Act 1981, therefore a license from Natural England is required for each site, prior to planting these specimens in the wild.

The biocontrol is highly unlikely to cause Himalayan balsam to die out. Instead, we hope it will weaken the plant to the extent that native species can begin to recolonise areas that were formally a monoculture of balsam. Himalayan balsam is the UK's tallest annual plant, often growing to 3m in height. This can reduce the flood capacity of channels during the Summer. In Winter, the dense canopy of balsam dies off, leaving riverbanks exposed to erosion. Research in Switzerland suggests that every 1km of riverbank dominated by balsam contributes an additional 10 tonnes of soil run-off. Biological control should allow native species to stabilise these areas and avoid much of that erosion.

How can you be involved?

Are there sites in your Area that are heavily infested with Himalayan balsam? Are there locations in which balsam increases flood risk, or is causing particular damage to conservation or amenity interests? These may be areas that are suitable candidates for future biocontrol releases. We also need to record the current distribution and severity of the balsam invasion, so that we have a record to measure the efficacy of the biocontrol against.

If you have an android phone, you can [download the PlantTracker app](#), enabling you to record the distribution of a variety of invasive non-native plants, including Himalayan balsam. By next Spring, the app will include the Himalayan balsam rust fungus, which will enable you to record the arrival and spread of the biocontrol in your area.

In the [Autumn 2013 edition of Non-Native News](#) I described techniques for taking fixed-point images to record the impact of invasive plant management. This is an ideal technique for capturing how biocontrol may, over time, allows areas currently dominated by Himalayan balsam to recover. It is important to establish a good selection of images throughout the seasons before the biocontrol takes effect, so now is a good time to select sites and establish your fixed points. If the biocontrol is successful, we would hope to see tall monocultures of Himalayan balsam become reduced in size and vigour, and native species begin to recolonise these areas, providing greater soil stability and biodiversity value. Himalayan balsam is here to stay, but we hope that it may become much less dominant in future.

Contact: [Trevor Renals](#), 7-24-5033

Bodmin biosecurity barbecue: what are you doing to reduce the risk of spreading invasive species?

Bodmin Fisheries, Biodiversity & Geomorphology team held a successful lunchtime barbecue, promoting biosecurity, awareness of invasive species and how to prevent their spread.



They resisted the temptation to have a muntjac deer spit-roast, with crayfish tails and knotweed side-salad, and even squirrel pasty was off the menu. But it was a great opportunity for a wide range of staff to familiarise themselves with the ['check-clean-dry'](#) and ['be plant wise'](#) campaigns, and discuss some of the innovative ideas they had found to reduce the risk of spread.

The event provided the first opportunity to try the prototype invasive species trump card packs. Staff were also able to test their identification skills on a wide range of specimens.

What could you do to promote better biosecurity in your Area? We have the [Invasive Species & Biosecurity Network](#), with representatives in each Area, who are able to help with organising events and providing presentations. [Your Invasive Species Action Group](#) representative may also be able to assist. We have a variety of resources, ranging from presentations, e-learning, posters and identification sheets, which are available. You don't need to be an expert. You just need enthusiasm.

Contact: [Trevor Renals](#), 7-24-5033

The ISBN needs YOU!

The [Invasive Species & Biosecurity Network](#) provides 'biosecurity champions' in each Area. We are not limited to one ISBN member per Area, so if you'd like to help, contact [Trevor Renals](#).

Members of the ISBN act as an Area focus for biosecurity and invasive species issues. They provide presentations and toolbox talks, help coordinate control programmes, encourage good biosecurity across the Area and raise awareness on invasive species issues. If you are interested in joining the network, speak to your line manager in the first instance. You will need to dedicate 10 days per annum to the network. You should also discuss the role with your existing ISBN and ISAG members.

Membership of ISBN will increase your own knowledge of invasive species and develop personal skills, such as presentation and influencing skills. This is a good opportunity to become part of a dynamic and effective team.

Contact: [Trevor Renals](#), 7-24-5033

24th Water primrose site located in West Cornwall

The most recent new Water Primrose *Ludwigia grandiflora* site has been found in a Cornish farm pond. Plans are underway for its eradication.

A third of the total of 24 known GB Water primrose sites are believed eradicated and all are either in active management, or have eradication measures programmed to take place.

Water primrose is particularly visible at this time of year. The stalks lengthen and produce large yellow flowers. It tends to inhabit pond and lake margins, ditches and wetlands. In France, it has caused serious degradation to many watercourses and wetland habitats. It also increases flood risk.

We have secured WFD funding to assist the eradication of water primrose. An [economic assessment commissioned by Defra in 2010](#) identified that the early eradication of water primrose would save the UK £242 million.

If you believe you have found water primrose, confirm the identification using the [water primrose identification sheet](#) available on the NNSS website and report the location to [Trevor Renals](#).



Combined agency to safeguard animal and plant health

The Animal and Plant Health Agency will begin on 1 October 2014 to better equip the government to prevent the spread of animal and plant diseases, and to respond to emergencies.

Earlier this year it was announced that a combined agency would be created, with four functions of Fera (Bee inspectorate, the Plants Health and Seeds Inspectorate, the Plant Variety and Seeds Group and the GM Inspectorate) joining with Animal Health and Veterinary Laboratories Agency.

Animal and plant health inspectors have a strong history of working together in times of disease emergency, and this will be made easier when they are part of the same organisation. The Animal and Plant Health Agency will also play a vital role in stopping pests, diseases, and invasive non-native species entering the UK.

New Agency guidance on managing aquatic and riparian plants



We have produced [new guidance](#) which includes a decision support framework to help you decide how to manage a range of plant species present in different types of watercourses.

This guidance updates previous aquatic and riparian vegetation management publications. It synthesises current research and takes account of changes to environmental legislation, new technologies and evolving best practice.

The guide is primarily aimed at flood risk management operating authorities. However, it will also be of interest to land owners and community groups who wish to carry out watercourse maintenance work.

It includes a:

- **Technical Guide** – which provides detailed information on planning, undertaking and monitoring aquatic and riparian vegetation.
- **Field Guide** - to help identify plant species and collect the information needed to select an appropriate management technique.
- **Decision-support Tool** - to help you select the most appropriate vegetation management technique(s) for your watercourse.

The guidance helps you plan all aspects of watercourse management. It covers a range of aquatic and riparian plant management techniques such as physical, chemical, environmental or biological control measures. The guidance, which was

completed by JBA Consulting, is available from the [Flood Risk Science section of the Easinet](#).

Contact: [Lydia Burgess-Gamble](#)

What's in your gravel?

A sharp-eyed contractor spotted a potentially unwelcomed hitch-hiker in a consignment of gravel intended for reuse on the River Thames.



The material had been extracted from the River Thames, and was intended for use further upstream. The contractor observed that the gravel contained quantities of Asian clam, *Corbicula fluminea*, a highly invasive non-native species that is thought to have first arrived in the UK in 1997 on the Norfolk Broads. It has since spread across South East England, particularly the Thames, and has also been recorded in Ireland. Asian clam can reach densities of 2500/m² and change freshwater habitats. They produce copious pseudofaeces, which creates an enriched sediment.

Staff are reminded that whenever we move any equipment or material, particularly for reuse at another site, we must observe good biosecurity to avoid the spread of invasive non-native species. It is an offence under the Wildlife & Countryside Act 1981 to introduce an animal not 'ordinarily resident' in the UK into the wild, and many invasive non-native plants are listed in Schedule 9 of the Act. Furthermore, you may cause profound and irreversible damage to the environment.

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