Invasive Non-Native Species

Environment Agency

Invasive Species & Biosecurity Network Update Newsletter

Eradicating Water Primrose from GB

Water primrose *Ludwigia grandiflora* is an ornamental perennial plant native to South and Central America, associated with wetlands and marginal zones of watercourses, ditches, ponds and lakes. The plant has been introduced into GB through the ornamental aquatic plant trade. It primarily spreads by vegetative fragments and forms dense carpets of growth that exclude native biodiversity, increases flood risk and siltation and degrades amenity.

Since 2009, the Environment Agency has been coordinating the eradication of water primrose in GB. During that time, a further 29 sites have been added to the 14 initially confirmed in 2009. Of those sites, 16 are believed to have been eradicated over the 11 year period. Water primrose is proving hard to completely kill, but the programme has successfully reduced the biomass of known sites to a fraction of the original infestation. By the end of 2019, the combined total area for all known water primrose in GB was less than 100m^2, but this has increased during the pandemic restrictions, despite the valiant efforts of site managers.

Early intervention is key, and so far the programme has prevented water primrose from establishing and spreading in a watercourse. The large majority of sites are farm or urban ponds and lakes; often fisheries, private gardens, amenity areas or golf courses. To date we have avoided the profound damage to wetlands and watercourses experienced elsewhere in its invaded range, such as in France (see photo), the Netherlands and Japan.

If you suspect that you may have seen water primrose, check the identification with the ID sheet on the NNSS website and report the location on alertnonnative@ceh.ac.uk

New ISBN SharePoint is now live!

We have now published our new SharePoint site which we encourage you to follow. Please feel free to use the site to share and store INNS and biosecurity resources which you feel would be useful to the wider network. The site also serves as a directory for area biosecurity groups, as well as theme leads and ongoing projects that you can get involved with.

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Ultimately the SharePoint is a resource for ISBN to use and as such it will be shaped by your needs, so we welcome and encourage feedback as the site continues to evolve.

For more information please contact Faye Hudson faye.hudson@environment-agency.gov.uk

Be Plant Wise!

Relaunched by GB Non-Native Species Secretariat, the Be Plant Wise campaign aims to raise awareness of the damage that can be done with the introduction of non-native species to gardens, ponds and aquariums.

A wide range of materials are available here, particularly aimed at gardeners and retailers.

Fisheries Services

Gibel carp, a new threat to our fisheries?

Recently, we have been investigating reports of a new non-native fish being present in our fisheries – the Gibel carp, *Carassius gibelio*. Native in central Europe and extending in range to Serbia, they have been introduced widely across Europe, but up until recently, none have been confirmed in the UK. Gibel carp, sometimes called 'Prussian carp' or 'Carassio', can alter aquatic food webs and function, reduce native fish species abundance, and can hybridise with the already pressured crucian carp.

Invasive Gibel carp populations can be almost entirely composed of females. They have a rather unique spawning strategy which can facilitate their success, reproducing gynogenetically. This means they can use the sperm of males from other cyprinid fish species to activate their egg development, essentially creating clones.

Example of Gibel carp or '*Carassio*'.

Whilst there are no records of permitted Gibel carp introductions to fisheries, they may have been inadvertently introduced through legal fish stockings due to them looking very similar to other carp species. Given the ecological and potentially economic impacts posed by this species, it's important that we are aware of any known or suspected Gibel carp populations, so that we can manage the threat.

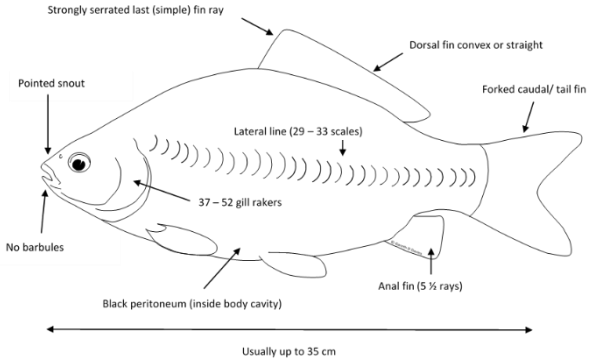

Figure 2. Identification features of Gibel carp, *Carassius gibelio*.

Should you be doing work with a fishery and suspect you've found a Gibel carp, please try to take a number of photographs of the fish and if possible, a scale sample. We can run genetic sequencing from the scale material to confirm the species of fish.

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If you suspect any fisheries to contain Gibel carp (or any other non-native fish species), please get in touch with Gareth D Davies at the National Fisheries Services gareth.d.davies@environment-agency.gov.uk.

Marine Monitoring

Nuffield student completes future researchers' summer project on marine vessel biosecurity

Working collaboratively with E&B, ECMAS supported the Nuffield Future Researchers 2020 programme by proposing a project and providing supervision for an A-level student over the summer. The project was based around deepening of our understanding of biosecurity risks posed by our coastal survey vessels, particularly around hull fouling. The student analysed vessel movement data and linked this to INNS presence along the south coast.

The Nuffield programme aims to equip and develop students with STEM research skills and in particular encourages young people from low socio-economic backgrounds, first in family and under-represented groups (i.e. female and BAME students).

Delivery of the programme was more challenging this year due to Covid-19 and all supervision was undertaken remotely. Using the Google classroom virtual learning environment and a series of video meetings the student successfully completed background research, a project write-up and accompanying poster by the Sep 4th deadline.

Supporting the programme this year was a rewarding experience and concurrently it deepened our understanding of marine vessel biosecurity risk. Recommendations for improvements to biosecurity included reducing the number of ports used annually, and improving antifoul treatments in high risk areas of the hull.

Asian date mussel confirmed in Southampton Water

APEM Ltd. have just published a paper in the 'Journal of Conchology' which includes updated first record information on the non-native Asian date mussel (*Arcuatula senhousia*). It confirms that this bivalve species was first identified in the UK in EA samples collected for Water Framework Directive surveillance monitoring in Southampton Water (2011 survey).

For more information, please contact Nina Godsell nina.godsell@environment-agency.gov.uk

Waterways

Active monitoring for biosecurity practices during floating pennywort removal

Whilst using a Conver Weed Boat for surface weed / algae clearance purposes, LNA Waterways actively monitored biosecurity processes in place both whilst the boat was launched then recovered for re-launch for a similar exercise.

The River Great Ouse has Floating Pennywort present and the team were acutely aware of the risk spreading this to the River Stour, currently unaffected.

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Biosecurity measures are built into the 'Construction Phase Plan' for undertaking the work and feature in the risk assessment and methodology for undertaking the tasks. As well as cleaning down both the vessel and launch trailer, the length of time left between launches allowed sufficient drying time.

Full check clean dry principles were followed and the team will continue these behaviours for reducing the risk of invasive species and non-native species spreading.

For more information please contact Paul Separovic paul.separovic@environment-agency.gov.uk

East Anglia

Floating Pennywort Control on the Bedford Ouse

We are hoping to re-start our floating pennywort control programme on the River Great Ouse soon. As a result of Covid-19 restrictions control has been delayed by several months so we will need to monitor any impacts and adapt our overall strategy. For the next 5 years we will be working in partnership with Anglian Water Services (who have secured funding under the AMP scheme) along with external partners including Angling clubs, Marina owners and Canoeists.

This will be the fourth year of our project on the Bedford Ouse, with work undertaken in previous years proving to be very successful in providing sustained control. A combination of hand-pulling, mechanical removal of large rafts and herbicidal treatment are significantly reducing the volume of floating pennywort year-on-year.

To help target efforts, we are working with Rivercare who are promoting reporting of floating pennywort and looking for volunteers to establish local groups to help tackle the problem. We are hoping to set up a Reporting Group specifically for the River Great Ouse on iRecord which will enable us to track reports in an efficient manner.

For further details contact Nina Birkby nina.birkby@environment-agency.gov.uk

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Devon, Cornwall and the Isles of Scilly

Preventing spread of INNS during Didbury desilt

Field operations personnel were carrying out scheduled maintenance to remove accumulations of river gravels from a twin arch bridge to increase conveyance. These gravels predominantly accumulate during wetter months and impede water flow beneath the twin arch bridge.

The team on site removed Himalayan Balsam from the river gravels before moving any materials to prevent the spread of invasive species.

The plants were not at seed head stage, further reducing risk of spread and demonstrating the importance of appropriately timing works which may disturb INNS.

For more information please contact Phil Pullen phil.pullen@environment-agency.gov.uk

West Midlands

During lockdown the West Midlands Biosecurity Working group has been busy. We have had short monthly WebEx catchups to discuss issues that have been raised by staff. This has included the management of priority species within West Midlands (floating pennywort and water primrose) during lockdown and making sure staff who have had to go out into the field still have biosecurity facilities available to them.

We are also making the most of this time by setting up a small group to review our West Midlands Biosecurity Plan.

For more information, please contact Martin Fenn martin.fenn@environment-agency.gov.uk

Hertfordshire and North London

Floating Pennywort on the River Stort "Riddance NOT Control"

As meetings go, a sunny afternoon canoeing and kayaking up and down the Stort Navigation near Sawbridgeworth is a pretty good one. This is what Colette Sales, the Analysis and Reporting team leader and John Thurlow, Catchment Coordinator for the Stort did for their meeting with the Whoosh Explore Canoe Club, The Canal and Rivers Trust (CRT), Herts and Middlesex Wildlife Trust, and Chantelle Grundy, the Access and Environment Officer for British Canoeing.

The meeting was to find out more about the fantastic work that the members of the Whoosh canoe club are doing in reducing plastic litter on the river Stort and in trying to rid it of Floating Pennywort (FP). The club have removed large stands of FP and now operate a maintenance programme which means they are out regularly patrolling the river for any new signs of the FP.

After the session Chantelle said '*We are really keen to get more canoe clubs involved in the removal of floating Pennywort and to be part of the solution for the control of this invasive species*'. Andy Gee from Whoosh highlighted the importance of us all working together and to get this approach adopted on other rivers. '*If we can get everybody working in harmony, coupled with the British Canoeing paddlers we have a good opportunity to rid our rivers of floating pennywort*'.

If you are interested in helping set up some partnership working with your local voluntary organisations contact Chantelle Grundy, Access & Environment Officer for British Canoeing. chantelle.grundy@britishcanoeing.org.uk

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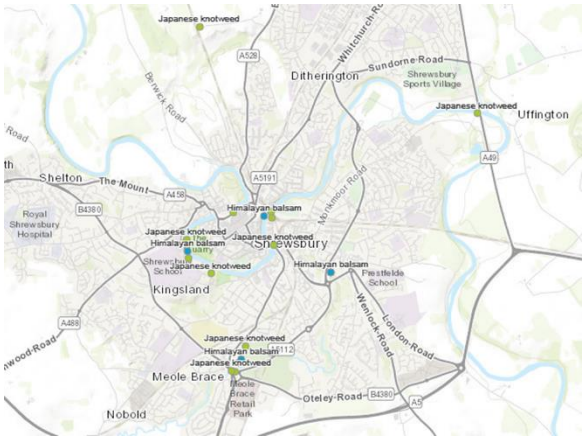
Theme Lead Updates

INNS recording task and finish group

A Task and Finish group has been set up to look into an effective method for Environment Agency staff to record sightings of INNS. A diverse group has been set up with specialities in INNS, data management and GIS covered. The first virtual meeting took place on the 4th June via a WebEx. A range of options were discussed in the meeting including: INNS Mapper, iRecord, Survey 123, Collector App and SharePoint Online. It was agreed some of the most important features required are: easy to input data, easy to get data out, validation of records and being able to record where management/eradication has occurred. Action to come from this meeting was to investigate further the use of the Collector app to see if it can fulfil the criteria listed.



Potential Collector app output (points can also be changed to polygons)

For more information, please contact Martin Fenn martin.fenn@environment-agency.gov.uk

Invasive Species Week 2021

Invasive Species Week has been confirmed for the 24-30th May 2021, with the following daily themes:

- Introduction to invasive species
- Freshwater and riparian
- Terrestrial – (e.g. urban – including impacts on health and way of life, and woodland and bogs)
- Marine and small islands
- Volunteering

Over the coming months we will be preparing materials that will be available on our SharePoint to help you raise awareness of INNS and biosecurity in your area. If you have any suggestions for activities for Invasive Species Week, or would like to produce materials for the week, please contact Martin van Heerden martin.vanheerden@environment-agency.gov.uk

If you have any stories you would like to include in an upcoming newsletter, please send articles to:

ISBN@environment-agency.gov.uk