We hope you have been enjoying a busy season tackling invasive species across Wales! To improve dialogue between the Wales Resilient Ecological Network (WaREN) and its members we now plan on sending regular newsletters to share successes, challenges and opportunities such as training. Check out our September newsletter which jam-packed with updates and articles from across Wales! We hope you enjoy reading and feel free to share with anyone you think might be interested – they can also join our Network by contacting Jess Minett.

September Newsletter

WaREN Update

At WaREN we've been busy this summer focusing on our Ecosystem Invaders campaign. The aim of the campaign is to increase awareness of invasive non-native species (invasive species) and biosecurity in Wales, including Check, Clean, Dry and Be Plant Wise. This has involved digital campaigning and 'pop ups' across Wales and attending the National Eisteddfod in Tregaron. Here we directly engaged with nearly 1,500 people with activities including an eDNA game and an invasive species hunt for which children were given a free pack of Ecosystem Invaders playing cards (i.e. 'top trumps') on completion. Please check out our campaign partner pack which includes materials you can use on social media.

WaREN Project Officers have been engaging with LAGs, including hosting a webinar for feedback on the LAG toolkit. If you want us to visit you please get in contact with the relevant Project Officer. WaREN have also been involved in the re-development of INNS Mapper which will become a GB tool for recording invasive species and importantly their management. This should be ready for launch by Spring 2023 and we'll be in contact soon with opportunities for LAGs in Wales to get involved in the development process.

Finally, we will be leading a workshop at the Wales Biodiversity Partnership Conference (October 3rd – 7th) on a biosecurity strategy. Registration for the Conference will open soon and we hope you can join us for the workshop.

LAG/ Volunteer Effort

Wye Invasive Species Project (WISP)

It's been a busy year so far in the Wye Valley AONB, as we continue to tackle invasive species across the Wales-England border. This spring we launched our 'Balsam Action Toolkit' for volunteer groups, made of downloadable guidance and working documents to help groups set up, rally support, and run successful community events to tackle the spread of Himalayan balsam.

Following the launch, we teamed up with WaREN and the Wye and Usk Foundation in May to run a series of 'Balsam Training Days' for local residents and community groups in Wales. The days started with three talks illustrating the work underway at a national, regional and local level, including what we as individuals can do to stop the spread of INNS and the importance of biosecurity. Then it was time to put our learning into practice and start pulling up some balsam! Between the two events, an estimated 5,000 plants were pulled up, reducing the potential seed-bank by over 4 million seeds! We were thrilled with the turn out for these events and are pleased to report that community-led balsam bashing in the Wye Valley AONB is already on the rise, with new groups forming and taking ownership of their local catchments.

With balsam in full seed, we are now focusing on treatment of our other target INNS: American Skunk Cabbage and Japanese Knotweed. During September, we will be coordinating our annual control programme, but trialing stem injection for the first time this year where knotweed is low in abundance.

River Severn Custodians and invasive species

The River Severn Custodians was set up in 2012 to study all aspects of the River Seven and surroundings of a 4 mile stretch around Newtown. One of our primary focuses has been invasive species.

Each year we have gone out to cut down and dig out the dangerous Giant Hogweed plants, particularly in areas where people walk and children play. In the early years there were many huge plants but over the years these have been largely eliminated and now it is mainly smaller seedlings produces from seeds carried down on the river from farther upstream. We have also tried to educate people about the dangers of this plant.

We also monitor the Japanese Knotweed and alert Natural Resources Wales about any

infestations, particularly need flood defense structures. NRW then treat the plants with topical weed killer. The Himalayan Balsam we largely leave unless it limits access to the river. We do, however, encourage people to eat the seeds, flowers and shoots.

We have been monitoring the American Signal Crayfish also since 2012. This invasive species is thriving in our stretch of the river and is a major source of food to the native otters. To date, we have never seen any native crayfish, they have been eliminated by the invaders. In recent years we have also had sightings of mink along the river. Not yet in large numbers but definitely present.

Groundwork Wales' Healthy Rivers Programme reducing Himalayan Balsam in Caerphilly

This summer Groundwork Wales' Healthy Rivers Programme has worked with the residents of Caerphilly to help improve the health of the Nant-Yr-Aber River and its catchment.

Himalayan Balsam has invaded much of the Nant-yr-Aber taking over from many native species. More than 39 volunteers have spent over 250 hours removing Himalayan Balsam and Rubbish from the Nant-Yr-Aber. This has led to over 22.5 m^2 of river being cleared, which will dramatically slow down the spread of Himalayan Balsam along the Nant-yr-Aber.

Many of the volunteers were unaware of Himalayan Balsam and its impact on the local ecology. Volunteers were taught how to how to identify it, when to pick it, how to pick it and how to pile it up. As well as reducing the population of Himalayan Balsam in the river, the volunteers collected 410 bags of rubbish and collected approximately 3,000kg of items that could not fit into bags.

The project was funded through the Landfill Disposal Communities Tax Scheme – a Welsh Government grant programme distributed by the WCVA.

For further information contact: Nicole.jones@groundwork.org.uk

Elwy Invasive Plant Group

We formed the Elwy Invasive Plant Group in the Spring of 2022. Our sole aim, at least at present, is to attack the dreadful invasion of Himalayan Balsam in the Elwy Valley and more specifically with the boundaries of the City of St Asaph.

We have an active committee of 4 members, and hold HB pulling sessions along the banks of the Elwy in St Asaph once or twice a week, advertised by our social media accounts. We usually have a turnout of 4 to 8 volunteers. One of our committee is also a senior committee member of Rhyl and St Asaph angling club who run their own maintenance work programmes along the Elwy banks on their extensive beats. This overlaps superbly with our work, enhancing the extent of our Balsam pulling. It also facilitates bank

access. Overall, we have made good inroads into our local Balsam population, but it will be 2023 before we can see if we have had a noticeable effect.

We would like guidance from the experience of others on: trampling (we suspect it's quite effective on large stands for relatively low time investment), strimming, and whether late flowering small HB plants remain fertile and seed producing? Any offers?

We are always looking for further support, so if you would like to join us please contact us via our Facebook page titled "Elwy Invasive Plant Group".

Tim Mainland on behalf of Elwy Invasive Plant Group, St Asaph.

American Skunk Cabbage – An Alien Invader

American Skunk-cabbage: Is a perennial herb, which is big; bold and yellow and gets its name from being quite smelly! The plant has huge green leathery leaves up to 1m long and produces a bright yellow 'flower' in April. The central spike contains the real flowers which turn to seed in July/August. This seed can be dispersed by water, birds, or animals (including humans). The smell, which supposedly resembles that of rotting meat comes when the plants leaves and hood are crushed.

It is a non-native invasive species that has arrived in the UK through garden imports. Prior to being banned from sale in 2016 you could find this plant being sold as an ideal ornamental plant for bog gardens. Unfortunately, it was not content with staying in gardens and being an exceptionally large leaved plant tends to shade out and outcompete both garden and native flora. It is also adept at thriving in many different conditions. Although initial invasions can be quite slow, as the plant takes 3 years to mature, flower and produce seed, after that the invasion can be rapid. The seed can remain viable for 8-9 years.

Early detection and control of invasive plants is the key to success before they can spread. A message about these plants being found in the wild in the Talgarth area (the first ever record outside of a garden in the National Park) meant that the Invasive Species Team at the Park could act to control the problem before it spread. First recorded in 2021 with 17 plants by the time they were treated by the INNS team in summer 2022 there were 30 plants. The INNS team have also identified the source as a nearby garden pond and are working with the owner to control the source. We will have to monitor the site annually for at least 9 years to ensure we have outlasted any seeds that are in the soil.

If you see this plant in the wild in the Brecon Beacons National Park, please email: Beverley.Lewis@beacons-npa.gov.uk

Brynna Woods and Llanharan Marsh Nature Reserve: Himalayan Balsam Bashing 2022 – Mark Steer

The Brynna Woods and Llanharan Marsh Nature Reserve in Rhondda Cynon Taf has a lot of Himalayan Balsam (HB) but much of it is difficult to try to control due to inaccessibility particularly in marshy areas. However, a number of accessible areas have been tackled in 2022 and previous years.

The WTSWW volunteers have pulled particularly along the path edges. I have organised a number of volunteer evenings in July to tackle other areas. This included local Cub Scouts working in a recently coppiced area where HB had developed rapidly. About 25 Cubs plus leaders worked and managed to make great inroads in this area in about 1 hour. They were very enthusiastic and want to come back!

I have also worked on areas where Violet Oil Beetles are present and have had some success over the past few years. Monitoring and pulling in future years will need to be carried to successfully keep these areas free of HB.

Ramblers Cymru: Paths to Wellbeing

Ramblers Cymru's flagship project, Paths to Wellbeing is working with 18 communities across Wales to put walking at the heart of communities, by engaging local people with their path network and improving access to green spaces. This project has received funding through the Welsh Government Rural Communities – Rural Development Programme 2014-2020, which is funded by the European Agricultural Fund for Rural Development and the Welsh Government.

Working regionally in partnership with local authorities, the Wildlife Trust Wales and Coed Cadw - the Woodland Trust in Wales, a team of Ramblers Cymru Regional Officers are promoting green space access, enhancing the walking environment, providing tools and training to identify and design new routes as well as enhancing and upgrading existing ones. In addition to boosting local biodiversity with activities such as tree planting, wildflower sowing, invasive non-native species (INNS) clearance and wildlife activity days.

It's in tackling INNS that Ramblers Cymru have been working closely with the Wales Resilient Ecological Network (WaREN) as well as Local Nature Partnerships Cymru, the National Trust, Dŵr Cymru, the Snowdonia Society, Pembrokeshire Coast National Park's Stitch in Time project and community volunteer groups. We have delivered sessions educating people about identifying and recording INNS, and how to implement biosecurity methods to prevent their spread. Rambler's Cymru volunteers have removed over 4,000 metres of invasive plant species, across Wales, including Himalayan Balsam, Montbretia, Buddleia and Himalayan Honeysuckle.

For more information about Ramblers Cymru visit: www.ramblers.org.uk/wales

For more information about the project visit: www.ramblers.org.uk/pathstowellbeing

Cymdeithas Eryri/ Snowdonia Society

As one of the core partners of the Carneddau Landscape Partnership we've directed our energy and resources on controlling Himalayan balsam within the Carneddau area of Snowdonia.

This year our volunteers spent a total of 375 hours removing balsam! This however, represents only a fraction of the hours spent by the incredible community groups of the Carneddau. Over the course of the next 3 years our mission is to provide support and assistance to these committed locals by equipping them with the information and skills required to successfully manage the plant.

As part of this strategy, we have been delivering free, practical, and accredited training modules. These cover how to identify and correctly tackle balsam and how to set up and manage balsam bashing activities (soon to be accessible online). We are also in the process of creating an online map of the Carneddau showing the distribution of Himalayan balsam (based on records sent to us from the public) and where it is being tackled and by which group. We hope this will shine a light on the incredible work being undertaken, encourage more communities to get involved and importantly develop a feeling of unity and support amongst the people actively involved in the battle against balsam.

We also dipped our toes into the muddy and wet task of American skunk cabbage removal, successfully clearing clogged up sections of the Nant Gwryd and the Glaslyn rivers. Definitely something we are keen to continue in the future...potentially in waders next time.

Research

Case Study: *Crassula* biocontrol

Crassula helmsii, commonly known as New Zealand pigmyweed or Australian swamp stonecrop has been present since 2005 on an upland common pond near Libanus in the Brecon Beacons National Park. Originally sold in garden centres as an oxygenating plant its destructive properties in the wild led to it being banned from sale in 2014. The plant does not die back over winter and forms a dominant monoculture, shading out and limiting oxygen and nutrient availability for our native wildlife decreasing the value of the pond to biodiversity.

Since 2005, various control methods have been attempted: shading with black plastic, manual removal, herbicide treatment, removal with machinery, it had all been tried with no real success. Even if it looked like some impact had been made one year the next year the *Crassula* came back as dominant as ever! New control methods were needed, enter biocontrol and some microscopic sized mites specially selected and reared by the scientists at CABI (Centre for Agriculture and Bioscience International) to munch the *Crassula* causing it to develop galls and reduce its growing shoots and growth. Not a magic bullet, but a tool to reduce the vigour and health of the plant and perhaps allow native plants a chance to compete.

Thanks to funding from Natural Resources Wales and the Welsh Government our site was selected as one of the trial sites in Wales. Funding from WaREN allowed us to set up volunteer monitoring for the site.

The first release of the mites took place in July 2022, with mite infected *Crassula* plants being placed in 16 plots in a small corner of the pond. We then had two heatwaves and were worried that the plants (and mites) may not have survived the scorching weather and dropping water levels. We have been monitoring the plots every two weeks using photographic monitoring and quadrats to assess how well the mites are doing. We were pleased to discover that as early as 2 weeks in, the mites had moved away from their host *Crassula* onto the existing *Crassula* in the pond. At 4 weeks, even though two of the original host plants had dried up and died, all 16 plots were showing signs of infection of the existing *Crassula* on site. Now that we know the mites can survive a Welsh summer and heatwaves, the key question is can they survive a Welsh winter and submergence?

Let us hope so! Bev Lewis (Beverley.Lewis@beacons-npa.gov.uk)

Have You Seen Floating Pennywort in Wales?

NRW are looking to better understand the distribution and management status of Floating pennywort (*Hydrocotyle ranunculoides*) in Wales. It is a widely spread species of special concern listed under the retained EU Regulation 1143/2014 and the Invasive Alien Species (Enforcement & Permitting) Order 2014.

Please can you take a look at the BSBI distribution map - *Hydrocotyle ranunculoides* distribution map (BSBI) and on NBN Atlas Wales distribution map for your area and confirm:

1. Are you aware of any more sites with Floating pennywort in your area that are not recorded? If so where are they (please provide grid reference*)?
2. Are any of the sites in your area under management (i.e. to be eradicated/controlled)?
3. Have any of these sites, where they are recorded on the NBN/BSIS websites been eradicated? If so which sites?

Please send your responses to: Theresa.kudelska@cyfoethnaturiolcymru.gov.uk by the 22nd of September 2022.

*You can find the grid reference for a location by zooming in using the following website and right clicking on the location on the map: https://gridreferencefinder.com/. In addition to letting NRW know about a new Floating pennywort record (not recorded on BSBI or the NBN Atlas) NRW would encourage anyone who has a new record of Floating pennywort (*Hydrocotyle ranunculoides*) to submit their record using the iRecord app (or online) or the bilingual LERC Wales App. Once verified, records submitted using these methods will be included in the online database of species records (NBN Atlas Wales) and will contribute to the understanding of spread and distribution of species.

Are invasive plants ruining your fishing experience?

Recreational fishing is one of the biggest sporting hobbies globally. The sport contributes substantially to the economy, but also subsidises food, and has positive impacts on human wellbeing. However, freshwater fisheries are increasingly threatened by a cohort of stressors, for example climate change, and invasive aquatic plants. Much research has gone into the effects of changing climate on fish ecology, but invasive plants have had comparatively less research interest.

Invasive aquatic plants have cost the global economy $20 bn in the last 20 years. This cost is caused by obstructing users from waterways, clogging infrastructure, management costs, and changing ecosystem properties which negatively affect aquatic communities – including fisheries.

We want to understand the way in which invasive plants are affecting U.K. fisheries and the perceptions of fishers and waterway users regarding invasive plants. The data captured will help us, and collaborators (e.g. Angling Trust, Canal and River Trust) to motivate for funding to remove plants and restore waterways.

Please take a moment to fill out this survey: forms.ncl.ac.uk/view.php?id=15100455

This project is led by a research team at the University of Newcastle and the University of Leeds, with support from the Angling Trust.

Any queries can be directed to: Dr Zarah Pattison (zarah.pattison@newcastle.ac.uk) and Dr Josie South (j.south@leeds.ac.uk)

Events

Brilliant Banwy!

Montgomeryshire Wildlife Trust teamed with Jess Minett WaREN project officer from North Wales Wildlife Trust and Phil Ward, an expert on river invertebrates from Radnorshire Wildlife Trust to deliver our 'Brilliant Banwy' event.

We looked at what river invertebrates live in the Banwy, demonstrated how to take a kick sample and what the results tell us about the state of the river. The event also focused on the importance of taking biosecurity steps such as 'Check-Clean-Dry' to keep our rivers safe from pollutants and invasive species such as the signal crayfish which cause a huge amount of damage to the environment.

The event was really fun and well attended, and we were lucky enough to find a variety of invertebrates including some stunning cased caddis, mayfly nymphs, and some quite spectacular stone loach and bullhead fish.

Upcoming Events:

Invasive Species Bashing Event, Llanfairfechan 19th September. This will be a hands-on session involving lots of digging up montbretia and other species. If you have your own gloves and hand trowel, please bring them along! Hosted by Ramblers Cymru, Conwy Council, and North Wales Wildlife Trust. If you are interested in attending please email Gareth Holland-Jones: (Gareth.Holland-Jones@northwaleswildlifetrust.org.uk). Confirmation of meeting location will be sent out the week beginning 12th September.

Wales Biodiversity Partnership (WBP) Conference 3rd – 7th October. Registration for the conference will open soon.

Training

Invasive Rhododendron Training Days:

Join the WaREN and Celtic Rainforest Teams for an '**Invasive Rhododendron Training Day**' and find out how to tackle Rhododendron in Wales:

- Wednesday 14th September - Elan Valley
- Saturday 24th September - Plas Tan y Bwlch
- Thursday 29th September - Coed y Brenin
- Saturday 8th October - Dolaucothi

Find out more and book your place using the links above!

WaREN Training for LAG's and Volunteers

WaREN want to facilitate Local Action Groups (LAGs) and volunteers across Wales in tackling invasive species. We are currently arranging spray and strimmer training. **If you are a LAG/volunteer in Wales tackling invasive species please complete this form.** We want to know what training would benefit you/your LAG.

Find out more about WaREN

The Wales Resilient Ecological Network (WaREN) Project is being delivered by North Wales Wildlife Trust and the Wildlife Trust of South and West Wales. WaREN is funded by the Welsh Government Sustainable Management Scheme until April 2023.