Biodiversity News

Issue 66

Autumn Edition

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Please note that the views expressed in Biodiversity News are the views of the contributors and do not necessarily reflect the views of the UK Biodiversity Partnership or the organisations they represent.

From *the* Editor

© Stuart Pudney

Welcome to the 66th Edition of Biodiversity News! My name is Katie Hawkins and I will be the editor over the next year.

I would first like to thank everyone who submitted some fantastic articles which have been a pleasure to read. Similarly I received some great photos and after much deliberation, the front cover winner is Peter Rowarth. This is a photo of Hair's-tail Cotton grass Eriophorum vaginatum, which was taken on the Humberhead Peatlands National Nature Reserve and is an important plant of peat bogs.

This autumn edition features a great variety of articles; from **Sand Lizard reintroduction** to a **wetland festival at Anglesey**. Also articles such as **'creating 100 million UK database records'** and **'cash boost helps preserve snakeshead fritillaries'**– celebrating the success biodiversity has gained throughout the UK.

It's great to see articles such as **The BIG Challenge** – encouraging more organisations and projects to 'do one thing' for biodiversity on their site. These initiatives help meet Biodiversity 2020 targets, create benefits to construction and urban areas, not to mention a better resilience to climate change.

Please check the **events section** as there are a wide range of conferences, projects and volunteering opportunities to get involved with. Some even starting in the next few days!

I welcome any feedback you may have and I would be interested to know your thoughts on some of the alterations to the design of the newsletter.

Finally, I would like to thank my predecessor, Rachael Coombe for providing some valuable tips and I wish her luck at University!

Please take advantage of this newsletter and send along to anyone who would be interested!

Katie Hawkins

To subscribe or submit an article for Biodiversity News please email biodiversitynews@defra.gsi.gov.uk

100 million UK records help create one of the largest wildlife databases in the world

The **NBN Gateway**, which launched just a decade ago, has reached its 100 millionth record, making it one of the largest wildlife databases in the world.

This online resource has grown rapidly, from its prototype beginnings when 100,000 records were available in the late 1990s, to 20 million records in 2006, 50 million in 2010 and now to a staggering 100 million species record from across the United Kingdom.

The National Biodiversity Network (NBN) is a collaboration of organisations, all committed to sharing biodiversity data and making it freely and publicly available. The organisations involved include government agencies, research organisations, local environmental record centres, conservation charities and local and national recording groups. The NBN Gateway is the internet portal that allows anyone to access this information. Species maps are also available through data.gov.uk

The 100 millionth species record was *Adalia bipunctata* (2 spot ladybird) which is part of a dataset of more than 17,000 records from the National Trust's Wimpole Estate in Cambridgeshire. *Adalia bipunctata* has been adversely affected by the arrival of *Harmonia axyridis*, the invasive Harlequin ladybird and has declined by around 40%, since its arrival in Britain in 2004. Through a contract between Defra and the NBN Trust, the Harlequin Ladybird project was established in 2004 to help monitor the spread of this invasive, non native species. Records gathered through the project are available on the NBN Gateway (see Figure 1).

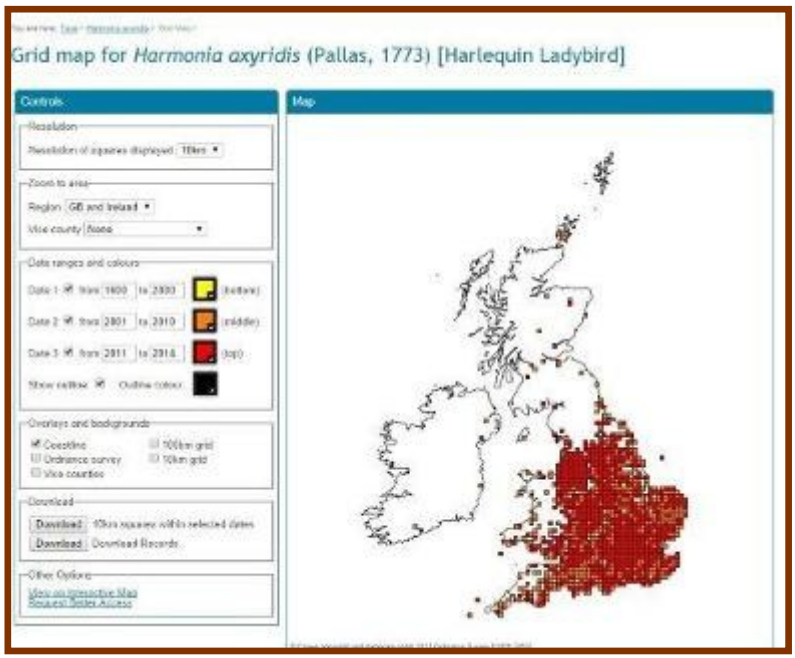


Figure 1: Grid map showing Harlequin ladybird distribution. Thanks to all the dataset providers who can be seen at the following link: https://data.nbn.org.uk/Taxa/NHMSYS0000712592/Grid_Map

Indeed, the NBN Trust has worked with Defra for the last 15 years in developing the NBN Gateway and many other resources and projects to facilitate data sharing and data use. NBN Gateway data comes from the dedication and commitment of amateur and professional experts across the UK, who painstakingly record the species they see. The NBN Gateway allows anyone who is interested to look and investigate the distribution of these species on maps and to download information.

Continued...

Users range from naturalists interested in species distributions, government agencies monitoring changes in populations of threatened or non-native species, researchers using data for analysis and the general public interested in the wildlife in their local area.

Use of the data is governed by the NBN Gateway Terms and Conditions, to ensure that the data providers and recorders are credited for the data they are sharing.

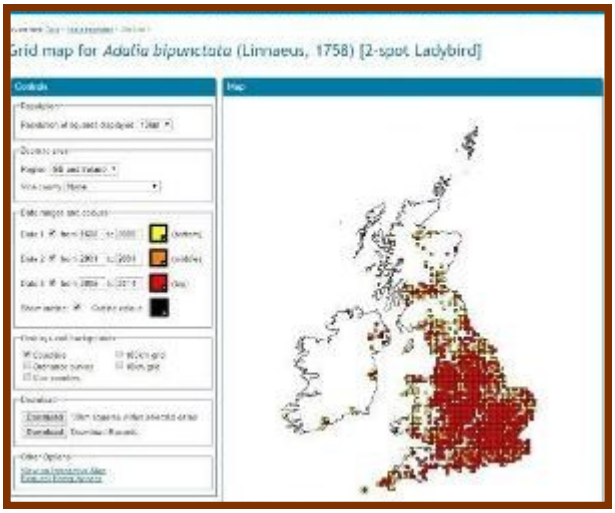


Figure 2: Grid map showing change in distribution of 2-spot ladybird. Thanks to all the dataset providers who can be seen at the following link: https://data.nbn.org.uk/Taxa/NBNSYS0000008319/Grid_Map

Some quirky facts about records on the NBN Gateway

- There are c. 44,000 species with records on the NBN Gateway.
- The most observations are for the butterfly Meadow Brown (Maniola jurtina) with 839,866 records.
- One of the oldest records on the NBN Gateway is of Red Deer (Cervus elaphus) in 1512 from Cumbria Biodiversity Data Centre vertebrate species observations for Cumbria for the period 1512 to 2011
- The 10km terrestrial grid square with the most records on the NBN Gateway is SK49 in Rotherham with 861,737 observations.

Find out more

If you would like to find out more, please visit the NBN website **www.nbn.org.uk** from where you can find out all about the Network and search the NBN Gateway. You can also sign up to receive the NBN e-newsletter so that you are kept up to date with the latest news and developments from across the Network. To search the NBN Gateway visit **http://data.nbn.org.uk**.

You can also contact us at: **support@nbn.org.uk**

Mandy Henshall
NBN Trust Communications Officer

NBN strategic review

Over the next six months the National Biodiversity Network is refreshing its strategic direction. Drivers for this refresh include the recent changes in NBN Trust staff, technological advances for biological recording and data curation and the ever changing landscape of biodiversity activity in the UK. The current strategy, published in 2010, is also 5 years old, so a refresh is timely.

The NBN Trust is now seeking input from Network members and from data providers throughout the UK. The objective of this engagement is to ensure as many members are listened to during the course of the strategy refresh (from the largest to the smallest recording schemes, from government agencies and non-government organisations to environmental planners and local authorities, and from universities and research institutes to ecological consultants). We want to hear the views of as many people and organisations as possible, so that we develop a strategy that can be owned by all Network members.

The NBN Trust has already sought feedback from members via an online questionnaire and a series of workshops will now take place around the UK to carry on discussions. We will be holding a workshop for organisations linked to Defra in November or December and relevant parties will be informed of the details in due course.

If you would like to register your interest in attending this workshop please email **support@nbn.org.uk**

First Site Improvement Plans for Natura 2000 sites published

Samantha Somers
IPENS Programme Manager

The Improvement Programme for England's Natura 2000 sites (IPENS), is a £2.8M project supported by European Union LIFE+funding, run by Natural England, in partnership with the Environment Agency. IPENS will enable Natural England, the Environment Agency, and other key partners to plan what, how, where and when they will target their efforts on Natura 2000 sites and areas surrounding them.

The Natura 2000 series

There are 337 Natura 2000 sites in England, in both marine and terrestrial locations, covering over 2 million hectares (the terrestrial sites are underpinned by SSSIs). Natura 2000 is a European designation (including Special Protection Areas and Special Areas of conservation) to protect some of our most important features habitats and species.

33,000ha of this is in unfavourable condition and a further 235,000ha is 'at risk' of decline into unfavourable condition.

New information on Natura Sites will contribute to a review of delivery of the outcomes set out in Biodiversity 2020: A strategy for England's wildlife and ecosystem services. This review is being undertaken by Natural England on behalf of the Terrestrial Biodiversity Group which oversees delivery of the strategy.

Hair's-tail Cottongrass Eriophorum vaginatum- an important plant of peat bogs seen here on the Humberhead Peatlands NNR, which is a Special Area of Conservation and a Special Protection Area
© Peter Hughs

What is the purpose of IPENS and what will it deliver?

IPENS is a programmed approach for achieving target conservation status on all Natura 2000 network sites in England in particular helping to manage the risk of declining site condition and to develop solutions for the remaining unfavourable sites. It will:

Improve the condition of our European sites
Help the UK avoid infraction proceedings from Europe
Help us meet the Biodiversity 2020 target for protected sites

By the end of March 2015 the programme will:

- ◊ Develop Theme plans to address issues that affect multiple Natura 2000 sites.
- ◊ Produce a Site Improvement Plan for each Natura 2000 site and integrate it into the relevant River Basin Management Plan
- ◊ Identify and where possible plug gaps in our Natura 2000 evidence
- ◊ Develop a Strategic Framework for the future management of Natura 2000 sites.

This is the first time that this information will have been drawn together for the entire suite of Natura 2000 sites. It will enable the current Natura 2000 network and its contribution to biodiversity outside the network to be reviewed, and highlight where further measures are needed to improve the network.

Continued...

Theme Plans

IPENS will deliver Theme plans for the following issues:

- Invasive non-native species and deer
- Grazing
- Habitat Fragmentation
- Species management
- Hydrological functioning
- Diffuse water pollution
- Lake restoration
- River restoration
- Atmospheric nitrogen deposition
- Inappropriate coastal management
- Recreation and disturbance
- Climate Change

Poole Harbour Special Protection Area
Copyright Natural England/Susan Burton

These issues are impacting across multiple Natura 2000 sites and are difficult to address at an individual site level. They also represent the most significant generic risks to achievement of the Biodiversity 2020 outcomes on protected sites. Solutions to these problems may require mechanisms that operate on a large scale or at a national level.

Theme Plans will identify solutions to address these issues across England's Natura 2000 sites using a thematic, rather than a site-by-site approach. Solutions may then be customised and applied to a particular site as appropriate. This new approach to finding solutions will, through addressing risks on Natura 2000 sites, also reduce the risks to achieving the Biodiversity 2020 outcomes. It also presents an opportunity to understand how this approach and the plans/solutions can be used across the wider SSSI network.

Site improvement Plans (SIPs)

IPENS will develop a SIP covering each Natura 2000 site. The SIP is a single, short reference document that covers the whole site - complementing any existing plan(s) for the site. It is not a detailed habitat management plan, or a fully agreed and funded programme of specific measures ready for on the ground delivery.

The SIP:

- Outlines the priority issues affecting the condition of the site.
- Identifies the actions required to address them and who is responsible for taking them forward.
- Highlights potential funding sources to action them.
- Includes actions to mitigate or adapt to climate change

The first SIPs have now been published and are available to view on Natural England's publications catalogue at: http://publications.naturalengland.org.uk/category/5458594975711232
All SIPs will be available by the end of December.

For further information on the IPENS Project:
Webpages: https://www.gov.uk/government/publications/improvement-programme-for-englands-natura-2000-sites-ipens/improvement-programme-for-englands-natura-2000-sites-ipens
IPENS mailbox: ***IPENSLIFEProject@naturalengland.org.uk***
For more information on Biodiversity 2020, the review of delivery or the Terrestrial Biodiversity Group please contact Tom Butterworth at ***Tom.Butterworth@NaturalEngland.org.uk***

Cash boost helps to preserve our stunning county flower

THOUSANDS of Oxfordshire's iconic flowers will benefit after a nature reserve received a cash boost.


© Michael Apel

The Berks, Bucks and Oxon Wildlife Trust has been given £18,874 to manage its Iffley Meadows Biodiversity Improvement Project at Iffley Meadows Funding from environment charity SITA Trust will enable the nature reserve, off Donnington Bridge Road, to guard its snakeshead fritillaries.

Neil Clennell, BBOWT's head of conservation for Oxfordshire welcomed the grant. He said: "This will enable us to do so much more for all the wildlife on these important floodplain meadows."

The project aims to restore 27 hectares of lowland meadow habitat and create the right conditions for the iconic flowers. The grant will enable BBOWT to install drainage channels to help combat excessive flooding. It will also pay for a track so hay can be cut and a project working with county graziers to encourage more focused grazing on different parts of the reserve.

New signs will also explain what BBOWT's plans are and the wildlife that will benefit from this work. The trust manages Iffley Meadows in partnership with site-owner Oxford City Council.
Despite a significant dip in numbers after the summer floods of 2007, thanks to the trust's management the number is now about 60,000.

Mr Clennell said: "The summer flooding of Iffley Meadows in 2007 caused the land to become waterlogged and prevented BBOWT from looking after this fragile habitat. "Since then, thanks to funding from the Trust of Oxfordshire's Environment, we re-established the annual summer hay cut and grazing, which resulted in the record count of 84,190 snakeshead fritillaries this spring on one area of the reserve."

Marek Gordon, CEO and chairman of SITA Trust, said the trust was able to support the project through tax credit scheme the Landfill Communities Fund.
Snakeshead fritillaries can be found across Europe. The hanging bell-shaped flower – Oxfordshire's official county flower – begin to blossom in spring, usually across damp, lowland meadows.

The flowers appear in various shades of purple, with intricately chequered patterns of pale silver. They can reach heights of up to 40 centimetres and are listed as a vulnerable species by the IUCN Red List of Threatened Species.

Pete Hughes, Reporter covering Abingdon and Wantage, South Oxford and Kennington
Compliments to Oxford Mail for providing the article
www.oxfordmail.co.uk/news/11517713.Cash_boost_helps_to_preserve_our_stunning_county_flower/?ref=la

MPA Highlights Members' Invaluable Biodiversity & Restoration Work at Conference for Nature

Nigel Jackson, Chief Executive of the Mineral Products Association (MPA), spoke about the vital biodiversity and restoration work of MPA members at the Conference for Nature in Westminster on 3 September, an event following on from the launch of the State of Nature report in 2013. Sir David Attenborough; The Rt Hon Nick Clegg, Deputy Prime Minister; Barry Gardiner MP, Shadow Minister for the Natural Environment and Fisheries; and Andy Spencer, Sustainability Director for CEMEX, also spoke at the event.

Hanson UK's Upper Nene Valley Gravel Pits - Overall Winner of the Landscape Scale Restoration category, in association with Natural England, in the Mineral Products Association's Biodiversity Awards 2013.

Nigel Jackson said, "MPA totally supports the aim of protecting and enhancing the state of nature and biodiversity delivery across the UK and EU and we will play our part where we can. Our industry is uniquely placed to make a difference, more than any other. Our industry operators are practitioners working in the environment, with the environment, and mainly for the environment.

"Supporting biodiversity is a key aim for us: it is a key part of our license to operate. It also makes good business sense to restore sites to high quality and help deliver national and local environmental priorities and biodiversity targets. We can demonstrate the overall gains in environmental quality as result of our operations, and community support of, and use of, our sites.

"MPA launched its MPA Biodiversity strategy in 2011, which shows our commitment to Extend knowledge, Share best practice, Develop partnerships, Celebrate successes, Understand contributions, Increase influence and Promote education. Our two- yearly Restoration & Biodiversity Awards help recognise and showcase best practice by our members and harden commitment. Last year we launched our National Nature Park - a nationwide network of quarries that have been restored for wildlife and which are accessible to the public.

Lafarge Tarmac's Bayston Hill Quarry, runner up in the Landscape Scale Restoration category, in association with Natural England, at the MPA Biodiversity Awards 2013.

The online resource includes 50 sites around the country, with a range of facilities including nature trails, viewing hides and visitor centres. It is our aim to double the number of quarries in the network to 100 over the next year or so. Furthermore, the RSPB and Nature after Minerals (NAM) have helped us realise that we can deliver 9 priority habitats.

"And what of the actual delivery on the ground, what about those priority habitats that NAM identified? At least 5,000 hectares of priority habitat has been created to date on restored sites; and at least 5,000 hectares of priority habitat is committed to (but not yet delivered) in restoration plans – and growing all the time. We have developed other important partnerships with The Wildlife Trusts, Natural England, The Freshwater Habitats Trust, The Bumblebee Conservation Trust and The Bat Conservation

Continued...

Trust. This is good because it encourages dialogue, shares thinking, enriches practice, accelerates progress and helps tell our story - but it is important not to be complacent. So where next?

"We will build and validate the database, we will evaluate the asset better, we will capitalise on offsetting and ecosystem services, we will write the story better, we will tell the story better. Our aim is to see the industry shake off historic and false perceptions and become recognised as a very significant national biodiversity asset."

The purpose of this major invitation only event was to bring together leaders from all sectors to look at game changing and innovative projects with nature and conservation at their hearts. As well as featuring MPA members' work, the Conference looked at a number of other high profile projects, showcasing how sustainability and nature go hand in hand with business.

Nigel Jackson, Chief Executive MPA, speaks at Conference for Nature.

For further information please contact Hilary Arrowsmith at hilary.arrowsmith@mineralproducts.org; Tel: 020 7963 8000.

mpa essential materials sustainable solutions

Egrets, we've had a few...

Visitors are flocking to Brockholes Nature reserve in Preston following sightings of a rare member of the heron family – the great white egret.

The Lancashire Wildlife Trust reserve, in Samlesbury near Preston, has seen visitors flocking to catch a glimpse of his magnificent bird that has only ever been recorded at the site on three previous occasions.

Luckily Brockholes' regular Paul Iddon was on hand with his camera and managed to capture some majestic photographs of the bird.

The Great White Egret is a large member of the heron family, with adults having a wingspan of up to 1.7 metres long. The bird preys upon fish, insects and frogs, which are caught by spearing with its long, sharp beak.

Brockholes Reserve Officer Duncan Goulder explained: "Brockholes is a great place for them to visit: the varied wetland habitats offer ideal hunting conditions for them. The tall reeds and wetland vegetation hold an abundance of their favourite food such as fish, frogs, small mammals and molluscs, and they can hunt without being disturbed. They're absolutely magnificent birds, and it is always a special event when one shows up."

Brockholes is fast becoming one of the region's premier sites for birds. Earlier in 2014 there was much excitement when there were sightings of the little egret and bittern, while other rare birds reported this year include the peregrine and red kite.

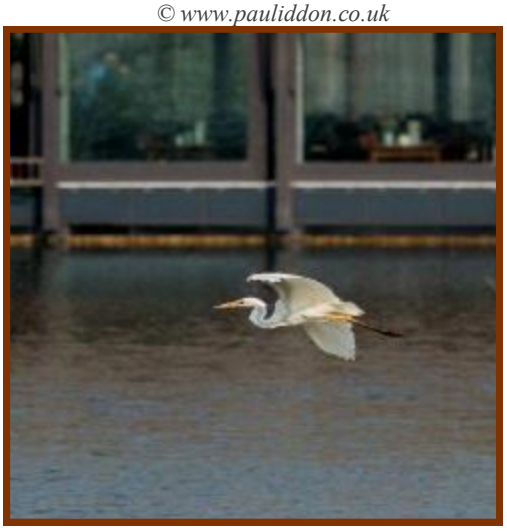
Meanwhile in the spring the nature reserve also became one of the country's top breeding ground for waders with avocet, curlew, redshank, ringed plover, little ringed plover, oystercatcher and lapwing all breeding.

For more information on Brockholes just call 01772 872000 or visit www.brockholes.org.

The Wildlife Trust for Lancashire, Manchester and North Merseyside is dedicated to the protection and promotion of the wildlife in Lancashire, seven boroughs of Greater Manchester and four of Merseyside, all lying north of the River Mersey. It manages around 40 nature reserves and 20 Local Nature Reserves covering acres of woodland, wetland, upland and meadow. The Trust has 26,000 members, and over 1,200 volunteers. To become a member of the Trust go to the website at www.lancswt.org.uk or call 01772 324129.

Lancashire, Manchester & N Merseyside

Alan Wright
Senior Communications and Campaigns Officer



Save Our Magnificent Meadows

Victoria Squire
Community Engagement Officer

Over the past 60 years, the UK has lost over 98% of its hay meadows and species rich grasslands due in part to changes in farming practices. These habitats are an intrinsic part of the UK's natural and cultural heritage and are some of the few habitats created by man that are great for biodiversity and brimming with life – an example of farming practices working with nature.

Save Our Magnificent Meadows is the UK's largest partnership project transforming the futures of our vanishing wildflower meadows, grasslands and wildlife and is primarily funded by the Heritage Lottery Fund (HLF). Led by Plantlife, the partnership is made up of eleven organisations (Ulster Wildlife, Scottish Wildlife Trust, RSPB (in Scotland and Wiltshire), National Trust Wales, Northumberland Wildlife Trust, Cotswolds Conservation Board, Somerset Wildlife Trust, Wiltshire Wildlife Trust and Medway Valley Countryside Partnership).

The project is:

* Targeting just under 6,000 hectares of wildflower meadows and grasslands in nine strategic landscapes across the UK,
* Giving people all over the UK the chance to visit, enjoy and learn about our wildflower meadows and grasslands,
* Raising awareness of the desperate plight of our wildflower meadows and grasslands and equipping communities with the knowledge and skills to reverse this devastating trend.

© Gwen potter

As part of Save Our Magnificent Meadows, National Trust Wales are improving a range of habitats on nine sites across Ceredigion, including established and newly created hay meadows and coastal species rich grasslands.

These improvements will be achieved through a range of methods including:

© Gwen potter

* Increasing the area of traditional hay meadow by seed spreading.
* Enabling our tenants to graze species rich grasslands appropriately
* Increasing areas of species rich grassland through scrub and bracken management.
* Improving habitat corridors especially along the coast.

Volunteers, National Trust staff and contractors will be used where necessary to undertake the work. As well as the practical conservation improvements, there is also an education and engagement element to the project, encouraging everyone to celebrate the beauty and diversity of the Great British meadow through arts, heritage and wildlife days.

Training days have already proved popular, with a good turnout for the Meadow Invertebrate ID course. Further training days will be held at Llanerchaeron National Trust property, the next concentrating on meadow flowers.

Next summer will also see us holding stock management workshops for local landowners wishing to improve the diversity of their species rich grasslands.

For further information about Save Our Magnificent Meadows visit **www.magnificentmeadows.org.uk**.

For further information about the project in Ceredigion and any events etc, please feel free to contact **victoria.squire@nationaltrust.org.uk** or **sarah.jones4@nationaltrust.org.uk**.

On the hunt for the elusive harvest mouse!

An ongoing conservation project aims to shed some light on the ecological habits of this most secretive of mammals....

How many people out there have actually ever seen a harvest mouse? Have you? **Well if you haven't been lucky enough to glimpse one don't worry as you are not alone!**

© Emily Howard-Williams

Despite the International Union for Conservation of Nature (ICUN) lowering the status of this iconic small mammal from 'near threatened' to that of 'least concern' on their global red list of endangered species, few people have ever seen them in the wild. This of course begs the questions of whether these tiny rodents are just incredibly adept at hiding from prying eyes, or perhaps more worryingly have undergone significant population declines in response to changing agricultural and land management practices.

To attempt to provide an answer, a long term funded research project has been instigated at Moulton College and The University of Northampton in the East Midlands. The core focus of the work so far has been to evaluate the behavioural ecology and habitat preferences of the harvest mouse (*Micromys minutus*) in lowland agricultural landscapes. Given their trap-shy nature towards conventional live capture mammal traps and the expense of traditional radio-tracking techniques, the initial phase of the work developed an innovative field surveying protocol for monitoring harvest mice using a wireless radio-frequency identification (RFID) system.

Animals bred in captivity were then micro-chipped and released into a suitable receptor site to determine their spatial dispersal and long-term survival. The next stage is now imminent where responses to barriers and gaps along ecological networks will be determined, neatly assimilating current land management policy where there is an exigent focus on implementing the ramifications of the Lawton Review.

© Emily Howard-Williams

Subsequent ecological monitoring has elucidated dispersal and long-term survival rates of harvest mice occupying regionally important farmland habitats using our innovative animal census protocol.

Ecological modelling may predict population densities and dispersal in these habitats, and evaluate the relative influence of 'environmental resistance' to dispersal including boundaries, barriers and movements along and between connected habitats.

Continued...

Indeed, maintaining biodiversity in farmed landscapes is central to many of the most important ecological questions of high policy relevance in the UK in recent times.

The final element of the study will attempt to improve traditional survey methods by training a detection dog to find nests more efficiently than traditional hand searching by volunteers. It might all sound a bit mad – but detection dogs are successfully being used with dormice, great crested newts and even bees!

It is hoped that ramifications of the work will facilitate a renewed interest in this charismatic species and capture the imagination of volunteers and the general public alike. Only then may we really know whether harvest mice are here to stay or not!

You can follow our progress by visiting: http://countrysidemanagementmoulton.blogspot.co.uk; Alternatively if you would like more information on this project contact Emily (Emily.Howard-Williams@moulton.ac.uk) or James (James.Littlemore@moulton.ac.uk).

Dr James Littlemore & Emily Howard-Williams, Moulton College

Rare Sand lizard reintroduction on the North Wales coastline

Mandy Cartwright

This September 74 juvenile sand lizards were released into prime habitat in the Talacre sand dune system. The reintroduction is a second batch of young lizards to be released as part of a three year reintroduction programme and the third of its kind in North East Wales with two other sites in Flintshire and Denbighshire.

© Mick Brummage

In the UK sand lizards live in two rare habitats; sand-dune and lowland dry heath. Due to vast historic losses, and fragmentation of these habitats via development and land use change, the species has become extinct in much of its previous range including North Wales. Native populations now only remain in Merseyside, Surrey, and Dorset although even here losses of over 90% have occurred.

Due to their rarity sand lizards are listed as a European protected species and a priority species for conservation, which means they are highly protected.

The UK's national objectives for Biodiversity aims to protect the sites where the species occurs, to manage these sites to maintain and restore suitable conditions for sand lizards and, to re-introduce sand lizards to managed sites in their former historic range.

A local partnership project has been addressing all of these aims locally. The existing sites have been part of an intense monitoring programme for the last seven years. Led by Denbighshire and Flintshire biodiversity officers and local reptile expert Mick Brummage and supported by a team of dedicated volunteers, Amphibian and Reptile Conservation Trust and local businesses.

Continued...

Each year volunteers have attended training and then joined licence surveyors out in the field through the survey season between April and October. Once volunteers have gained enough experience they are added to our list of licensed surveyors.

Because of the limited range of the populations there has been concern that our existing populations have been threatened particularly by dune fires. A further reintroduction was seen as an opportunity to safe guard our populations in north East Wales into the future.

The juvenile lizards that are released are bred by private breeders, Ray Lynch, john Newton and Paul Hudson and locally at Chester Zoo. The captive breeding stocks originates from Merseyside dune populations and undergo a comprehensive health screening prior to release.

It is hoped that this new population will colonise the dune system and eventually join with other existing populations from previous releases.

If you would like to get involved in the local monitoring programme then contact

Elizabeth.webster@denbighshire.gov.uk

sarah.slater@flintshire.gov.uk

If you want to get involved in amphibian and or reptile conservation in North Wales contact
Mandy.Cartwright@arc-trust.org

Amphibians in Drains project

Andrew Law, Tayside Biodiversity Partnership

Back in Issue 59, Daniele Muir reported on the Amphibians in Drains project which finished in 2012 with astounding results. They confirmed that the newly-installed wildlife kerbs were reducing the amount of wildlife falling into gullypots. This included toads, frogs, newts and small mammals.

Wildlife Kerb © C A G Lloyd

Surveying was restarted in 2014 as part of a student internship project with the Tayside Biodiversity Partnership. We needed to learn if the wildlife kerbs installed in 2011 were making a significant difference. Wildlife kerbs contain a recess which allows wildlife to follow the lower edge of the kerb and bypass the gullypot. The new survey is also trialling the potentially more cost effective Amphibian Ladders. The survey aims were updated to be:

* To discover if preventative mechanisms previously put in place actually work - these are the Elm Drive wildlife kerbs in Blairgowrie, Perthshire.
* To research whether alternative preventative mechanisms decrease the number of amphibians killed in gullypots - these are the amphibian ladders.
* To record species and numbers of amphibian and mammals affected.

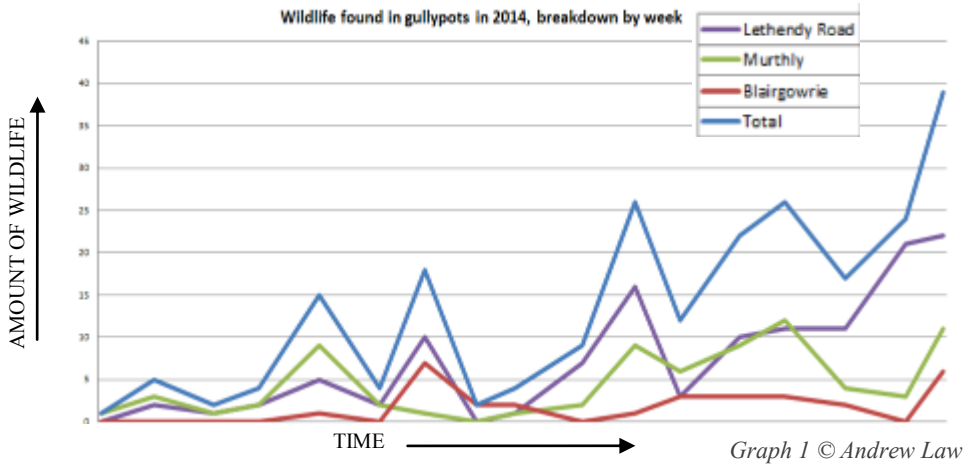
© Andrew Law

Continued...

Amphibian ladders are made with inexpensive materials and inserted into the gullypot. Any wildlife in the gullypot can then climb out. The first trial ladders are using Jute, but as this rots quickly future ladders will utilise a new material, Enkemat, made by RAVON in the Netherlands. This is more durable and appears to have a higher success rate for allowing the escape of trapped amphibians.

© Andrew Law

The amphibian ladders are being installed at a third site which has been constantly surveyed alongside the Blairgowrie and Murthly sites for trends from March to September.



Graph 1 © Andrew Law

Results

Thus far, preliminary and mid survey results have shown that the current preventative measures employed in Blairgowrie - wildlife kerbs - do help in reducing the amount of wildlife falling into the gullypots in comparison to Murthly - its direct control. The results show that the Wildlife Kerbs cut the number of animals trapped in the gully pots by more than half.

The alternative preventative measures are only just in the process of being implemented; however estimates are that these will be more successful than the kerbs. It is clear the kerbs go some way to decrease the number of trapped, and therefore killed, amphibians (Graph 1). Final conclusions on the effectiveness of the comparison should not be made until the completion of the study and, ideally, after many more years of observation and surveying.

Although there is no control for the Lethendy Road site, it is clear that it has been more affected over this survey period than the other two sites by the amount of animals found within the gully pots. The implementation of the new amphibian ladders will hopefully go a long way to reducing the deaths of so many amphibians.

The data found by this and subsequent studies will be used by Amphibian and Reptile Conservation for statistical analysis. Thanks to ARC for their support, the Tayside Biodiversity Partnership and TayARG (the Tayside Amphibian and Reptile Group).

The interim report for this year's survey can be downloaded via www.taysidebiodiversity.co.uk.

Peterborough's Buzzing

The new Peterborough's Buzzing project will work with local communities in Peterborough to transform species-poor grasslands across the city into colourful, wildflower-rich havens. Buglife are working with the Nene Park Trust and Peterborough City Council to enhance over 10 hectares of grassland, to create vital habitat for declining pollinators.

Mirroring other parts of the UK, wildflower-rich habitats have declined across the city in recent decades, much of this from the widespread introduction of amenity grassland management to swathes of parks and open spaces. Since the 1940s, agricultural land cover in Peterborough has also increased 60-80%, with large areas at the expense of more wildflower-rich habitats.

© Steven Falk

This exciting project is targeting some of the popular amenity grasslands across the city, with the aim of converting these green deserts into useful habitat for a range of wildlife. The network of enhanced meadows will use native wildflower seed, plug plants and introduce wildlife-friendly management throughout to revitalise parks.

To further diversify the forage opportunities for invertebrates a range of other habitats are being enhanced, including species poor tussocky grassland, woodland edges around well-used foot and cycle paths, and seasonally inundated areas. The project includes high profile sites such as the Ferry Meadows Country Park, which receives over 1 million visitors per year, offering the opportunity to raise awareness of invertebrates and the value of wildflowers to a large audience.

Peterborough's Buzzing will help to develop new educational opportunities at key learning sites for the city's schools. A traditional meadow will be created with Vivacity at the Flag Fen Archaeology Park and a new bug friendly garden display area created at the East of England Agricultural Society's Showground learning barn. Alongside educational interpretation boards, these installations will ensure that thousands of children continue to learn about the value of bugs and meadows for years to come.

A diverse range of community engagement will allow Buglife to engage thousands of primary school children on the value of invertebrate's at large events. Meanwhile bug hunts and moth trapping evenings will aim to educate families, and volunteer work parties to create and manage meadows will offer the community chances to contribute directly to improving their local green spaces for wildlife.

© Richard Smith

Continued...

© Richard Smith

The two-year long Peterborough's Buzzing project is funded by the Heritage Lottery Fund, Cambridgeshire and Peterborough Biodiversity Partnership and the Martin Wills Wildlife Maintenance Trust.

To get involved with the project or to find out more contact Jamie.robins@buglife.org.uk or visit the project webpage at http://www.buglife.org.uk/campaigns-and-our-work/habitat-projects/peterboroughs-buzzing.

Water Vole– Making connections

Dr Jill Sutcliffe and Jane Reeve, MWHG

You may not have heard of the Manhood Peninsula as the name does not appear on any maps. The name derives from "Main" wood but the area is now very short of woodland with only an odd patch of ancient woodland left. It is situated to the south of Chichester, West Sussex.

Predominantly the area provides a mixture of wetlands positioned among low-lying agricultural land. This is a place which contains the least developed part of the coast between Newhaven and Southampton.

The area comprises a small and perfectly formed triangle of land jutting out into the English Channel supporting rare habitats and species. It contains three internationally and four locally important wildlife sites. It culminates in the migration point at Selsey Bill where species of bats, birds or butterflies arrive or leave the UK. From the peninsula it is still possible to see Chichester Cathedral, as Turner painted it from beside the Canal, in one direction…and the Isle of Wight in the other.

Water vole on Florence Pond, Sidlesham, April 2013 © Dr Jill Sutcliffe and Jane Reeve, MWHG

The key to the wildlife interest is the variety of freshwater wetlands – Ditches, Rifes (channels of water), Ponds, Canal, Saline lagoons as well as the sea. One third of the ditches flow into Chichester Harbour while two thirds flow into Pagham Harbour – both internationally important and protected wildlife sites. There is, in addition, a newly emerging coastal realignment site at Medmerry, opened September 2013, to the west of Selsey that is linked to them both. If this wetlands network was in tip top condition it would enable species to move readily across the peninsula.

The ditches are home to England's most endangered mammal, the native Water Vole which here forms a regionally important population. Some parts of the network need to be improved, re-dug and/or joined up to ensure a sustainable future for them. There are also gaps in the linear ecological networks which need restoration to increase a range of species through habitat restoration. Hedges need additional planting and trees may need to be cut back to prevent the wetlands being overshadowed.

This is where the Manhood Wildlife and Heritage Group (MWHG) comes in. It operates in the wider environment, *outside the protected areas*, seeking to enhance this system and to raise the pro-

Continued...

file of its importance. Flooding in each of the years 2012-2014 certainly highlighted the need to manage the area. While riparian owners now have the responsibility to look after their stretch the system had become neglected.

Flooding led to difficulties for people and for the wildlife. In seeking to remedy the issues raised, groups formed to tackle the issues as they impacted on people. Our concern was that any work was done with wildlife in mind as well.

Chichester Golf Course 2013 © Dr Jill Sutcliffe and Jane Reeve, MWHG

Using some funding made available via the West Sussex Operation Watershed fund MWHG wrote a booklet on what could be done to manage waterways and when to do it, which gets sent out with each successful application. There has been a tendency to solve the local flooding problem by diverting it onto the adjacent land, installing culverts and hard engineering solutions, and to want to rush out and take action when birds or water voles are breeding and it would be illegal.

Funding was obtained from the Chichester Harbour Conservancy and the Manhood Peninsula Partnership to carry out a fundamental survey of the wetlands in one Parish of the 11 on the peninsula. Work was carried out January to June in Birdham in association with the Parish Council and the flood Group.
The result was a costly management plan demonstrating that to overhaul the network would cost between £175-200k.

The prime need is to de-silt Birdham Pond into which many of the ditches run. Additional funding is enabling the group to move on and tackle the same work in the Parishes of Itchenor and, hopefully, Apuldram, and then all ditches flowing into Chichester Harbour will have been tackled. Only the other eight Parishes to go!

Since 2011, MWHG has had a Water Vole project. Funding for a year from the National Lottery Community Wildlife Fund enabled us to pull together all work previously undertaken on water voles which had started in 2002 with the late Rob Strachan, much missed, and to produce an Action Plan for the mammal 2011-2020.

The group was then awarded three year funding by the Heritage Lottery Fund with the purpose of building up the Vole Patrol, volunteers trained to survey and undertake practical conservation work, to produced Educational materials including a Habitat Pack and a Chain Game and including regular visits to local schools; and then in this, the final year, the production of a local community resource.

MWHG volunteers clearing an overgrown ditch, Sidlesham Aug 2014 © Dr Jill Sutcliffe and Jane Reeve, MWHG

In addition, MWHG also has 16 sub-groups working on a range of wetland sites and producing publications. At East Beach Pond a team of volunteers has converted a rubbish dump into a thriving Pond which has regularly been awarded Gold by the SE Britain in Bloom awards.

The marine environment provides its own associated range of wildlife such as the short-snouted Seahorse. It supports fishing communities providing food for the local cafes and pubs.

MWHG annually holds a Beach Watch in association with the MCS designed to clear the beach of rubbish but by working with the Mulberry Divers based in Selsey also clearing up offshore rubbish.

Within Chichester District, it has been established that the peninsula alone provides 49% of all the tourist income generated. People principally visit the area for its food and drink, as well as its wild-life and MWHG takes part in many of the local partnerships advocating the importance of these and ensuring that safeguards are in place to ensure their enhancement and conservation.

This is an excellent discrete area in which to demonstrate the importance of the recommendations made by Sir John Lawton i.e. wildlife sites should be in good condition, larger and linked up. The ditches network enables us to put these into effect at a landscape scale.

Osprey platform

Graeme Barnes, Marketing Officer, The Wildlife Trust

Attracting ospreys to nest in Lancashire might seem a tall order but Brockholes nature reserve is giving it a go.

An osprey platform has been erected at the Lancashire Wildlife Trust reserve, at Preston, by Trust volunteers, Friends of the Osprey and Electricity North West.

A team from Electricity North West brought vehicles with lifting platforms so that the future osprey nest could be lifted onto a base on top of a telegraph pole.

The nest using large branches and twigs was created with advice from Darren Moore of Friends of the Osprey. Darren said: "We have built 18 of these nests in North Wales and eight have been taken up or visited by ospreys. On one nest we have already seen chicks born over the past few years.

"Brockholes seems to be the ideal site for a nest and hopefully we will get ospreys checking it out and using it. There have been a number of sightings since the reserve opened a couple of years ago.

"I came here to offer advice about five weeks ago and I wouldn't have come back if this site didn't have potential. Ospreys eat only fish and there is plenty of fish in the rivers and lakes around here."

Brockholes wildlife intern Graham Nuttall, who was co-ordinating the volunteers, said: "It is great to see Electricity North West and Friends of the Osprey supporting us as we try to increase the wildlife diversity on the site."

The osprey platform is visible from the restaurant in the floating Visitor Village.

Back from the brink: rescuing North East Scotland's fragmented Butterfly Populations

Along with the rest of the UK, Angus in North East Scotland has suffered butterfly declines, but still has isolated populations of the UK's smallest butterfly the Small Blue Cupido minimus.

Surveys have been carried out at locations along the coastline since the late 1970's (see figure 1) but although records of Small Blue are numerous, important data on the distribution of its host plant Kidney Vetch Anthyllis vulneraria have been missing.

Since 2012 Butterfly Conservation Scotland and the Tayside Biodiversity Partnership have worked together to facilitate annual volunteer surveys of both the butterfly and the host plant along the coastline.

Historical data from Butterfly Conservation, together with Scottish Wildlife Trust and Scottish Natural Heritage survey data from Seaton Cliffs Local Nature Reserve and St Cyrus National Nature Reserve respectively, were used as a starting point to focus survey effort. Volunteer recording data have been mapped and figure 2 shows the 2012-13 distribution of both species (note the retraction from locations where the Small Blue was once found).

An MSc project carried out in 2013/14 analysed the historical data and more up to date 2012/13 records to identify locations where the two species still coexist and established their proximity to nearby populations. An investigation of land use practices along the coastline and landowner receptiveness to collaborative restoration works, will hopefully enable focussed work to reduce population isolation.

Figure 1. The distribution of Small Blue records along the Angus coast based on records ranging from 1982 to 2013.

Figure 2. The distribution of Small Blue and Kidney Vetch along the Angus coast based on records generated by volunteer effort from 2012 and 2013.

It is reassuring that 79% of those landowners approached would consider managing land for wildlife a priority, especially if practical habitat enhancement works can be funded and implemented by a third party.

Continued...

During 2014, as an in-kind contribution to the project, Scotia Seeds arranged with local landowners to collect Kidney vetch seed (Figure 3) and are drying and cleaning the seed in anticipation of the Partnership being able to cultivate - it is looking hopeful at the moment with a few thousand seeds collected.

Cupido minimus ©Barry Prater

Looking to projects such as the Butterfly Conservation and Scottish Wildlife Trust Gailes Marsh project will guide us in best practice on how best to carry out restoration work at our chosen site in the future.

Figure 3. Kidney Vetch, Angus coast (2014) ©Kelly Ann Dempsey

****Special thanks to Catherine Lloyd of the Tayside Biodiversity Partnership, Barry Prater and Duncan Davidson of Butterfly Conservation. David Lampard of the Dundee Naturalist Society, Anna Chesheir and Gill Smart of SWT, Kim Ross SNH, Harry Bickerstaff and Butterfly Conservation. I would like to particularly thank all respondents to the questionnaire and to all of the volunteers also Dr. Kim Picozzi at University of Edinburgh.*

Traditional Orchard Conservation in Worcestershire

The county of Worcestershire experienced a surge in orchard planting between the late-1800s and the Second World War. During this period the transport revolution brought about by the expanding railway and canal systems allowed an agreeable climate for fruit production to be exploited on a huge scale.

This boom was then followed by a devastating bust as the bottom fell out of the domestic fruit market in the 1930s and 40s and landowners looked to more profitable and less labour intensive land uses. A subsequent 60-70 years (in some cases) of general neglect has turned many of the surviving orchards and orchard remnants into rich wildlife resources.

The ecological value of the remaining trees lies of course in the decay, cavities and other dead-wood features normally associated with veteran tree habitat. The county is thought to contain something in the region of 12% of the habitat remaining in England and it is now known to be a stronghold for orchard specialist species such as the Noble Chafer beetle Gnorimus nobilis. An excellent summary of the importance of traditional orchards for wildlife (with many references to Worcestershire) was written for British Wildlife magazine by Barker et al (2011).

In May 2013 the Heritage Lottery Fund awarded £37,600 to Worcestershire Biological Records Centre for a 2-year project to carry out survey work and increase the level of recognition and protection for some of Worcestershire's most valuable traditional orchards. In the first year of the project 100 orchards have been visited and basic details of their condition and management

Continued...

documented to assist with validation of the national Traditional Orchard Inventory, first published in 2011 by the People's Trust for Endangered Species. Through these surveys, plus attendance at events and by giving talks to local interest groups, the project is building a network of volunteers and orchard owners across the county who can champion the orchards in their community and raise awareness of their importance to Worcestershire's landscape and biodiversity.

County moth recorders Tony Simpson and Oliver Wadsworth survey an apple orchard near Worcester for Celypha woodiana. © Rebecca Lashley

The survey work has already added hugely to our knowledge of the distribution of both Noble Chafer and also Mistletoe Marble moth Celypha woodiana, another Priority Species whose reliance on mistletoe has led to around 50% of current UK records coming from apple orchards (Briggs, 2011). Noble Chafer frass has been discovered in trees on 20 new sites across south, central and west Worcestershire, with three new larval records and one new adult beetle record confirming a current population on four of those sites. Just as worth recording are the 40 sites so far surveyed with no evidence found of Noble Chafer. Prior to the start of this project there were three Celypha records in Worcestershire; there are now seven, with two of the new sites appearing to support good numbers of the moth.

The HLF funding also provides resource for 20 'flagship' orchards to be surveyed against Worcestershire's Traditional Orchard Local Wildlife Site criteria. These were only developed in 2011 and as a consequence orchards are still very under-represented in the suite of Local Sites within Worcestershire, despite the habitat's importance to the county. Worcestershire Wildlife Trust are undertaking the Local Site assessments on behalf of WBRC: 17 sites have so far been identified and owner permissions secured for the survey. Sites targeted include those considered outstanding examples of their type and characteristic of the landscape within which they sit, reflecting the specialisation of different parts of Worcestershire in growing different types of fruit. All of the orchards chosen for assessment contain a good resource of veteran fruit tree habitat and many are 'positive' for Noble Chafer. Two of the sites are those with new Mistletoe Marble moth records.

Plum orchard at Alfrick with breeding Gnorimus nobilis: new planting will provide future habitat. © Rebecca Lashley

Over the next 12 months survey work will continue and data will be shared with PTES to update the Traditional Orchard Inventory. Support will also be given to owners of new Local Wildlife Sites to produce basic restoration and management plans, helping to ensure that sites continue to provide suitable habitat for the range of wildlife species associated with orchards.

Contact: orchards@wbrc.org.uk or search for Worcestershire Biological Records Centre on Facebook

Barker S, Burrough A, Cordrey L, Merry K and Wedge C (2011). Conserving the wildlife of traditional orchards. British Wildlife Vol 23 Number 1, October 2011.

Briggs J (2011). Mistletoe – a review of its distribution, conservation and insect associates. British Wildlife Vol 23 Number 1, October 2011.

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Exmoor Mires: volunteers wade in

John Bark.

Mechanical earth-movers are being used in the heart of Exmoor in an effort to reverse the decline of globally scarce Blanket Bog caused by agricultural drainage, reclamation and peat cutting. But machines have limits and the Exmoor Mires Project, managed by lead funder, South West Water, called on The Conservation Volunteers to help finish the job.

Working with other local people through the storm-lashed early months of the year, they won the 'Landscape' category of the Western Morning News Countryside Awards 2014, proving that specialist contractors and volunteers can make a formidable team for environmental improvement.

The project has a target of restoring 2000 ha of bog in the vicinity of appropriately-named Simonsbath, Exford and Withypool in West Somerset. Key partners are Exmoor National Park Authority, the National Trust, Natural England, Environment Agency and English Heritage who act as land owners or advisors.

© *Alan Bennett*

"The work the volunteers do is a key part of the project's activity and a highly valued one," explains Dr. David M. Smith, Exmoor Mires Project Manager. "They support the restoration contractors' work by being able to go into the wetter and more difficult areas of work where it would be tricky to get a machine in. They do a fantastic amount of high quality ditch blocking using only hand tools. We use them to do maintenance and new restoration work on the most challenging sites."

Restoration starts by blocking drainage ditches that support a few species of grass for grazing. Constructing timber barriers or blocks across the narrow ditches impedes the flow of water, creating ponds which will hopefully overspill onto the pasture to recreate the wet conditions so necessary to restore the mire.

The effects can be quick, as observed in past work by The Conservation Volunteers. Snipe soon enjoy new muddy pond edges, ponds fill with invertebrates, and even otters come to feed on growing numbers of frogs and newts. Sphagnum moss and sundew patches develop amongst the deer or cotton grass. The sound of Skylarks becomes common as they nest in the drier spots and feed on the abundant insects.

Within a few months it is hard to believe that the ditches were ever there in the first place. The conditions for peat accumulation - wet boggy ground, a high water table and specific vegetation such as bog mosses – develop later.

The volunteers get a lot out of it too: "We are doing proper conservation work," says Hamish Johnson who believes he has grown in self-confidence through volunteering with The Conservation

Continued...

Volunteers. "The skills we've learned would help out anyone in the countryside." And there's the pleasure of a job well done. "There's that moment when you place the finishing touches to the block…" says Dr Chris Eyles. "…and you see the small but definite difference your work is going to make to the site."

For more information: **d.kent@tcv.org.uk**

Thurrock Stepping Stones

Jamie Robins, Conservation Officer

The exciting Thurrock Stepping Stones project builds on previous Buglife brownfield work in the Thames Gateway helping to conserve the region's nationally important invertebrate populations.

The 'All of a Buzz in the Thames Gateway' and 'South Essex Stepping Stones' projects, as well as efforts to save West Thurrock Marshes and the designation of the Canvey Wick SSSI, have done much to promote the value of wildlife-rich brownfields across the county.

Now, thanks to funding from the Heritage Lottery Fund and Veolia North Thames Trust, the three-year Thurrock Stepping Stones project will see Buglife working in partnership with the Essex Wildlife Trust (EWT) to continue this work.

The project focuses on the award winning Thurrock Thameside Nature Park, a former landfill site receiving waste from London for decades, and the Chafford Gorges Nature Park, a network of chalk quarries and sand cliffs woven throughout Chafford Hundred. Buglife and EWT will create and enhance 16 hectares of brownfield habitat for some of our rarest and most threatened invertebrates, including the Shrill carder bee (*Bombus sylvarum*) and the Five-banded weevil wasp (*Cerceris quinquefasciata*).

At Thurrock Thameside a brownfield education area will be created using a diverse range of aggregates, from broken bricks and hardcore, through to sand and Pulverised Fuel Ash (PFA). This will encourage a dynamic brownfield habitat resource to develop as well as offering an exciting area for bug hunting and learning. South-facing slopes will start being managed as disturbed, wildflower-rich areas, including sandy areas for ground-nesting bees and wasps, while species-poor grasslands will be enhanced with Yellow rattle (*Rhinanthus minor*).

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The diverse Chafford Gorges Nature Park is made up of a series of Local Wildlife Sites and SSSIs which make up the majority of Chafford Hundred's green space. Habitat work here includes clearing scrub obscuring sandy cliff faces use for nesting by bees and wasps, enhancing wildflower resources by clearing scrub and introducing disturbance regimes, creating a network of early successional chalk bunds, and enhancing the popular visitor centre with a living wall and wildlife area.

© Jamie Robins

Initial invertebrate surveys for the project have already revealed some exciting species records! Mill Wood and Cliff Local Wildlife Site in Chafford Gorges have yielded the first ever Essex record of the nationally notable weevil Tychius schneideri and the second Essex record of the Red Data Book Golden-tabbed robberfly (Eutolmus rufibarbis). Not to be beaten, Thurrock Thameside has also produced the second ever Essex record of the Red Data Book picture winged fly *Acinia corniculata*.

Thurrock Stepping Stones includes a wide-ranging programme of community engagement events including moth trapping evenings, volunteer work parties, bug hunts and workshops, aimed at creating learning opportunities for all ages. The installation of interpretation boards and informative leaflets will help to ensure that the project has a legacy of better informed visitors and improved learning resources, to raise awareness of the value of invertebrates.

To get involved with the project or to find out more contact Jamie.robins@buglife.org.uk or visit the project webpage at http://www.buglife.org.uk/campaigns-and-our-work/habitat-projects/thurrock-stepping-stones

Making Data Available from the Cumbria Uplands For Juniper Project

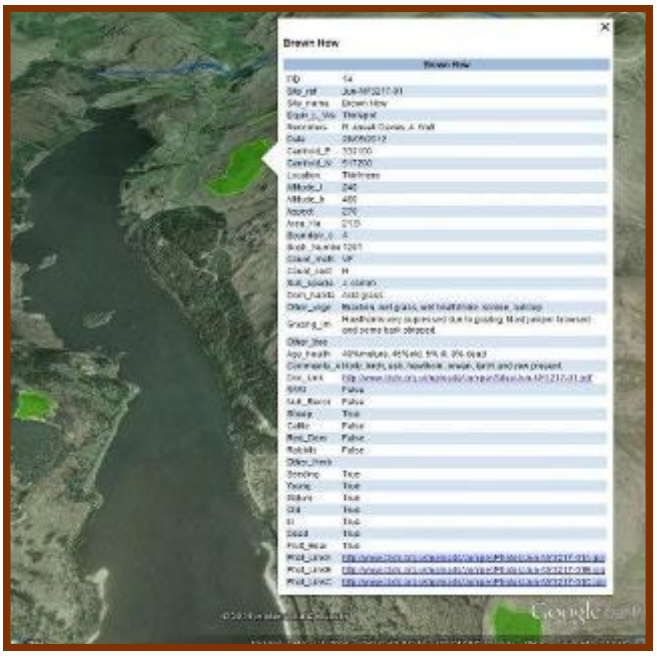
Data is essential to assess the scale of a problem, and then to motivate and enable appropriate action. Cumbria Biodiversity Data Centre at Tullie House Museum has worked with Cumbria Wildlife Trust to make all the survey information from their *Uplands for Juniper* project available to all online, from headline statistics on the health of juniper within the county to photos and condition reports for individual stands.

Juniper at Eskdale, Cumbria © Teresa Frost

Those who manage sites where juniper is present, biological recorders interested in associated invertebrates, and anyone else who would like to learn more about juniper in the county can see an overview of the plant's distribution in the county and download Google Earth files to find out about juniper condition in a particular area.

Continued...

In Cumbria, Juniper occurs on a variety of acidic igneous and metamorphic rocks as well as on the limestones around Morecambe Bay. In both situations Juniper can form either dense stands or comprise areas of scattered bushes, which can be relatively extensive. Sub-species *communis* ranges from a spreading shrub to erect tree, while sub-species *nana* is a procumbent matted shrub, largely restricted to high level crags in Cumbria.



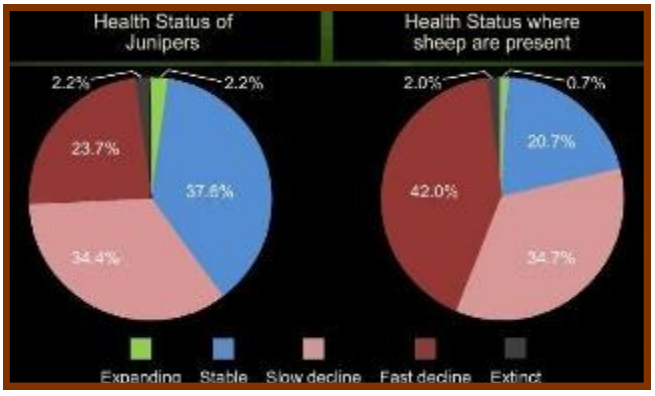
Survey information available in the Google Earth files

Juniper has become a conservation priority due to long term declines throughout the UK. A previous survey of juniper by CEH in 1969-79 documented decline at Cumbrian sites. An action plan for the species was included in the Cumbrian Local BAP which identified the need for condition surveys and management.

Uplands for Juniper was a Cumbria Wildlife Trust project running from April 2011 to February March 2014 funded by SITA Trust, WREN and the Wainwright Society led by project officer Mike Douglas. A large component of the project was a survey of 256 Juniper sites, something that could only be achieved with volunteer help. Forty volunteers signed up to survey Juniper and each received one day's training before carrying out surveys independently.

The survey revealed 58% of the surveyed juniper populations were declining, with the main cause sheep grazing, followed by shading and red deer browsing. Four stands from the CEH survey had since become extinct.

The project report and methodology can be found together with Google Earth files containing links to stand survey reports and photos and an interactive presentation of the data at **http://www.cbdc.org.uk/juniper-project**.



This extensive dataset will enable the impact of factors such as Phytophthora austrocedrae and changes in agriculture to be assessed in future. CBDC is the Local Records Centre for Cumbria and the dataset has also been incorporated in to the county's biological records database to ensure it is available with other biodiversity information to service future needs from planning, decision-making and research.

Teresa Frost, Cumbria Biodiversity Data Centre

BeeWalk: Citizen scientists counting bumblebees

Dr. Richard Comont, Data Monitoring Officer at the Bumblebee Conservation Trust

The problems of bees have been in the news a lot recently – colony collapse disorder, neonicotinoids, lack of flowers, unsympathetic mowing regimes, and many more. But virtually all this press coverage has focused on one domesticated species, the honeybee, and bees are a fair bit more complicated than that: Britain alone currently has 250 species of bee. The Bumblebee Conservation Trust focuses on 10% of these, the 25 British bumblebee species.

With their bright colours, furry bodies and low, droning hum, bumblebees are cherished icons of the British summer, as well as contributing millions of pounds to the economy through pollinating crops (along with other pollinator species such as hoverflies). But, like the honeybee, bumblebees are in trouble. Two species have gone extinct in Britain over the past 80 years, and long-term distribution records collected by the Bees, Wasps and Ants recording society show many others are in decline, retreating to relatively undisturbed areas such as Salisbury Plain or the Scottish machair.

These worrying declines prompted the 2006 establishment of the Bumblebee Conservation Trust, and the charity now run a dedicated monitoring scheme, BeeWalk. This is based on the established methodology of the Butterfly Monitoring Scheme (BMS) run by the Biological Records Centre and Butterfly Conservation, and involves volunteers walking a monthly transect from March to October, identifying each bumblebee they see and counting how many of each species they see in each habitat they walk through. BBCT run training courses in bumblebee ID across the country for BeeWalk volunteers – it's really important that the records are accurate!

© Karen Sutton, BeeWalk training at Thames Water Crossness nature reserve

There are currently more than 330 transects and volunteers feeding data into the BeeWalk scheme, from Falmouth in the south to Stornoway in the north. This provides nationwide coverage of bumblebee abundance, as well as distribution, allowing much more fine-scale analysis of the factors driving population fluctuations as recently called for in the National Pollination Strategy.

The information collected by BeeWalk volunteers is integral to monitoring how bumblebee populations change through time, and will allow us to detect early warning signs of population declines. All data collected will contribute to important long-term monitoring of bumblebee population changes in response to changes in land-use and climate change, and, ultimately, to informing how we manage the countryside.

This year so far more than 26,000 individual bumblebees have been recorded so far. The big winners were the spring bumblebees, particularly the Early bumblebee (*Bombus pratorum*) and the Tree bumblebee (*Bombus hypnorum*). Both species were massively abundant during the warm period April-June, bouncing back well from the cold and wet springs of 2012 and 2013 – almost twice as many individuals of each species were seen per transect this year compared to 2013. It was also noticeable how much earlier the bumblebee season started in 2014 – on average, the seven commonest bumblebee species were seen 33 days earlier than compared to 2013.

BeeWalk is an ongoing project and we welcome anyone who wants to get involved – details are on the website at **www.beewalk.org.uk**.

Summer Anglesey Wetlands fest

Over 500 people had a great day on Cors Goch National Nature Reserve this Summer at the first ever Anglesey Wetland Festival. The free event attracted tourists and local people from across North Wales where they found out why Anglesey's wetlands are so important for wildlife, clean drinking water, flooding and carbon storage. The event was part of the Mawndir Môn project funded by the Welsh Government Resilient Ecosystem Fund and coordinated by Isle of Anglesey Council.

The Wetland Festival is a family orientated event with loads of things to do. In dry fields overlooking the marsh there was a big science tent where visitors got down and dirty with peat, marshland plants and animals, but also learnt why these places are still so important to everyone. Guided walks took people out to experience the sights, sounds and smells of the wetland. Storytellers reminded us why these places are so special in our history. On a sunny July day, families got to try out bush craft, learn what grows in the hedges with the 'incredible edible hedgerow, try willow weaving, make bags and bunting and try spinning and weaving. The event was topped off with music in the evening from Dawnsiwr Bro Cefni.

Visitors came from all over Anglesey and from much further afield. But one visitor summed up the day when he posted on Facebook: "I recently travelled over from Hong Kong to visit my family and friends in Benllech. Whilst there, we were lucky enough to go to the Anglesey Wetland festival at Cors Gors. My two kids loved the activities from willow making to storytelling and all the opportunities for learning about the local wildlife. Myself, I enjoyed the walk along the planks of Cors Goch, learning about its fantastic history and wildlife. Since, I've told many people its 10m deep and 10,000 years old! All this was followed by a delicious locally sourced burger! All in all it was an excellent day and my only regret is that we missed the evening activities and music session. Hopefully, next time!" JP, Sha Tin, Hong Kong"

The site of the Wetland Festival is one of 34 nature reserves managed by the North Wales Wildlife Trust. Cors Goch, near Llandbedrgoch, Anglesey is one of most important wetland sites in Wales and home to a wide range of wildlife with plenty to see throughout the seasons. The reserve is accessible through the year and a boardwalk provides access to parts of the wetland.

Chris Wynne, Conservation Officer- sent on behalf of all the partners.

Kester's Docking : The fieldwork behind the design

James Darke, WWT Consulting

In 2013 as part of the Great Fen project, WWT Consulting was commissioned by the Bedfordshire, Cambridgeshire and Northamptonshire Wildlife Trust to provide concept and detailed designs for the creation of over 170 hectares of wetlands on previously arable farmland.

In November 2013 WWT Consulting provided a design which was submitted as part of the planning application to Huntingdonshire District Council. We were extremely pleased when we heard of its approval at the end of July 2014.
The design represents the culmination of a wide range of studies which begin months before its creation.

Habitat creation design commonly starts with a desk review to examine the suitability of the site for wetland habitat creation. All relevant information on the site, such as protected site status, geology, soils, flora and fauna including protected species, hydrology, topography, land use and archaeology is collected, logged and reviewed and any gaps identified. The amount of data available on a site is extremely variable and often field surveys are needed to help inform the design.

Figure 1 Hand augering during soil surveys

In the case of Kester's Docking, WWT Consulting's staff spent many enjoyable days on site carrying out Phase 1 habitat surveys, hydrological surveys, soil studies and topographical measurements in order to inform the final concept design. Ditch profiles were measured and the ditch botany was also studied. The nationally scarce aquatic liverwort *Ricciocarpos natans* was found during these surveys, and will be one of the many species to benefit from the wetland habitat creation project.

The Phase 1 surveys can be used to identify constraints to wetland design, such as protected species and habitats, as well as assessing other conditions which may be encountered, such as high nutrient conditions in ex arable fields. This information can be incorporated into designs and subsequent planting plans.

Figure 2 Mottling in clay

Using information collected during the hydrological surveys and evidence from earlier work, a water budget model was prepared for the site, which allowed the designers to understand which wetland habitats would be successful.

Soil surveys on wetland creation projects are particularly important. They determine the soil type and can be used to assess historical groundwater level fluctuations, above the permanently saturated zone, through the presence of soil mottling. This information is essential for designers to assess whether constructed features will hold water and whether groundwater will help maintain wetland plant communities.
Topographical surveys can help identify morphological features already present on site, such as depressions, which can be incorporated into the design to recreate relic

Continued...

Figure 4 Kester's Docking October 2013

features such as ancient streams or ponds. By understanding the existing topography and working with it, the designers can ensure earthmoving costs are kept to a minimum whilst creating a range of important ecological niches.

Successful designs for wetland creation use a combination of historical survey data together with information from contemporary field studies to ensure an accurate scientific basis for design. The approved plans for Kester's Docking will result in a diverse, resilient habitat which can benefit both wildlife and people into the future.

Figure 3 Part of the Kester's Docking concept design

http://www.greatfen.org.uk/
http://www.wwtconsulting.co.uk/
http://www.wildlifebcn.org/

The BIG Challenge – encouraging biodiversity in the construction industry

Ruth Hynes, Network Manager CIRIA

The **BIG Challenge** *'do one thing'* invites designers, engineers, contractors and clients to add one new biodiversity enhancement to their construction site, development or existing building and to integrate biodiversity considerations into decision-making.

The BIG Challenge is an initiative from the Construction Industry Research and Information Association (CIRIA) and CIRIA's biodiversity interest group (BIG). With the aim of sharing knowledge on the topic from different sectors within the construction industry and learn about what is being achieved; BIG focuses on what tangible outputs can be delivered such as guidance, best practice, training and capacity building.

Traditionally biodiversity is often seen as an afterthought in the built environment and is rarely considered as an integral part of a project. At present, unless a species or habitat is protected the inclusions of biodiversity measures are voluntary.

The Biodiversity Action Plan 2020 sets out clear aims to combat the decline of biodiversity in the UK and enhance and promote the benefits to all from biodiversity and ecosystem services. The BIG Challenge and the incorporation of biodiversity into the construction industry can help to address these targets.

Biodiversity needs to be given greater consideration as it is fundamental to increasing resilience in cities. The inclusion of biodiversity through the incorporation of trees, plants and habitats helps to improve air quality, manage water sustainably, reduce the urban heat island effect and cut energy consumption. As sustainability becomes a more integrated business practice for the construction industry there should be a focus on biodiversity as a 'must have' resulting in multiple benefits.

With over 119 enhancements from over 50 organisations entered this year, the inaugural year of the BIG Challenge has gathered great momentum within the construction industry, demonstrating a growing engagement and understanding of biodiversity. The projects can be viewed on our website.

The biodiversity enhancements can be something small scale and simple, such as creating bug hotels, rain gardens, planted cycle locks or skip gardens, or it can be a larger scale enhancement including green roofs, wildflower meadows or orchards. Some measures are a permanent feature of developments and others are temporary during the construction phase which, when finished, could potentially be applied to the next site or replicated across multiple sites.

The BIG Challenge will continue next year as we encourage more organisations and projects to 'do one thing' for biodiversity on their site. Biodiversity needs to become a more integrated part of projects and business plans to enable the built environment to be more resilient to climate change. There is a need to take a new approach where biodiversity is seen as a tool rather than an aesthetic. Through experience of best practice and knowledge sharing, biodiversity can be incorporated at all levels.

For more information please see the BIG Challenge website www.bigchallenge.info or contact CIRIA enquiries@ciria.org or on 020 7549 3300.

The value of nature: major scientific study report

The report of the National Ecosystem Assessment Follow On project (UKNEAFO) has now been published by Defra.

This two year research study, involving economists, natural and social scientists and part funded by Defra, further improves our understanding of nature's economic and social value, looking at how we can better understand the benefits arising from our interactions with environmental spaces. Part III of the report includes some helpful short introductory sections aimed at particular audience groups, such as the general public, NGOs and local government.

The online National Ecosystem Approach Toolkit ("the NEAT Tree"), which has been produced by Birmingham City University, is based on the UKNEAFO research. The NEAT provides tools and experience to help build the principles of the ecosystem approach into work in many sectors of society. This is hoped to be particularly useful for those working at local level around the country.

[More information about taking account of ecosystems and the benefits provided by nature generally can be found through the Ecosystems Knowledge Network (**http://ecosystemsknowledge.net/**). This is a resource for anyone wanting to share knowledge or learn about the practical benefits of the ecosystem approach to both people and nature.]

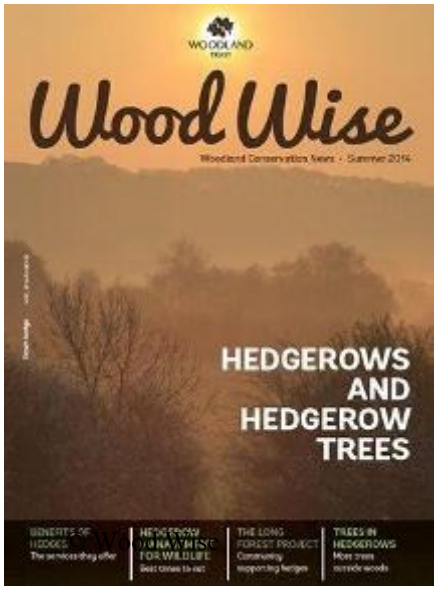
Woodwise: hedgerows and trees

Hedgerows are important features in the landscape; offering food and shelter for wildlife, providing historical and cultural links, and providing landscape-scale connectivity and permeability.

Although they have been around for centuries, hedges are under threat from removal and poor management. The articles in Wood Wise look at the benefits of hedges, management for wildlife and hedgerow planting/improvement schemes.

To read current and past issues of Wood Wise just follow this link.

If you would like to be added to the subscription list for future issues please email your request to Conservation@woodlandtrust.org.uk.



Communicate 2014: Changing Stories

4th and 5th November, Bristol, UK

The UK's leading conference for environmental communicators

Are our well-rehearsed environmental messages and our tried and trusted communications tools still relevant in today's rapidly evolving world?
How do we change the stories we tell about people and nature to amplify our achievements, yet face-up to the growing threats to our planet?

How do we respond to the changing stories circulating within our digital society, and engage with the new ways in which they are being told?
And how can we ensure that the stories we tell lead to real, lasting change?

Communicate 2014: Changing Stories will tackle these questions. Join us for two days of inspirational sessions, challenging discussions, practical workshops and outstanding networking opportunities.

Speakers include: Ed Gillespie (Futerra), Tim Scoones (BBC Natural History Unit), Kathryn Cook (National Parks UK), Dan Burgess (Swarm/Project Wild Thing) Steve Micklewright (Birdlife Malta) and Ruth Peacey (BBC Natural History Unit)
Register now at: **communicatenow.org**
Delegate Passes: £250 + VAT (2 days) £150 + VAT (1 day)

Registrations now open for the BioBlitz Conference 2014: Beyond BioBlitz

18th November 2014, Bristol, UK

BioBlitz is an exciting and popular event format for public engagement in biological recording with 60+ events taking place across the UK each year. Members of the public work alongside scientists and naturalists in a race to identify and document as much of the wildlife in a local green space as they can find.
The BioBlitz Conference 2014: Beyond BioBlitz is the 'must attend' event of the BioBlitz year where wildlife recorders, event managers, public-engagers and educators join forces to share ideas and stories as well as answering the big questions around this growing, dynamic format. The conference will be held at Armada House in Central Bristol on Tuesday 18th November 2014.

Bristol Natural History Consortium is proud to host the BioBlitz Conference and commit our resources to it. To allow us to run the best BioBlitz Conference that we can, we have introduced a small charge of £10+VAT for the full day, including lunch and refreshments. There are small travel bursaries available to help enable everyone to take part.

Visit **www.BioBlitzUK.org.uk** for details and to secure your place!
Direct link: **http://www.bnhc.org.uk/bioblitz-type/bioblitzconference2014/**

Future of beavers in Scotland

28 March 2015

Venue: Birnam Institute, Dunkeld, Perthshire

© Rhona Forrester

This one day conference will bring together professionals, researchers and the local communities (including local land managers) of Scotland and Europe - to share up-to-date scientific information and analysis and, importantly, public debate which will help inform the national debate on the future of beavers in Scotland. We hope to welcome not just those in the local community across Tayside, but visitors from far and wide with an interest in the natural world, biodiversity and ecosystems services.

Contact details: Jean Oudney, please email **joudney@yahoo.co.uk**

Tayside Recorders' Day

Spring 2015

Venue + Date: TBC

8th Forum event bringing together all those interested in Tayside's biodiversity.

Check **www.taysidebiodiversity.co.uk** for information.

Tayside & Fife: Coppice Management for Biodiversity Conference

Autumn 2015

Venue and Date: TBC

Further details via **caglloyd@pkc.gov.uk**; **www.taysidebiodiversity.co.uk**.

Upcoming CIWEM events ((The Chartered Institution of Water and Environmental Management)

Working in the Environment Sector Careers Event

November 2014 TBC

106-109 Saffron Hill, Farringdon, London

Water Act: Resilience in Practice

10 December 2014

SOAS, University of London

Coastal Flood Incidents: Ensuring We Learn from the Events of Last Winter

26 November 2014

SOAS, University of London

Water & Environment 2015: CIWEM Annual Conference

15–16 April 2015

Royal Geographical Society, London

Register for CIWEM events at **www.ciwem.org/events**