

BIODIVERSITY

NEWS

2015



Contents | News | Features | Local & Regional | Publications | Events



If you would like to receive Biodiversity News via email, or know of somebody who would, please contact us at: biodiversitynews@defra.gsi.gov.uk

Issue 70
AUTUMN EDITION



In this issue...

EDITORIAL

NEWS

Atlas of living Scotland

Protecting the UK's Red Squirrels

Countryside Classroom

Defra launches its new 25 year plan

Plantlife's new Chairman

Restoration of the Welsh uplands

RESTORE project

FEATURES

Rare moth's Olympic legacy

How cement production can aid Biodiversity

Thames Water-Blitz

Scottish Mink initiative

Nature after minerals at the SER world conference

The WrEN project

LOCAL & REGIONAL

Searching for Snow Hares

3

4

6

7

8

8

9

10

12

14

15

16

18

20

22

Planting mini orchards

Carmarthenshire bogs - past, present, & future

Lake restoration in Broads National Park

Communities engaging with biodiversity

The bogs of London

Success of the MoorLIFE project

Buzzing with biodiversity

Oxfordshire goes wet (and wild!)

Wetland treatment systems

PUBLICATIONS

Wood Wise - Ancient Woodland Restoration

Spotlight on SSSIs

Green Infrastructure

EVENTS

South Yorkshire Biodiversity Research Group events

23

24

26

28

30

32

34

35

36

38

38

38

39

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

Welcome to the 70th edition of Biodiversity News,

I would like to introduce myself as Emily Broadwell, and I've taken over from Katie as the editor of this publication. I'd like to thank Katie for some excellent advice, and wish her all the best in the future.

Many thanks for all the excellent photos you sent in! After a lot of thought I have chosen Marilyn Cox as the winner. The photo is of a Common Darter and was taken in Milham Ford Nature Park. Above is one of the runners-up, a beautiful red admiral butterfly on Michaelmas Daisies, taken in the centre of Dundee by Alison Anderson. Below is by Judy Webb, and is of male Hairy-footed Flower Bee - *Anthophora plumipes*.

This season's newsletter contains some interesting articles across a range of different subjects and organisations, from how cement production can help biodiversity, to how peat bogs in London are being protected.

Please feel free to forward the newsletter along to anyone you think might be interested. I'm looking forward to editing the newsletter over the next year, and I hope you enjoy reading it. I would also like to invite you to follow our partner twitter page @DefraNature.

All the best,

Emily Broadwell

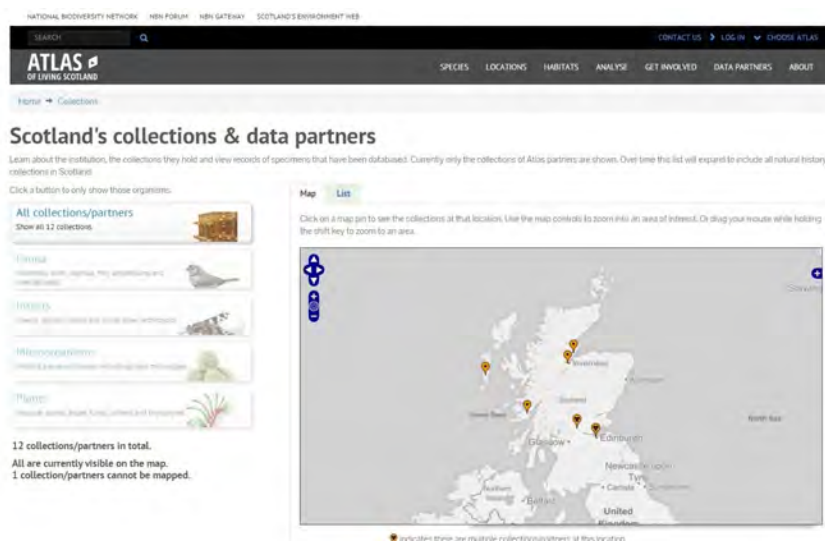


[Atlas of Living Scotland – new biodiversity data infrastructure that could set the standard for the UK](http://www.als.scot)

www.als.scot

The Atlas of Living Scotland, a new online biodiversity database built to educate, to inform and to promote Scotland's remarkable natural world, has launched in beta form.

The Atlas will store data and information on all 25,000+ species in Scotland including the white-tailed eagle, the primrose and the basking shark. It will also hold habitat data including woodlands, wetlands and dunes based on Scottish Natural Heritage's new EUNIS habitat map and classification. More than seven million species observations have already been committed to the platform that will also hold photographs and other types of biological data.

The screenshot shows the 'Atlas of Living Scotland' website. At the top, there is a navigation bar with links for 'SPECIES', 'LOCATIONS', 'HABITATS', 'ANALYSE', 'GET INVOLVED', 'DATA PARTNERS', and 'ABOUT'. Below the navigation bar, the main heading is 'Scotland's collections & data partners'. Underneath, there is a list of categories: 'All collections/partners', 'Fungi', 'Invertebrates', 'Mammals', and 'Plants'. To the right of the list is a map of Scotland with several orange location markers. The map includes a search bar and zoom controls.

John Sawyer, Chief Executive of the National Biodiversity Network said: “This initiative would not be possible were it not for the work of the vast array of organizations that observe, record and document species and habitats in Scotland, most of which is done by volunteers and citizen scientists.”

Organizations already contributing data to the Atlas include national and regional biological recording schemes and societies, government and non-government organizations, research and educational institutions, Local Environmental Records Centers, ecological consultancies, museums, botanic gardens and community groups. Anyone can help grow the Atlas of Living Scotland with their own photographs or observations.

“From butterflies to birds, to fungi, mammals and plants, the Atlas of Living Scotland is a powerful new gateway to learning about every aspect of Scotland’s natural world” said John.

The Atlas brings together biological data, merges them with other environmental data such as spatial layers for soil, climate and habitats and allows online analysis and interrogation. Data are held under a creative commons license to encourage innovation and collaboration over data analysis and use. The Atlas will have a spatial portal with analysis tools to enable users to intersect environmental data and biological occurrence data and to generate in-depth site reports. Users will also be able to perform species distribution modelling to predict changes to the spatial ranges of species as a result of environmental changes. It will also be a useful platform to inform debates about ecosystem services and natural capital.



The National Biodiversity Network's new five-year strategy focuses on the collection and sharing of biological data to educate and inform. The biodiversity data infrastructure of the Atlas of Living Scotland is a major step forwards towards implementing that strategy in Scotland. Importantly, it is also a pilot for a potential initiative to develop the same data infrastructure for the entire United Kingdom, meaning that we could eventually have an Atlas of Living UK, with country specific atlases for England, Wales and Northern Ireland.

This Atlas was created by the Atlas of Living Australia team at Commonwealth Scientific and Industrial Research Organisation (CSIRO) in Australia using the open source code and biodiversity data infrastructure that they developed over the last five years. The user interface was created by a team in Scotland in conjunction with a user group of people across the country.

The project is a partnership between the Scottish Environment Protection Agency (SEPA), Scottish Natural Heritage and the National Biodiversity Network. Significant funding support for this work came from the European Commission LIFE+ funding programme which is supporting SEPA to deliver a range of partnership initiatives in Scotland to provide a trusted gateway to data and information about the environment, and involve Scotland's citizens in discussion, monitoring and action to protect and improve the environment. The Atlas has been created as a daughter website to Scotland's Environment Web.

The beta version of the Atlas can be visited at www.als.scot and the team developing it welcomes any feedback and suggestions for improvements. Feedback will be used to develop the site further before the official launch in early 2016.

If you would like to contribute to the Atlas as a Data Partner or would like more information about the site, please contact us at: info@als.scot. If you want to join the User Testing Group please contact us at support@nbn.org.uk To give feedback on the site please visit www.als.scot and email the team at: info@als.scot.

Showing records for: General Wade's Military Rd, Newtonmore, Highland PH20 1AJ, UK

Group	Species	Species : Common Name	Records
All Species	206	1. <i>Acanthis cabaret</i>	1
Animals	32	2. <i>Anastrepta cicadensis</i>	1
Mammals	3	3. <i>Anastrophyllum minutum</i>	1
Birds	10	4. <i>Andrena roths</i>	1
Reptiles:	0	5. <i>Andrena rupestris</i>	5
Amphibians	0	6. <i>Anura pinguis</i>	3
Fish	8	7. <i>Anguilla anguilla</i>	1
Molluscs	0	8. <i>Anoetangium aestivum</i>	2
Arthropods	10	9. <i>Anomobryum julaceum</i>	3
Crustaceans	0	10. <i>Anthelia julacea</i>	1
Insects	10	11. <i>Anthus trivialis</i>	3
Plants	174	12. <i>Antirrhinum cuspidentula</i>	2
Eryophytes	173	13. <i>Abichum undulatum</i>	4
Gymnosperms	0	14. <i>Aulacomnium palustre</i>	4
FerresAndAllies	0	15. <i>Barbiphoza attenuata</i>	1
Angiosperms	0	16. <i>Barbiphoza flowerii</i>	1
Monocots	0	17. <i>Barbiphoza hatcheri</i>	1
Dicots	0	18. <i>Bartramia pomiformis</i>	3
Fungi	0	19. <i>Bazzania tricenata</i>	1
Chromista	0	20. <i>Blasia pusilla</i>	1
Protozoa	0	21. <i>Blindia acuta</i>	4
Bacteria	0	22. <i>Bombus hortorum</i>	1
Algae	0	23. <i>Bombus jonellus</i>	1

Tip: you can fine-tune the location of the area by dragging the red marker icon

£1.2m National Lottery grant to protect UK's red squirrels

By Anna Guthrie

A unique new project to secure the future of the native nutkin in the UK is set to receive £1.2million from the Heritage Lottery Fund (HLF). The much-loved, endangered native red squirrel and its habitat will be protected and promoted through Red Squirrels United, a new four year programme bringing together eight partners from across the UK. Red Squirrels United will operate directly in England, Wales and Northern Ireland and work with the Saving Scotland's Red Squirrels partnership on cross-border conservation action and skills-sharing to achieve the development of a truly UK-scale red squirrel conservation initiative for the first time.

The project will deliver key national conservation objectives with the aim of protecting red squirrels through communication, education and conservation activities. It is supported by Government nature conservation agencies and the 32 organisations within the UK squirrel accord group. Community-based rapid response teams will be created involving 1,250 volunteers who will be supported by partner organisation staff, building the large networks of red squirrel champions essential for conservation success. Partners will maintain grey squirrel-free habitat where it already exists, for example on the island of Anglesey and in Kielder Forest in northern England; extend current red squirrel protection zones in mid-Wales and Merseyside and implement a new whole country approach in Northern Ireland. All conservation work will be rigorously monitored contributing to robust scientific research and evaluation to be undertaken by academic partners.

Stephanie Hilborne OBE, Chief Executive of The Wildlife Trusts, said: "We're delighted that HLF is supporting this fantastic project. Our beautiful native red squirrels deserve our protection in every part of the UK where they can still thrive. This investment will allow us to unite hundreds of people championing this charismatic creature into one UK force for good. It will build on decades of hard work and passionate commitment. Thank you to players of the National Lottery for allowing this."

Tom Tew, Trustee at the Heritage Lottery Fund, said: "The ongoing plight of the red squirrel is perhaps one of the most alarming and well-known conservation issues that this country has seen. It's great to see such strong co-operation between conservation organisations which now, thanks to National Lottery players, have a great opportunity to capitalise on all the local work and build a co-ordinated, national response to the threats faced by this endangered species."



© Jon Hawkins, Surrey Hills Photography



© Mike Snelle



Through the Red Squirrels United project there will also be the opportunity for wider engagement with communities across the UK through workshops and events including mass participation squirrel monitoring. The Red Squirrels United programme is led by The Wildlife Trusts in partnership with Newcastle University, Forest Research, Lancashire Wildlife Trust, Red Squirrels Trust Wales, Northumberland Wildlife Trust, Ulster Wildlife and The Wildlife Trusts of South & West Wales. HLF has endorsed outline proposals and awarded £75,400 up front to help develop the project. The full grant amount will be considered at a later date, following a second-round application.

An ambitious plan for Countryside Classroom

The 28th September saw the launch of Countryside Classroom. It is the largest ever partnership of organisations committed to helping children learn about food, farming and the natural environment, and is led by FACE (Farming and Countryside Education). It is the vision of Countryside Classroom that by making it easier for schools and teachers across the UK to access resources, places to visit and people to ask, more will embrace food, farming and the natural environment as essential components of a broad and balanced curriculum. As a result of this, every child will have the opportunity to learn about and experience these topics in diverse ways that are increasingly supported by experiences outside the classroom.

COUNTRYSIDE CLASSROOM

Countryside Classroom asked some leading farm, food and natural environment experts including Raymond Blanc and Adam Henson to share their dream for what all children should be able to learn, experience or taste by the time they leave school.

Raymond Blanc said: "I really want children to really understand food, love food, for food to be part of their life because it is so enriching. Actually food connects with absolutely everything; to know how it's grown, to know about the soil, to know about the magic of growing food, to know about connecting food with love, with family, with eating, with good health, with joy, with celebration. That's what I really want."

Adam Henson said: "Learning about farming is essential for children. It helps them build a greater understanding of the vital role farmers play in producing good quality food and managing our valuable countryside in a sustainable way."

Dan Corlett, CEO of FACE said today: "We have a big vision for Countryside Classroom – we want it to become the trusted place that teachers and schools go to access all they need relating to food, farming and the natural environment. We collectively want to play our part in educating children and supporting schools to share interactive, up to date and quality resources". He continued: "Today is just the start - we want to hear from partners, charities or local experts who want to join Countryside Classroom too."

Emma Heesom 07917 853647 / emma@yousayisaywesay.co.uk
Holly Black - 0787500 7832 / hello@yousayisaywesay.co.uk

Emma Heesom 07917 853647 / emma@yousayisaywesay.co.uk
Holly Black - 0787500 7832 / hello@yousayisaywesay.co.uk

Defra launches it's 25 year plan

On the 14th October Defra hosted the #OpenEnvironment event, launching engagement on the development of the 25 year Environment plan. The event was opened by the Secretary of State and her speech can be found here on gov.uk. The day was attended by over 100 leaders from the worlds of environment, government, academia, business and agriculture who explored new and innovative opportunities to really drive improvements to our environment. This event was complemented by two days of technical workshops on 3rd and 4th November, attended by over 150 experts. The insights gained from these events is now being used to develop a framework setting out the priorities for the plan. We'll be working with a range of organisations over the coming months to build this framework and the details of the plan over the course of 2016.



Plantlife's new chair, David Hill CBE

Plantlife is delighted to announce that Professor David Hill CBE is to be the new Chairman of the charity's Board of Trustees, commencing on 1st October 2015. Since his boyhood growing up in Derbyshire, David has had a strong personal interest in wildlife conservation. One of the things he is most passionate about is conserving and managing wildlife habitat - in particular his wildflower meadows in Upper Swaledale and at home in Nidderdale. David is a founding member of Natural England and its Deputy Chair since 2011, and a Board member of the JNCC. He helped set up Natural England's Board Innovation Group to generate novel ideas and business models to secure better outcomes for the natural environment. David was also a member of the government's Ecosystem Markets Taskforce and is Chair of the Northern Upland Chain Nature Partnership covering the vast upland areas of the Yorkshire Dales and Northumberland National Parks, Nidderdale and North Pennines Areas of Outstanding Natural Beauty and the Forest of Bowland. He is a Board member of the National Association of AONB's and is Chairman and owner/founder of The Environment Bank Ltd, which he established to promote investment into nature and natural capital.

"I can't imagine a life without both the tranquility and drama that nature provides. To be able to make a contribution, however small in the scheme of things, to protecting, conserving, enhancing and restoring nature, is, I feel, immeasurably important.

At our home in Nidderdale we now have nearly 100 acres of fully restored meadows. The short sward in spring gives the meadow flowers chance to grow and bloom and the hay we harvest is fabulous quality and the scent from it is extraordinary... We also own a part of the Muker Meadows Special Area of Conservation in Upper Swaledale which were chosen as a Coronation Meadow for which we are very proud.

Biodiverse plant communities not only have major intrinsic appeal, they usually indicate either sustainable management or non-intervention over millennia, providing a critical link to our cultural heritage. Plantlife is a really important organisation because it undertakes the unique science to enable wonderful places and their rich flora to be conserved, enhanced and managed for future generations. I am proud to be Plantlife's new Chairman; it has a great reputation and I want to help it to grow, to gain further influence and to ensure the conservation of wild plants gets the attention it justly deserves". David Hill

"David has devoted his life to conservation and shares the passion we have at Plantlife for good management, as exemplified through his work restoring his meadows in Yorkshire. He also shares our belief in the need to reach out and engage people and communities in caring for wildflowers and wild plants. Combine this with his commercial business interests and experience, knowledge of nature conservation policy at government level, and interest in innovation for wildlife, David will be a wonderful chairman and valuable addition to the skills of the board of Trustees and we welcome him warmly." Marian Spain, CEO, Plantlife

AUTUMN 2015 BIODIVERSITYNEWS | 8



Nature Fund update - Wales

As expressions of interest (EOI) are being written up under the new Rural Development Programme scheme in Wales, there is a new way of thinking emerging. The Welsh Government's Wellbeing of Future Generations Act sets ambitious and long-term goals for a prosperous, resilient, healthier, more equal Wales based on sustainable development principles and linked to the UN Sustainable Development Goals. The Nature Fund is a good example of delivering this joined up approach as illustrated at a recent Welsh Government meeting which summed up the benefits of the Nature Fund which was launched as a response to the State of Nature report in 2013. The Nature Fund projects were agreed with collaboration and sustainability at heart, achieving multiple benefits through a different way of working.



The Berwyn, Migneint, Black Mountains & Radnor uplands or BMBMR project was one of the 20 projects awarded under the Nature Fund initiative. The project focused on the restoration of heather on the Welsh uplands and the importance of this to the local economy and surrounding communities. Heather management was indeed a big part of the project to help achieve healthy and resilient moorland habitats for the future but importantly 'community engagement' was at the heart of the projects success. Bringing people with us on our journey and engaging with our communities, helping them to understand the works needed to restore the heather ground but at the same time spelling out the wider story which is all about the importance of nature in delivering water quality, air quality, carbon capture to mitigate climate change and the ability of these uplands in reducing the risks of floods. Healthy moorlands are central to the achieving viable upland communities and providing opportunities for our local communities so we focused on schools visits, community choirs and village hall talks which all helped in getting the message across.



Although funds for the project which involved 10 moors in Wales consisting of just under 60,000 acres was tight and the time frame too, it has been positive and encouraged discussions over the issues facing moors in Wales, many of which have become quite eerie and silent. We mustn't forget that the Nature Fund was only ever intended as seed funding showing what can be done and what has been positive is the work people are prepared to do in kind given the right signals from Welsh Government.

We feel that a new path has been created and although the scheme has now ended neighbouring moorland managers and the communities are still keen to join in. It makes sense and the more landscape scale that can be achieved the greater the impact in getting heather back with all the wildlife that flourish in those habitats.

The BMBMR project has put a spring in the step of many moorland managers across Wales. It has been positively received and today even with no funding successor yet in place hence we are all busy writing EOI applications there is a real appetite to keep up the good work of managing the uplands in Wales.

For more information on this project please call Catherine Hughes from the Game & Wildlife Conservation Trust (GWCT) on 07815 103855

Offering advice and sharing best-practice to enhance biodiversity after minerals extraction



As a result of its part-funding under the RESTORE project with money received from Europe through the Interreg IVB NWE Programme, Nature After Minerals (the RSPB/Natural England partnership) has been able to extend its ability to offer advice and information-sharing on appropriate minerals restoration for nature, across all four of the UK countries, these last three years.

Having built up mutually-beneficial relationships with stakeholders over the course of its operations, Nature After Minerals (NAM) is frequently invited to view sites to give its views on restoration plans and make recommendations. This can happen at any point in a site's life cycle.

It is always NAM's aim to make the case for restoring a site for a nature conservation outcome, given the drastic decline in biodiversity we are all currently witnessing and the minerals industry's unique position, with the land at its disposal, to do something about helping to reverse such worrying trends. As we all know, places where nature is being restored can also represent knock-on benefits for people, providing an enhanced local environment for individuals to live and reconnect with nature, thereby helping to improve well-being and health, along the way.

The local economic regeneration of an area as a result of new enterprise and employment from green leisure pursuits, tourism and light industry, is another valid reason for restoring quarries for nature, not to mention the ecosystem services benefits which can be derived as a result of nature restorations, such as improved water quality, flood alleviation and carbon storage. All in all and for many sound reasons, minerals restoration for a nature outcome is the way to go. Working with and calling on the expertise of colleagues within the RSPB, Natural England and other environment NGOs, some of the sites NAM has visited and offered advice on to create priority habitat and protect endangered species, more latterly, include:

Northern Ireland

Brackagh Quarry, Nr Cookstown, - operated by Creagh Concrete

Working with the RESTORE Minerals Restoration Adviser in the country, advice was provided to create a mixture of wetland habitat on this sand and gravel extraction site, namely: wet grassland, blanket bog, standing water and some bare ground, to link in with existing biodiversity hotspots in the surrounding area.

Brackagh Quarry is situated within the Sperrins Area of Outstanding Natural Beauty (AONB) and is 1.2 km from Teal Lough and Slaughterfreeden Bogs Area of Special Scientific Interest (ASSI). It is also situated within the Lough Neagh basin, an area of priority for the RSPB landscape-scale conservation programme. Such restoration to link in with existing wetland habitat in the area will further enhance populations of breeding waders and other wetland specialist species.

For more information on Nature After Minerals and further case study examples, go to www.afterminerals.com. Details of the RESTORE project are available at www.restorequarries.eu. Funding for this project will come to an end in Autumn 2015.



Continued...

Scotland

Whitesands Quarry, Dunbar – operated by Tarmac Ltd

At this site, NAM provided support to our RSPB Scotland colleagues as part of their on-going partnership with the operator to ultimately enhance this previously restored site. Undertaking an in-depth feasibility, a number of different habitat creation options were rigorously analysed to determine

what is achievable at the site that is cost effective, and yet will provide significant biodiversity gain. This resulted in a proposal for a mixture of aquatic and terrestrial habitats, benefiting breeding, wintering and migrating species and local communities in the area.

England

Prior to the RESTORE project funding, NAM's work has been England-focused. This funding resulted in even more advice and engagement being carried out in this country. More lately, a new site is Bryants Lane, Nr Leighton Buzzard, Bedfordshire - LB Silica Sand Ltd.

Responding to a Review of Mineral Permission (ROMP) consultation, NAM and the RSPB recommended the operator integrate heathland trial plots in the restoration scheme for this site. Given the location of the site to the west of the Greensands Ridge Nature Improvement Area (NIA) and adjoining heathland restoration on a neighbouring quarry, this opportunity to trial heathland restoration plots was considered highly appropriate, with its potential to contribute to England's Biodiversity 2020 aspiration by restoring 7,500 ha of lowland heathland. This recommendation was subsequently picked up by the local Mineral Planning Authority and written as a condition of the planning permission for the site.

Wales

Fagl Lane Quarry, Flintshire – disused, privately-owned site with ambitious plans to create a local visitor attraction to this area, creating a 'Park in the Past'. This would look to recreate habitats which would have existed during the Roman era in the first century A.D. NAM was invited to advise on the best way to enhance an existing restoration at this site and the best options to manage it for nature, going forward.

Fagl Lane Quarry has the potential to deliver a high quality habitat mosaic featuring grassland, woodland, open water, and scrub. The longer term management of the habitats which establish will be key to keeping the site in good condition and working for nature. Visitors will be encouraged to visit the site to benefit from a reconnection with nature in an historical context but such access will be carefully managed to avoid disturbance to any wildlife which has been attracted to the site because of enhanced biodiversity features and habitat creation.



Features

Rare moth's Olympic legacy

by John Bark, The Conservation Volunteers

One of the UK's rarest moths is getting a sporting chance with the help of community volunteering charity The Conservation Volunteers (TCV). Originally restricted to shingle beaches along the south-east and central southern coasts of England, the Toadflax Brocade Moth (*Calophasia lunula*) has taken to inland brown-field sites where its caterpillar's favourite food plants flourish, the various species of Toadflax wildflower (*Linaria* spp). The moth is nevertheless a UK BAP Priority species classed as very rare in London.



Drome, sweet drome: TCV volunteers at work on the Toadflax Brocade Moth habitat in the Olympic VeloPark. Photo: © Tom Nandi, The Conservation Volunteers



'Butter-and-eggs' - common toadflax (*l. vulgaris*) – ideal food for growing caterpillars Photo: © Tom Nandi, The Conservation Volunteers

Knowing the moth was already present around the main site of the 2012 Summer Olympics, the Olympic Delivery Authority (ODA) and London Legacy Development Corporation (LLDC), the area planning authority, decided to make a home for it as part of the games legacy. So in 2013, eight shingle strips were created to mimic the moth's original habitat on land in the Olympic VeloPark, sandwiched between the Velodrome and Lee Valley Hockey and Tennis Centre, the "last part of the legacy jigsaw" when it opened in 2014. With mountain bikers zipping around a nearby track and traffic grinding its way along the neighbouring A12, the habitat seems an unlikely substitute for a beach, but the species got off to a flying start by taking up residence within a year of completion.

Lee Valley Regional Park Authority (LVRPA) now owns the site. LVRPA Rangers aim to weed the shingle strips regularly throughout the year, otherwise Goat's Rue, Vetch, Dandelions, and Bird's Foot Trefoil move in to compete with the moth's food supply. This June, volunteers from TCV cleared the strips of all plants except Toadflax. They also carried out a moth count, finding 20 Toadflax Brocade caterpillars with their striking black and yellow camouflage.



“It’s early yet so we don’t have enough comparison data to rate the moth’s success,” says LVRPA Ranger, Dan Townsend. “But with an active management plan and the help of volunteer groups, the strips can be maintained in a prime state for the moth. With brown-field habitats and rich wild flower meadows close by, there is no reason why it will not benefit.”

Regular TCV volunteer Trudi Wilkinson said: "It was great to get the opportunity to spend a day in the new Olympic Park and having the chance to care for such an important habitat felt fantastic. Being able to count over 20 caterpillars really highlighted the benefits of our work!"



Toadflax Brocade Moth caterpillar counted by TCV volunteers
Photo: © Tom Nandi, The Conservation Volunteers

TCV volunteers will return in October with scythes and rakes to do some meadow management, as part of a long-standing arrangement which sees TCV carrying out two practical volunteering projects a month at various LVRPA sites in return for office space near the Olympic Park. LVRPA is the statutory body responsible for managing and developing 10,000 acres in the Lee Valley between Ware in Hertfordshire and the Thames. The relationship between TCV (founded 1959) and LVRPA (set up 1967) goes back at least a decade, part of a tradition of volunteering in Lee Valley Regional Park that pre-dates the high-profile activities of the 2012 Olympic and Paralympic Games. It seems the Toadflax Brocade Moth is the lucky beneficiary of two great legacies!

Join in, feel good.

Contact: t.nandi@tcv.org.uk

Features

Perfect bed fellows – cement production and nature charity

Cement production, quarrying and batching concrete don't seem likely 'bed fellows' with nature. But this month, CEMEX UK announced that it had created 606 hectares of conservation habitat, equivalent to more than 850 football pitches, to encourage wildlife on its land.



The company launched a Biodiversity Strategy in partnership with the Royal Society for the Protection of Birds (RSPB) in 2010 and made a commitment to create 100 hectares a year to give nature a home. This target has been well exceeded with 660 hectares produced in 5 years and has resulted in some rare and endangered species, as well as the more common species, making their homes on CEMEX land.

The Small Blue butterfly has started to flourish, saved from the brink of extinction, with five new colonies established at Southam and Rugby cement sites. The fast-declining Turtle Dove which has decreased by 95% since 1970 in the UK, is being given a chance through land around three of CEMEX's quarries being seeded with a special flower mix to provide the bird with its ideal food.

But it's not only rare species but ones that are thought of as everyday such as the 'cockney' House Sparrow. Colleagues at sites throughout London have been involved in putting up special feeding boxes, sowing wildflowers for food and monitoring the population around them. Surprisingly, House Sparrows too are on the decline with almost 70% decrease in the last 20 years.

On a larger scale, quarry restoration gives an opportunity to deliver significant priority habitats. For example, Rugeley Quarry close to Cannock Chase in the Midlands is gradually being restored after quarrying sand and gravel that has been used in local construction projects. Working with the RSPB, the land will deliver substantial heathland mosaic habitat and a wonderful area for the community to see nature at home.

Rob Doody, CEMEX UK Aggregates Operations Director "The creation of biodiversity habitats is an important part of nature conservation for us. It's a balance between providing the building materials that we all want and need to build homes, hospitals, schools, roads and much more and the impact on the natural world around us. We own over 4000 hectares of land in this country which, in partnership with the RSPB, gives us a great opportunity to enhance the natural environment."



Sam Tarrant, who leads on CEMEX's partnership with the RSPB comments "CEMEX has achieved a great deal for nature over the last 5 years. Businesses are now playing an ever important role in delivering biodiversity conservation. We are delighted to be working with CEMEX helping to give nature a home."



Totally Thames Water-Blitz

Wild Oxfordshire lead an exciting partnership project with a one day water-blitz on 14th of September. Working with volunteers and water quality scientist's samples were taken from a range of fresh-water bodies across the Thames River Basin and tested using simple pond testing kits, to create a unique snap-shot of phosphate and nitrate levels.

More than 45 organisations and hundreds of volunteers, including land owners, farmers, universities and school children (accompanied!) mobilised across 16,000 km² of the Thames River Basin.



To date more than 750 data sets have been entered onto EarthWatch's dedicated mapping portal for the project <https://freshwaterwatch.thewaterhub.org/totally-thames-water-blitz> which equates to more than 1300 test samples.

None of this could have been achieved without the time and generosity of the core project partners: including River Thame Restoration Project (who donated all the water testing kits for the event), the Centre for Ecology and Hydrology (who used the kits alongside their standard weekly test run of the Thames), EarthWatch who handled and mapped all the data and the Environment Agency, as well as Freshwater Habitats Trust and Totally Thames.



The data will now be analysed and outcomes discussed at a conference to be held in Oxford this winter. In 2016 Wild Oxfordshire hopes to build on this citizen science programme and hold a bigger and better water blitz with more partners and volunteers. If you are interested please email hilary@wildoxfordshire.org.uk

Features

[RAFTS Scottish Invasive Species Initiative wins Heritage Lottery Fund support](#)

Rivers And Fisheries Trusts of Scotland (RAFTS) has received £41,900 from the Heritage Lottery Fund (HLF) to begin developing the Scottish Invasive Species Initiative (SISI). This grant will enable RAFTS to apply for a full grant at a later date.

This ambitious project will create a network of volunteers to eradicate and control several invasive non-native species across a 29,500 km² area in the north of Scotland, focussing on rivers, lochs and riparian corridors.



On top of managing these non-native species, the Initiative aims to help local people to take care of their local rivers and riparian habitats. Volunteers, who will be recruited from a variety of community groups, will learn about the targeted species and gain skills in the various techniques used to survey and control them, such as spraying plants with pesticides or trapping mink. They and the wider public will also be encouraged to use specially-developed on line apps to identify and record where and when they see non-native invasive species. Volunteers will also learn how to restore sites that were previously full of non-native plants to a more native, natural state. By the end of the Initiative, volunteers will have the skills and knowledge to conserve their local habitats long after the project is finished.

Scotland's rivers, burns, lochs and pools support many iconic Scottish species like Atlantic salmon, osprey and otter, as well as the endangered freshwater pearl mussel. They also form part of an incredible landscape that attracts millions of tourists a year to Scotland, helping to boost our economy, and providing the country with vital services such as drinking water, electricity generation and flood protection.



Dr Chris Horrill from RAFTS said, “We’re delighted that the Heritage Lottery Fund has given us this support. The threat of invasive species is increasing as our climate continues to change and this project will help us take action against this. It gives people in Scotland the opportunity to protect their natural environment and ensure we continue to benefit from it while maintaining its beauty.” Julia Stubbs-Partridge from Scottish Natural Heritage (SNH), one of RAFTS’ partners in the Initiative, said, “To receive this funding from HLF is great news. Invasive species are a growing threat and projects like this will ensure we can protect Scotland’s natural landscape, not only for the benefit of the people of Scotland but also for visitors.” Explaining the importance of the HLF support, Colin McLean, Head of the Heritage Lottery Fund in Scotland, said: “Our natural heritage is a most precious resource and, thanks to National Lottery players, HLF grants have helped to protect an amazing range of landscapes, habitats, and species of plants and animals. HLF is delighted to support the Scottish Invasive Species Initiative in developing a project that will encourage people to get involved in the natural world and in doing so, conserve it for future generations.”



Features

Nature after minerals at the SER world conference

Following a successful session devoted to mineral restoration - and the associated ecosystem service benefits - at the European Society of Ecological Restoration (SER) in 2014, the EU Interreg IVB northwest Europe funded project 'RESTORE' put forward a proposal for a special symposium for inclusion at this year's global conference. Picking up on the ability of the mineral industry to assist nature at a landscape scale, we put together a program of five speakers from across Europe, focussing on both species conservation and habitat creation.



The conference had good minerals representation, aided by Heidelberg Cement forming the major sponsor of the event and utilising the opportunity to launch the third round of their biannual research competition: the Quarry Life Award.

Our special symposium entitled 'Large scale spatial planning in ecological restoration: opportunities offered by mineral extraction sites', focused on some emerging and established examples of partnerships between business, academia and environmental Non-Governmental Organisation (NGOs), which aim to deliver both wildlife and community benefits at local, national and international scales.



HeidelbergCement launch the third edition of the Quarry Life Award, and invite former finalists to share their experiences

The session was kicked off by Dr Philip Wheeler from the Open University, who in a joint collaboration with Hull University, Heidelberg Cement and Birdlife, has been examining the potential for silt lagoons associated with mineral extraction in Great Britain to provide habitat for migratory and overwintering wading birds, especially those using the East Atlantic Flyway. The team has modelled the landscape connectivity between Important Bird Areas (IPAs) and potential restoration sites, which allowed them to assess the different contributions that existing sites could make to a range of wader species. This approach is then allowing key landscape linkages to be identified and the most important locations for wader habitat to be created, fed into a decision tool for those involved in planning restoration projects.

Turtle dove is one of Europe's most rapidly declining birds, migrating to breed each year in Europe before returning to winter in sub-Saharan West Africa. The decline is being primarily driven by low breeding productivity, probably associated with a decline in quality nesting and foraging habitat in Europe. CEMEX operates a number of sites in strategic areas of the UK, France and Spain and is embarking on a project with associated Birdlife Partners to enhance suitable extraction sites within the current turtle dove range, as detailed to delegates by CEMEX UK / RSPB Biodiversity Adviser, Dr Sam Tarrant. This innovative project is aspiring to stabilise numbers of territorial pairs and boost breeding success locally through maintaining pockets of scrub, and establishing additional feeding habitats through restoration and in non-critical parts of operations' sites.

Moving to another avian species that is benefitting from minerals extraction across Europe, Birdlife's Boris Barov presented an overview of a sand martin monitoring programme occurring at HeidelbergCement's mineral sites across nine European countries. As sand martins' natural breeding habitats (which are associated with natural floodplain dynamics) have become scarce, this species is increasingly taking advantage of the presence of suitable sites within mineral extraction sites. The HeidelbergCement monitoring programme has



revealed that up to 12,000 breeding pairs (about 0.2% of the European breeding population) are utilising the sample of 100 sites included in the programme. Given the importance of these sites for the conservation of this species, additional protection and management measures are being developed specifically for each site; implemented and, most importantly, their effectiveness recorded.

The species-specific part of the symposium concluded with the results of a species recovery programme being implemented on long-abandoned limestone quarries in the Limburg Province of Netherlands. The midwife and yellow-bellied toad have both undergone severe population declines, with both species being listed under the Habitats Directive and in 2006, only yellow-bellied toad could only be found in five locations. To prevent extinction, a re-introduction program was initiated at three former mineral extraction sites, which boosted the population, but also enabled a rigorous study to be undertaken to determine the exact habitat preferences of this species. Through the Interreg IVB NW Europe-funded project, RESTORE, an inventory of small, abandoned limestone quarries within the Province of Limburg was undertaken, which highlighted



© Cécile Moreau

Boris Barov (Partnership Manager Birdlife-HeidelbergCement) presenting on how quarries are benefiting sand martin populations across Europe.

specific sites that could benefit the populations of these two species through small-scale habitat enhancement. Through vegetation clearance, and the introducing of small waterbodies within these abandoned sites, the prospects of these species are now looking increasingly favourable.

The final talk - given by Nature After Minerals programme manager Dr. Carolyn Jewell - explored the potential for mineral sites to increase habitat permeability, by acting as stepping stones across the landscape. Following a spatial-mapping exercise to determine 'hotspots' of mineral extraction, NAM has been working over the past few years in identified priority areas, bringing together all stakeholders to think across site and local authority boundaries, and to plan restoration in a joined-up way. A number of successes were presented, including details of projects in the Trent & Tame, resulting in a shared vision for what could become the UK's largest wetland area, and a 43km long flood alleviation scheme in the Netherlands which is being realised through minerals extraction.

The symposium was well attended, with delegates from Europe, South Africa, America and even Australia, which provoked some interesting discussion, particularly around country-specific constraints. The gathering represented an excellent forum and opportunity to showcase the huge potential which the minerals industry represents to deliver sound ecological restoration and mitigate the impact of on-going environmental decline which we are all witnessing.

Details of the RESTORE project are available at www.restorequarries.eu Funding for this project will come to an end in Autumn 2015.



Features

Going back in time to predict the future; using historic woodland creation to assess and benefit ecological networks

An innovative joint project between Forest Research, the University of Stirling and Natural England, WrEN (Woodland Creation and Ecological Networks), is using woodland creation and maps from 1840 to the present day to assess the impact of historic land use change on current biodiversity.

WrEN is a long-term, large-scale 'natural experiment' created by identifying woodlands which were planted over the past 170 years from historical maps. The combination of a long history of woodland planting in the UK, coupled with comprehensive historical mapping, provides an excellent, possibly unique, opportunity to develop such an experiment. Natural experiments, such as WrEN, provide a means of testing how landscapes evolve over large spatial and temporal scales and have the potential to inform policy and practice.

The project aims to inform future conservation actions, which are increasingly targeted towards landscape-scale actions and the establishment of ecological networks - core areas connected by buffer zones and corridors that allow species to move between them. Although these ideas are appealing and have been widely embraced by policy makers and practitioners supporting ecological evidence is lacking.

The WrEN team have so far selected 67 woodland sites in Scotland and 39 in England. The sites were chosen for their size; their ecological continuity/age; the amount of surrounding habitat; and by how isolated they were from each other and other woodland. By comparing maps from across the period the team, jointly led by Dr Kevin Watts from Forest Research, were able to establish when the woodland had been planted (fig). The team were then able to test the relative impact of different site (e.g., patch size, quality and age) and landscape variables (e.g. amount of surrounding habitat, degree of spatial isolation and nature of the surrounding matrix) on key species groups using data from a number of intensive surveys (ranging from lower plants such as lichens to small mammals, bats and birds). WrEN will address important questions for conservation delivery, such as:

What is the relative impact of each component of an ecological network on different species?

What is the relative importance of local versus landscape-scale changes on different species?

What is the time lag between habitat creation and species' responses?



© Dianne Stilwell



Continued...

Commenting on this approach to improving the information available to guide conservation projects, Kevin Watts said;

“Results from the WrEN project will help to develop detailed recommendations on the design of future site and landscape conservation strategies for a range of woodland species. In countries, such as England, where there is financial aid for habitat creation and management, this could mean that future schemes can be better targeted towards where biodiversity benefits should be greatest. Evidence from this work could also inform policy on landscape-scale conservation in general for a range of ecological systems.”

Acknowledgements

This work has been developed with funding from the Forestry Commission, University of Stirling, Natural England, Defra, The National Forest Company, Scottish Natural Heritage, and Tarmac. Finally, we are especially thankful to all the woodland owners involved.



1890



1900



1950



1980

Figure. An example WrEN woodland from the England study landscapes showing the use of historic mapping to establish the age of creation. The woodland labelled as ‘Eleven Acre Covert’ appeared on the maps between 1890 and 1900 making it approximately 115 years old (© Crown Copyright 2014).

Local & Regional

Searching for snow hares – citizen science campaign launches

By Joe Margetts

A major citizen science project will be launched in the Peak District and South Pennines this autumn to gather more information about the enigmatic snow hare, and how this species is being affected by a warming climate. This area is the only place in England where this animal – whose fur turns white in the winter for camouflage – is still found in any number.

However, more information is needed to find out how this cold-loving species is responding to our increasingly mild and wet winters with less snow. The Community Science project, run by Moors for the Future Partnership and funded by the Heritage Lottery, will involve volunteers from local communities in recording their hare sightings.

Sarah Proctor, Project Manager said: “Scientists cannot be everywhere, so involving the local community in becoming citizen scientists, gives us the best chance of collecting large amounts of data about our only upland specialist mammal.

“The aim of the Community Science project is to inspire people to take an interest in moorlands and provide a wide range of opportunities for them to take part in real world science while developing new skills.” Sarah added, “There are loads of ways to record your sightings of the snow hare, its coat colour and whether there is snow on the ground when you saw it - through our website, by picking up one of our postcards, or by using our free to download new ‘MoorWILD’ smartphone app.”

Snow hares - sometimes called mountain hares - are a UK Priority species, and are well suited to living on cold and exposed hilltops. As the UK’s most south-easterly population, our local snow hares are likely to be the first to feel the effects of our warming climate.

Community Science started in 2013 initially focussing on moorland birds, butterflies and bees, but is now being expanded to include studies into mammals and the vital peat-forming *Sphagnum* moss.

The man behind this year’s hunt to find Britain’s national bird, David Lindo, has given his backing to the campaign and said: “As far as I am concerned, the only way to really get conservation messages out there is to encourage volunteers to participate in citizen science. Exactly what you guys will be doing. It is people like you that help to create the cornerstones of our increasing knowledge of the natural world.”

To find out how more about the project and how you can get involved go to:

www.moorsforthefuture.org.uk/community-science

By Joe Margetts

Moors for the Future Partnership

Community Science Project Communications and Engagement Officer





Plant a mini orchard

By Emilie Wadsworth



Apple trees in blossom

As part of the Inner Forth Landscape Initiative Action for Nature project, Central Scotland Green Network Trust are turning their attention to Orchards for 2015. Orchards are a wonderful, but sadly diminishing resource, with many of the small orchards in our traditional growing areas of the Forth Valley and Clyde Valley being replaced by commercial orchards in England or Europe.



The “Plant a mini orchard” campaign aims to work with 30 primary schools in the Forth Valley and 30 in the Clyde Valley, to help them create and look after an orchard in their schools grounds. The official definition of an orchard is 5 fruit trees, so each school will be provided with 5 apples trees, along with all the resources needed to plan, plant and look after the orchard. Included in the pack is advice on all aspects of orchard management and maintenance, as well as a Teachers Resource Pack which shows how orchards can be used in the classroom for all areas of the curriculum.

Funding has been received from Scottish Natural Heritage, the Heritage Lottery Fund through the Inner Forth Landscape Initiative & Clyde and Avon Valley Landscape Partnership and CSGNT. Forth Valley Orchards Initiative is providing valuable assistance to the project, and will be running training courses on orchard management over the summer and autumn. Larkhall Community Growers, the Castlebank Horticultural Centre and Clyde Valley Orchard Group are all providing support to the Clyde Valley schools by running sessions in each school on planning, planting and maintaining their orchards.

More information on the campaign see CSGNT’s website: www.csgnt.org.uk/activities/plant-a-mini-orchard. For more information on IFLI, go to: www.innerforthlandscape.co.uk & for details on the training events, go to: <http://www.forthenvironmentlink.org/projects/forth-valleys-orchards/projects/workshop-programme>



Planting trees at Bothkennar Primary school



Local & Regional

Carmarthenshire Bogs – exploring their past, celebrating the present and conserving the future

By Isabel Macho

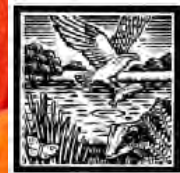
A partnership led by Carmarthenshire County Council has been successful in receiving a grant of £43,000 from the Heritage Lottery Fund (HLF). The project, also supported with funding from Natural Resources Wales and Carmarthenshire County Council, will seek to explore the history of the bogs, celebrate the special bog habitats and species, and take action to conserve these important habitats for the future.

There are five sites included within the project. They all consist, in the main, of lowland bogs, heathland and marshy grassland habitats on Section 45 common land, i.e. common land for which there is no known owner. The sites appear to be little known to local communities but have a considerable biodiversity, landscape and cultural heritage value. These bogs lie within an area that has been identified by Natural Resources Wales as a wetland priority area for lowland bogs in Wales.



Formed over thousands of years, lowland bogs are increasingly rare examples of an important peat land habitat supporting specialised but threatened wildlife. Bogs lock-up carbon in the peat, and when in good condition capture more from the atmosphere, helping to address climate change. They filter water for slow release into streams and are valuable in terms of our heritage, providing a unique, living peat archive that records climate, vegetation and landscape change.

One of the main aims of the project is to provide opportunities for local people to find out more about the importance of these sites and work with project partners - Swansea University, the National Botanic Gardens of Wales, Dyfed Archaeological Trust and Carmarthenshire County Council – to investigate and promote the ecological, cultural and landscape importance of the bog habitats they contain. Together we hope will discover our local climatic and vegetation history and explore how our ancestors lived within those landscapes, and in particular their links with climate change, both past and present.



The project will run until December 2016 and will:

- analyse a peat core from one of the deepest bogs (8-9m deep). Swansea University will reconstruct and catalogue the changes that have affected the peat bogs over the last 8–9000 years by exploring the clues preserved within the bogs. These are untapped records of environmental change and human activity in the past. Pollen grains along with plant and charcoal fragments will provide a record of vegetation changes and fire history, whereas the degree of decomposition can be used to reconstruct changes in wetness at the peat surface.
- organise a session for the public with Swansea University to take a peat core from one of the bogs and help them with their investigations on site.
- have a peat day at the National Botanic Garden Wales where people can look at samples of the peat under a microscope – look at ancient sphagnum and pollen thousands of years old, take part in a print screen workshop, make Bronze Age pottery and listen to storytellers.
- work with local schools on one of the common to explore a remarkable group of Bronze Age round barrows and find out more about the prehistoric landscape and the people who lived there.
- cut firebreaks, block a ditch and remove fly tipping and Japanese knotweed – helping make the sites more suitable for grazing and protecting them from arson.
- work with local tourism providers to become ambassadors for the site and promote them to visitors.

Richard Bellamy, Head of the Heritage Lottery Fund in Wales said: *“HLF supports a wide range of heritage projects and we are particularly keen to support organisations seeking to provide opportunities for people to explore and enjoy the rich natural heritage of Wales. Thanks to National Lottery players money, this exciting project will give people the opportunity to learn about a landscape that is often inaccessible and help ensure that these habitats are better understood and protected in the future.”*

Visit <http://www.biodiversitywales.org.uk/Wetlands> for more information.

About the Heritage Lottery Fund:

From the archaeology under our feet to the historic parks and buildings we love, from precious memories and collections to rare wildlife, we use National Lottery players' money to help people across the UK explore, enjoy and protect the heritage they care about.

- The Heritage Lottery Fund is the UK's largest dedicated funder of heritage:
- It invests around £430million a year on a broad range of projects - from museums, parks and historic places to archaeology, natural environment and cultural traditions
- HLF has supported just over 38,000 projects allocating more than £6.6billion across the UK since the establishment of the Lottery in 1994
- In Wales HLF has invested over £323million and supported over 2,300 projects in local communities all over the country.

Visit our website www.hlf.org.uk or follow us on Twitter @HLFCymru



Local & Regional

Three decades of lake restoration in the Broads National Park

By Andrea Kelly

A major review of Broads lakes has found that many of the smaller lakes (known locally as broads) have been restored and further work to reduce nutrients infiltrating the water from surrounding land is essential for water clarity and quality and to ensure a stable ecosystem.

The review of lake ecology and assessment of the restoration of the Broads, which was carried out by some of the UK's leading freshwater scientists on behalf of the Broads Authority, Natural England and their partners, also concluded that there were no "quick wins".

An excess of nitrogen and phosphorus over the years has caused green water and the growth of algae which shades out water plants, without which fish and bird populations have declined.

Andrea Kelly, Senior Ecologist for the Broads Authority said: "Water plants are the cornerstone of ecological recovery of the broads, they provide ecological stability. Clear water is required to get plants established. A diverse range of aquatic plants providing high cover is needed for ecosystem stability. A realistic target would mean at least 10 species and more than 50% cover.

"Over the past decades partnership working has achieved better water quality in our waterways and shallow lakes. The Broads Authority has put in place projects to enhance 26 lakes over the past 25 years and it has been heartening to see rare water plants emerge from the clear water, providing food for water birds and a home to dragonflies and other water life. "Despite this excellent work, there is much more to be done. We are working through an all-inclusive approach to planning action in the Broadland rivers."

The partners may also need to consider sediment removal or other techniques to isolate the water from sediment nutrients if levels cannot be reduced by further work with farmers and water companies. Success however will depend on the individual conditions of each lake.

Gen Madgwick, lake restoration advisor at Natural England said: "This review will offer new insights into lake restoration techniques, utilising decades of valuable experience, monitoring and expertise from the Norfolk Broads. It will help inform lake projects across the globe, as well as provide a steer for future management in the Broads themselves."



Mute Swan (*Cygnus olor*) swimming through Greater Bladderwort (*Utricularia vulgaris*)



The review also concluded that bio manipulation, or the temporary removal of selected fish species, creates clear water and can help prompt recovery of the plant community. But this can only be sustainable over the long term where nutrient levels in the water are low and the ultimate target would be a mixed fish community.

The effects of climate and climate change influence the ecology of the lakes and the complex interactions also need to be understood further and all lakes need to be considered individually to take into account their different characteristics.

Ms Kelly said: “The results show that we should expect that lake restoration will take time, perhaps five to ten years or more, and there are no quick wins. Monitoring is also essential to judge effectiveness of restoration measures and to learn from the results.” ...

The review builds on interim results published from the Broads in the 1990s, and recent reviews of the effectiveness of restoration approaches applied to shallow lakes in the Netherlands and Denmark to offer new insights to shallow lake restoration.

Partners are now seeking funding for further lake enhancement projects focusing on Hickling, Hoveton Great and the Trinity Broads as top priority in the next few years. Partners will also work through the Broadland Catchment Partnership to tackle issues around water quality, water shortage, flooding and wildlife habitat. One project this year is to help farmers capture soil and nutrients on land and stop it being lost into rivers.

The Broads are one of the most studied series of shallow lake systems in the UK, with more than 40 years of data. The data set is of European and global significance and the results of the review have already been reported at international conferences.

The Broads has a series of 60 or so shallow lakes formed from medieval peat diggings. The fossil record reveals that they used to support vast beds of water plants and records by naturalists of the past such as Ted Ellis, tells us that these clear waters attracted vast flocks of birds.

However during the last century both sewage and nutrient input from farming has made its way into all the lakes. This review will help direct management actions for lakes over the next decades.

The Broads Lake Restoration Review [summary](#) report and more [detailed technical report](#) from are available for download from the Broads Authority website.

For more information please contact Andrea.Kelly@broads-authority.gov.uk



Perch fish

Local & Regional

Change a community and you help change the world

By Tom Harper

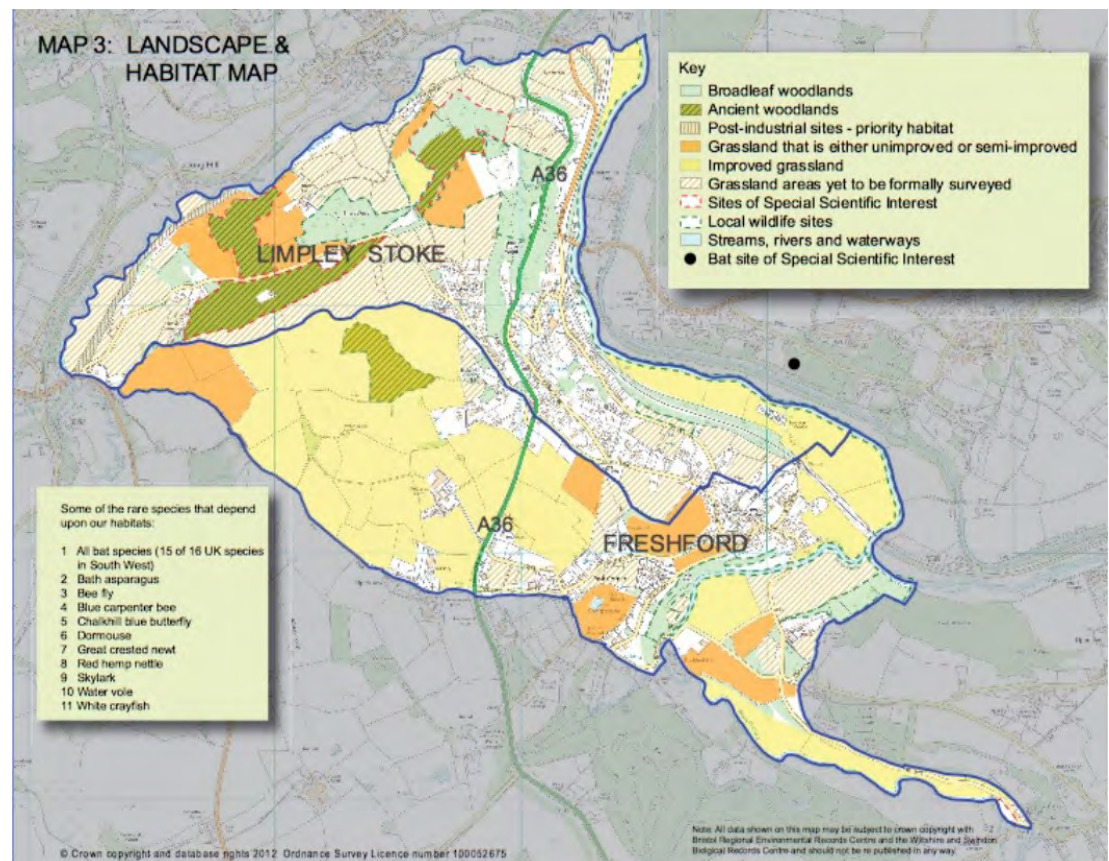
Bath in Somerset has developed a couple of ways to help their community engage with biodiversity.

Tom Harper, chair of the environment group, reports:

Firstly we obtained habitat maps for land within our parish boundaries. Parishes are suitably localised and they already hold maps of housing, roads etc. Why not therefore hold biodiversity related maps for a parish?

This move seemed to particularly align with 'Strategic Goal A' of the International Convention on Biological Diversity which reads: "Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society"

See: www.cbd.int/sp/targets/ for more details on the convention.



What better way to help Strategic Goal A than to mainstream biodiversity right down to local parish level of government and society. So where did we get the maps? We obtained them for a comparatively small fee from our Regional Environmental Record Centre (see www.alerc.org.uk to find yours).

Some Regional Environmental Record Centres already provide training for members of communities in the standard recording method such that local people can help 'map the gap'. Upon receipt of your maps you will most probably find that there are gaps in the survey work. The methodologies for recording habitat are already well defined by the 'DEFRA HABITAT SURVEY HANDBOOK' (see: <http://jncc.defra.gov.uk/page-2468>).

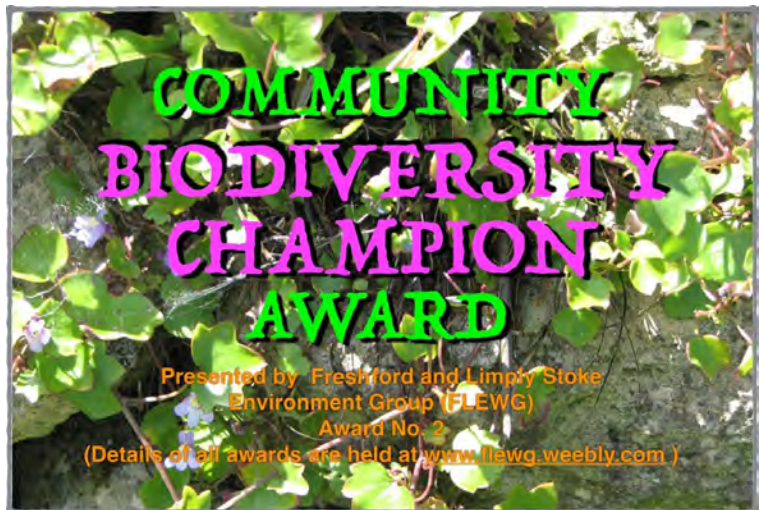


It is also pertinent that existing powers and duties of Parish Councils already appear to enable them to “act for the benefit of the community by tackling and promoting awareness of environmental issues”. (Related statutory powers: Local Government Act 1972, ss 111 and 137.)

During our research we discovered that the Environmental Record Centres are transitioning to a more comprehensive and standard system of mapping and electronic storing of records. It was demonstrated to us by one of their advisors that superimposing parish boundaries on existing electronic mapping was very straightforward but as yet ‘a work in progress’.

This action in our parish seems to have improved interest and support for biodiversity in a subject area which brings young and old together. We have since carried out a number of community projects to build on habitat awareness by a focus on local species. See our website for details of projects at the end of this article.

Secondly we have recently developed our own Community Biodiversity Champion Award. We noted that various countries are designated champions for specific aspects of biodiversity. For example: The India Business and Biodiversity Initiative. We therefore thought why not in our own more localised humble fashion recognise people in our community who achieve something exceptional within their own sphere of influence. The local pub has therefore received one of awards for hosting wildlife events such as a recent Moth Day and making a start on transitioning the pub garden to be more biodiversity friendly. Equally a local child could receive an award for doing something small but exceptional in the family garden. The awards have been presented jointly by the Parish Council and our Wildlife group thus underscoring full and formal community support.



All the ecologists that we have spoken to believe that enabling and galvanising local communities is an, as yet, underdeveloped but essential tool in delivering and embedding widespread understanding and change. It would be somewhat special if the UK was to Champion a ‘Local Community Habitat Heritage Initiative’ as part of the International Convention on Biological Diversity programme by requiring all parish councils to hold habitat maps within 5 years. Sometimes it is important to have a higher goal if we truly aspire to help change the world a little.

You can visit our website for look at our habitat maps and the sort of projects that we have engaged with so far.

See www.flewg.weebly.com

Local & Regional

Peaty finders; the bogs of London

By Mathew Frith

Peaty Finders, a new report from London Wildlife Trust, highlights London's few precious peat land habitats.

Seldom regarded as a typical urban habitat, there are now only six known sites in London. The largest patches are at Keston and at Wimbledon Common, and a smaller bog at Hall Grange in Shirley. Two areas of boggy *Sphagnum* habitats can be found on Hampstead Heath, while a tiny patch still exists on Rowley Green Common in Arkley. The star-like flowers of bog asphodel still bloom at Keston, the rare marsh violet can still be found east of Croydon and as many as eight species of *Sphagnum* moss can be found at Farm Bog on Wimbledon Common.

Bogs or mires?

Bogs are characterized by the presence of *Sphagnum* moss, which can hold very large amounts of water thanks to *Sphagnum*'s hollow hyaline cells which act like a sponge. This characteristic helps to keep the water table high, usually making bogs wetter than their surrounds. The cycle of growth and decay turns the vegetation into peat, the deposits of which build up very slowly, at the rate of only two millimeters a year, making them difficult to recreate.

True bogs include upland blanket bogs and lowland raised bogs, which only receive water from rainfall, making them very acidic and nutrient poor. Most of London's bogs are better defined as valley mires or fens; they receive water and nutrients from underground sources, as well as rainfall, and are usually less acidic. They often develop in places where an impermeable layer of clay, overlaid by gravel, reaches the ground surface and creates a small spring or flush.

Why are bogs disappearing?

Drainage, water abstraction and peat extraction have all taken their toll since the 18th century; bogs are now rare in south-east England. In London, intense water abstraction, necessary to supply the city's population, has dramatically lowered the water table.



© Jenny Price

The remaining areas are very small and isolated, meaning their hydrological conditions and species are strongly influenced by their environment. Drier edges are encroached by scrub, which take up water from the soil. Plants specific to bogs are vulnerable to eutrophication. Nutrients and pollutants from road run-off, fertilizers from surrounding land, fallen tree leaves, and dog waste gradually change the acidic soil conditions causing the loss of unique plants such as round-leaved sundew.



The survival of bogs today depends on careful management by committed volunteers and landowners to maintain them in optimal condition. Efforts are focused on increasing water availability, reducing eutrophication, and germinating older peat bed seedbanks. The Trust is developing a funding bid with the site stakeholders to try and resource a dedicated programme of such measures.

Peaty Finders is produced in commemoration of the long-standing contribution made by two of the Trust's volunteers, Pete Guest and Dr. Stephen Frank, who have sadly passed away. Both helped to conserve Farm Bog.

To order a free copy of *Peaty Finders* please send a self-addressed A4 envelope with 65p in stamps to Peaty Finders, London Wildlife Trust, Dean Bradley House, 52 Horseferry Road, London SW1P 2AF.

Alternatively you can download a free copy of the report from wildlondon.org.uk/peaty-finders

Local & Regional

Transforming the backbone of England – from bare black peat to lush green vegetation

By Debra Wilson

The five-year MoorLIFE project has protected huge areas of the iconic moorland landscape across the Peak District and South Pennines by successfully re-vegetating vast areas of bare peat.

Newly-released figures show that more than 90 per cent of the bare peat targeted has been transformed thanks to work undertaken by the conservation experts at Moors for the Future Partnership as part of the EU LIFE+ Programme-funded project, MoorLIFE.

Reintroducing grasses and plants has helped to stabilise the exposed and damaged bare peat and prevent further erosion, which protects the internationally important active blanket bog. This is home to some very specialised species, including carnivorous plants such as sundews, and large numbers of breeding birds including short-eared owls, golden plover and dunlin.

Research and monitoring regularly carried out at more than 228 sites at Bleaklow, near Glossop, and at Turley Holes and Rishworth Common, in West Yorkshire, has demonstrated the changes would not have occurred without the extensive work that has been carried out.

Chris Dean, Partnership Manager for the Moors for the Future Partnership, said: “Our five year monitoring programme tells us how these works have quickly transformed bare peat into a carpet of green vegetation.

“As part out of our conservation works we have planted by hand 200,000 moorland plants such as cotton grass, bilberry, cloudberry and crowberry; spread a total of 1.5 billion Sphagnum moss fragments and planted 30,000 Sphagnum plug plants which will eventually form new peat on these internationally important areas of blanket bog.

“Results from our monitoring show that we have successfully started off the regeneration of these beautiful moors and we are confident that in years to come these special places will continue to flourish - which is good news for all of us as it will increase wildlife, water quality, carbon storage and flood mitigation.”





The scientific data collected, supported by photographic evidence, is able to demonstrate the success of the project at the sites situated along the Pennine Way.

Science Project Manager Rachael Maskill, who has been co-ordinating this science work for the last five years said: “We have been monitoring Black Hill for 10 years - this vital new data gives an indication of how newly re-vegetated sites can be expected to develop long after the end of MoorLIFE.

“We have seen an increase in grasses and in the number of important blanket bog species such as common heather, cotton grass sedges and feather mosses in all of the sites where conservation work has taken place. By contrast our control sites, where no works have taken place, show little change to areas of bare peat.”

The huge volume of data collected under the MoorLIFE project, supported by €5 million from the EU LIFE+ fund and €1.7 million by partners, will continue to be analysed to help conservationists and scientists learn more about the development of vegetation communities.

© Moors for the Future Partnership



Local & Regional

Carnfunnock Country Park buzzing with biodiversity

By Brian McCalden

Mid and East Antrim Borough Council has joined forces with a specialist conservation group and introduced a new managed bee colony to Carnfunnock Country Park. Working in partnership with the East Antrim Bee Keepers Association (EABKA), Mid and East Antrim Borough Council believes the move will make a significant contribution to biodiversity in the Borough. Councillor Billy Ashe, Mayor of Mid and East Antrim Borough said: “We’re delighted to support the East Antrim Bee Keepers Association with this new initiative and to welcome these flying friends.



“The introduction of bee hives and promotion of local honey bees within Carnfunnock Country Park will significantly contribute to the conservation of biodiversity in the Mid and East Antrim Area.”

“Bees not only pollinate crops, they also help maintain the diversity of wildflowers we have, and the Carnfunnock bees will help maintain some of the spectacular wildflowers we have in the Borough.

“The influence of honey bees is much greater than just producing honey,” Cllr Ashe continued.

“Bees and other pollinators have a positive effect on birds and mammals that rely on the fruits and seeds produced by our native plants, and they promote other insects, including those beneficial ones that attack crop pests. Bees are an immediately recognisable feature of flower rich areas, and by protecting and promoting bees and their habitats, we’re not only protecting them but our wider biodiversity as well,” he said.

Rev Stephen Robinson, Secretary of the East Antrim Bee Keepers Association, said the move is important for biodiversity and also that the public have nothing to fear from these creatures: “The bees we’re introducing are an East Antrim-bred line of **apis mellifera mellifera** (Native Irish Honeybee) and are a very docile strain.

“As Irish pollinators are in decline, it’s important we take measures - such as the establishment of new native honey bee colonies - to address this and avoid consequences for our food sustainability, as well as local biodiversity.

“East Antrim Beekeepers Association welcomes this biodiversity partnership with Mid and East Antrim Borough Council and hopes the Carnfunnock Apiary will be the first of many strategically placed, managed honeybee colonies on sites within the Council area.”



Oxfordshire Goes Wild (and Wet) in Henley

Wild Oxfordshire brought lots of Oxfordshire's wildlife to the River and Rowing Museum at Henley on Thames on Saturday 19th September 2015.

“What a fantastic day! We have learnt so much about our local wildlife, how important they are and how to encourage them. Now to put it into practice at home!” Donna Skilleter

“A great way to engage with the kids on wildlife, ecology and nature. Couldn't get my 7 year old away from the river model, and my 5 year old enjoyed dissecting owl pellets and making a bug hotel. We will definitely look out for future events.” Shona Wooding



© River & Rowing museum

“Thank you so much for organising such a wonderful event on Saturday. The feedback from all our visitors was overwhelmingly positive and it was great to offer such a range of activities and animals! 68% of visitors on Saturday were coming for the first time.” The River and Rowing museum

Over 150 children spent a packed afternoon for fun and games and meeting live reptiles, bats amphibians and owls as well as some non-native species in the shape of alligators! Playing the red kite game, making bee hotels, pond dipping and dissecting owl pellets.



© River & Rowing museum

Local & Regional

Wetland treatment systems, SuDS, farming and water



It has recently been in the press that a coalition of 46 voluntary organisations called Wildlife and Countryside Link has published two documents, one called 'Farming fit for the future', which details the vision that farming can be better for nature, people, land and livestock and be ready for the future, and the other called 'Water Matters' which sets out actions to be taken within 5 years to ensure the loss of aquatic wildlife is reversed and to make sure polluters pay. The 'Water Matters' document calls on the government to ensure we use water wisely, stop pollution, manage floods for people and wildlife, create protect and restore places for wildlife and join up water management.

Along with climate change, long-term planning, restoration of wildlife habitats and the countryside, a key theme which appears in both publications is dealing with pollution. Together the publications call for land and water to be protected from pollution through better enforcement of penalties along with fair and effective regulation, so that businesses and the natural environment can thrive.

WWT Consulting has been working with farmers to find solutions to their water pollution problems. At two University of Bristol farm sites, wetland treatment systems and sustainable drainage schemes (SuDS) have been designed to treat point source and diffuse agricultural pollution before releasing it safely to the environment, preventing pollution of local water courses.

One site is a veterinary college and equine clinic and required a system to treat leachate and surface runoff from a small composting facility. Following a site visit and data review, the nature of the effluent was assessed and the available area was investigated. Sizing estimates were made and a detailed concept plan for a wetland treatment system was produced. The design incorporated grassland and willow treatment beds to attenuate any storm water and also treat any effluent coming from the compost heaps.





The other site is a dairy farm with surface runoff issues from the farm yard and silage clamps. Following water testing and a review of options for a wetland treatment system to treat this combined runoff, SuDS were proposed to treat the yard and roof runoff, separating this from the silage leachate. The SuDS features an area of treatment marsh which then flows, via gravity, into a long swale that holds and treats the water before safe discharge to the environment.

These sites are examples of farm wetlands that can be relatively cheap and easy to implement, can have a hugely positive impact on the environment, capturing and treating runoff from fields, roofs and farmyards, can help buffer storm events by attenuating and slowing the flow, and provide additional biodiverse habitat in the margins of the farmland.

<http://www.bristol.ac.uk/>

<http://www.wcl.org.uk/default.asp>

<http://www.wcl.org.uk/farmingfitforthefuture.asp>

http://blueprintforwater.org.uk/wp-content/uploads/2015/08/Blueprint-for-Water_Water-Matters.pdf



Publications

Wood wise - ancient woodland restoration

This issue looks at a range of projects striving to bring light and life back to previously damaged native woods. Restoring ancient woods not only supports wildlife, it can also increase landscape resilience, generate revenue and simply be a fulfilling pastime.

To read current and past issues of Wood Wise please just follow this [link](#). If you would like to subscribe to future Wood Wise issues, please email:

conservation@woodlandtrust.org.uk



Spotlight on SSSIs

A publication which highlights the achievements of farmers and other land managers in improving the condition of SSSIs (Sites of Special Scientific Interest).

This issue has a watery theme as we hear about how the Catchment Based Approach (CABA) has been used to bring partners together to create the Teme Catchment Partnership. A bit further up the country in the River Mease catchment in Leicestershire, Coleorton Brook has been transformed through a partnership between Trent Rivers Trust, the National Forest Company, Natural England and local volunteer groups and local businesses.

To read this issue, click on this [link](#).



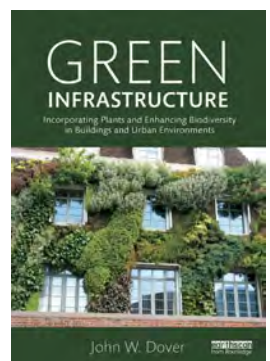
Green Infrastructure

By John W Dover

Available online at:

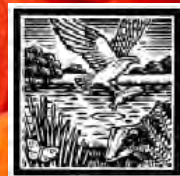
<https://www.routledge.com/products/9780415521246>

With more than half of the world's population now living in urban areas, it is vitally important that towns and cities are healthy places to live. The principal aim of this book is to synthesize the disparate literature on the use of vegetation in the built environment and its multifunctional benefits to humans. Examples are used throughout to illustrate the practical use of vegetation to improve the urban environment and deliver ecosystem services. Whilst the underlying theme is the value of biodiversity, the emphasis is less on existing high value green spaces (such as nature reserves, parks and gardens), than on the sealed surfaces of urban areas (building surfaces, roads, car parks, plazas, etc.).



AUTUMN 2015 BIODIVERSITYNEWS | 38

[Contents](#) | [News](#) | [Features](#) | [Local & Regional](#) | [Publications](#) | [Events](#)



South Yorkshire Biodiversity Research Group events

Workshops on Sphagnum Mosses, 11th & 26th November 2015 – Identification and Diversity

These will focus on going back to basics with the identification, recording and diversity of these species using the Peak District area as a case study. The first is based around Ringinglow Bog, and the second at White Edge. They will provide hands-on experience both in the field and in microscopy to aid identification and understanding of these species. Places are limited as groups are kept small and pre-booking is essential. More information and a booking form will be available on our website www.ukeconet.org or email info@hallamec.plus.com or telephone 0114 2724227 to be put on the mailing list.

A Life in Ecology – A Celebration of the Work and Inspiration of Dr Oliver Gilbert Pioneer Ecologist.

Field visit & River Don lectures on 13th November & 14th November at Sheffield Hallam University Sheffield, UK. Organised with the British Lichen Society & the BES. It is ten years on from Ollie's premature death. This 2-day conference is being organised by Professor Ian Rotherham and Dr Paul Ardron both long-term friends and associates of the late Dr Oliver Gilbert to encompass his many interests and as a celebration of his contributions to urban ecology, lichenology, exotic plants, and urban and post-industrial landscapes over a period of 50 years.

More information and a booking form will be available from our website www.ukeconet.org/events/ If you would like to be put on our mailing list for this conference, please email info@hallamec.plus.com or telephone 0114 2724227.