In this issue

**News**

- Defra Update
- From IYB to DOB
- Last Hope for the Rapunzel Flower
- MPA Biodiversity Strategy Launch
- Future Heritage Lottery Funding – Have Your Say
- Wild Plants as a basis for Food Security
- Moorland Plant Poetry Competition
- Wild Plant Conservation boosted in Breckland
- Join the hunt for oil beetles!
- First Scottish Biodiversity Benchmark Award

**Local & Regional**

- Discover Anglesey’s Coastal Nature Reserves
- Disused quarry offers hope for threatened crayfish
- The Welsh Clearwing in the Elan Valley
- The End of a Golden Era
- Noble Chafer in the New Forest
- Ponds across South Yorkshire restored to former glory
- Broadland Fen Survey
- Return of the Welsh Specklebellies
- A new identification tool for British Marine Bivalves
- The Upper Cree Project

**Editorial**

**Features**

- Marginal Planting Programme
- Two Seas Cross-Border Co-operation Programme
- Pesticide Application: Impact on Biodiversity
- A Positive Tale of Negative Results in the Cotswold Water Park
- Coastal Vegetated Shingle
- Habitat Mapping Project
- Honey Bees: Not Essential for Apple Pollination
- Britain’s Got Wetland Talent!

**UKBAP Update**

**Publications**

- Rapid Risk Assessment for Potentially Invasive Plants
- Wytham Woods
- Irish Biodiversity Knowledge Quest
- Great River of Knowledge

**Events**

- Festival of Nature
- Flora Locale Training Programme
- RSPB Dorset Events
- Nature Detectives

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.
Welcome to Issue 53 of Biodiversity News!

Hello and welcome to the spring edition of Biodiversity News.

I hope you enjoy this season’s issue; I certainly enjoyed putting it together. We’ve been inundated with articles which show how, even in these straitened times, plenty of people are still putting their time and effort into biodiversity conservation. Our ‘Local and Regional’ section makes for quite an inspiring read!

Please also take the time to look through our ‘Events’ section, there are lots of things you can get involved with at this time of year—and even if you don’t feel like braving the great outdoors there are some competitions and consultations to get your teeth into.

Another sterling selection of front cover entries—check out the back page for the runners up. I’m sure you’ll agree Paul Brock’s winning noble chafer picture is an impressive piece of photography!

Keep the articles coming and enjoy Biodiversity News!

Sophie Rogers

0117 372 3547

UK Biodiversity Policy Unit, Defra, Zone 1/16, Temple Quay House, 2 The Square, Temple Quay, Bristol GS1 6EB, biodiversitynews@defra.gsi.gov.uk
Defra Update

Natural Environment White Paper update
Defra is in the process of finalising the Natural Environment White Paper. A key part of the evidence base for the White Paper is the National Ecosystems Assessment (NEA). The independent co-chairs of the NEA have, in agreement with all funders, decided that the NEA will be published in June to allow key stakeholders to be briefed on the study, to allow for some additional analysis, and to help allow for further engagement with Devolved Administrations following their elections.

The Natural Environment White Paper will therefore now be published in June, after the NEA, to allow for full inclusion of the evidence it provides.

New England Biodiversity Strategy update
Stakeholders have been involved in the development and design of the Strategy from the outset, and many attended a recent workshop held in London on February 25th. Stakeholders were invited to discuss vision, mission and priorities for the Strategy before splitting off into breakout groups to discuss delivery on the ground and ways of measuring success.

Work continues on the Strategy taking into account these useful inputs. It is expected to be published in June.

Farmland Vision
The Farmland Vision paper sets out a vision for farmland biodiversity, identifying its needs and setting out its importance in influencing key policy issues, particularly CAP reform. It represents a significant achievement from the England Biodiversity Strategy agriculture workstream. The vision has already been used to inform a meeting on 18 January 2011 of the Natural Environment White Paper Ministerial Advisory Panel, and was drawn upon by Mark Felton, chair of the agriculture workstream, at a stakeholder meeting on 9 November 2010.

A copy of the vision can be found here:

Check, Clean, Dry
Aimed at all those that use waterways for recreation and sport, the ‘Check, Clean, Dry’ campaign will increase awareness about how easy it is to unwittingly spread non-native invasive species as they move between different bodies of water - such as rowing lakes.

The campaign seeks to counter the threat to Britain’s economy and wildlife posed by the spread of invasive non-native species such as the 'killer shrimp'.

Wellbeing Survey


This statistical release provides survey results on life satisfaction and satisfaction with aspects of life from 2007 to 2011.

Results are based on 1,769 face to face interviews in England conducted in late March 2011, and similar surveys conducted in earlier years commissioned by the Department for Environment, Food and Rural Affairs (Defra).

- Statistical release (PDF)
- Further information on the public attitude survey

£110 million for England’s rivers

Secretary of State Caroline Spelman has announced £110 million of funding to help bring more otters, salmon and other fish back to England’s rivers. The money will be used to kick start restoration worth at least £600 million to improve the health of more than 880 lakes, streams and other water bodies, while boosting local involvement in caring for our blue spaces enjoyed by millions every year.
From IYB to DOB

In 2010 more than 450 organisations in the UK contributed to the UN International Year of Biodiversity (IYB) through their partnership activities within IYB-UK (www.biodiversityislife.net). The impact of this work has been assessed in a closure report which can now be downloaded from the partner section of the IYB-UK website along with an independent report commissioned by Government on the year’s partner activities (see http://www.biodiversityislife.net/?q=partners). The report includes feedback from the many individuals and organisations who responded to the call for feedback, and the closure report has been included as evidence for consideration by Defra for the forthcoming Natural Environment White Paper.

One of the outcomes of IYB was that the United Nations officially declared 2011–2020 as the UN Decade on Biodiversity. Things are beginning to develop on this front with the Convention on Biological Diversity (CBD) secretariat in Montreal creating new branding and preparing to launch a core website. Here in the UK the Natural History Museum is developing a supporting website to anticipate and promote the decade. They hope that being a friend of the CBD and the UN Decade will help develop relationships and support organisations within the UK and elsewhere to build on the achievements of the IYB.

The new Decade on Biodiversity website has been launched this April; you can also stay in touch by subscribing to the new e-news from the Decade on Biodiversity team by emailing r.bloomfield@nhm.ac.uk and including Subscribe to the Decade on Biodiversity e-news in the subject line, ensuring you use your regular email address in the from line!

One of the successes of the IYB was how so many organisations made an effort to do public engagement activities on Biodiversity Day (22 May). Hopefully this will continue to grow each year over the coming decade. In fact, as 22 May falls on different days each year, we hope that there will be a strong aggregation of activities in the week around and including 22 May as many organisations celebrate the importance of biodiversity together. Biodiversity Day this year has a Forest Biodiversity theme as it is aligned to 2011 also being the International Year of Forests. You can find out more on the CBD website. While activities around forests and trees will be particularly relevant there are many other things you might want to do. You can find out more about the UN Decade on Biodiversity and how to get engaged with Biodiversity Day at the Decade on Biodiversity website www.decadeonbiodiversity.net.
Last hope for the Rapunzel flower?

A new survey in 2010 found even fewer sites than expected for the rare Spiked Rampion *Phyteuma spicatum*. Known on the continent as White Rapunzel, it is mentioned in the fairytale as the plant which Rapunzel steals and as a result is locked in her tower!

Conservation charity Plantlife launched a project earlier in 2010 which aims to save the species, which is one of the UK’s rarest plants, from extinction. The project, funded by SITA Trust, began with a survey during the flowering season to find out how many plants still survive and how healthy populations are – but results reveal that there are only eight sites remaining, with fewer than ten plants at five of these sites.

Spiked Rampion is a spectacular wild flower, a member of the bellflower family with unusual cream-coloured spikes of flowers, and it only grows in woodland and road verges in East Sussex. In recent years it was thought to be present at 10 - 13 sites, but the new survey carried out in 2010 only found it present at eight sites. Causes of its decline are the loss or degradation of its original habitats through urban and road development, a lack of traditional woodland management and the fragmentation of its remaining habitat.

Without intervention and improved management of the sites, there is a possibility that Spiked Rampion will join the list of wild flowers that we have lost from the UK. “Plantlife’s project is timely,” said Plantlife’s Species Recovery Officer Dominic Price, “and we still have a chance of improving its fortunes if we act now. If we had left it any later, it may have been too late, but we are optimistic that we can help boost its chances. Thanks to the funding from SITA Trust, we hope to be able to secure flourishing populations of this spectacular plant for future generations to enjoy.”

Managing these sites better will involve reintroducing some traditional practices such as coppicing and creating small glades that let in light to the woodland floor – and Plantlife will be working with landowners to create areas of woodland with forest glades or forest rides. Managing woodland and road verges to help Spiked Rampion should also improve the habitat in general and allow other woodland species such as Wood Anemone, Bluebell, Common Twayblade and Common Spotted Orchids to thrive – and in turn benefiting a host of other wildlife including bees, butterflies and birds.

Members of the public in East Sussex are invited to become Plantlife ‘Flora Guardians’ to help monitor sites where Spiked Rampion grows, or where it has grown in the past. A training day will be held in June 2011 for the new Flora Guardians, to show them the plant and pass on information about site monitoring.

For more information, contact Dominic Price, Plantlife Species Recovery Officer T 01722 342749 / E dominic.price@plantlife.org.uk
Minister Recognizes MPA Legacy and Role at Biodiversity Strategy Launch

On 25 January Environment Minister, Richard Benyon MP, recognized the significant contribution that the mineral products industry can make to UK biodiversity in a House of Commons reception organized by the Mineral Products Association (MPA) and the RSPB. The event, which will bring together MPs, industry leaders and conservationists, launched MPA’s biodiversity strategy.

Nigel Jackson, Chief Executive of MPA, said: “The mineral products industry has a proven legacy of high quality restoration and still has further significant potential to protect and enhance biodiversity, including common as well as rare and threatened species and habitats. Continuing good site management, restoration and after-use of minerals sites is expected to contribute significantly to the achievement of the UK Biodiversity Action Plan (BAP) and MPA members have a unique role to play.

“I believe MPA members are uniquely placed, equipped, organized and motivated to help the UK achieve its BAP targets on habitat creation. We can do something that industries which get far more Government attention, such as retail, automotives, pharmaceuticals and energy, cannot do. But we need good economic conditions to invest, reasonable and proportionate legislation and a planning system that is fit for purpose.”

MPA’s biodiversity strategy is outlined below:

1. Extend our knowledge of the wildlife interest and potential on and adjacent to active sites and how best to manage this, and maximise benefits through restoration and after-use, including initiating a comprehensive field study in 2011.

2. Share best practice between our members and partners around the country through regular briefings and a specific working group.

3. Develop our partnerships with conservation organisations, decision makers and individuals to ensure that we are delivering both what people want and wildlife needs. To support this work we will organise a biodiversity exchange in 2011 of all organisations with an interest in improving biodiversity associated with minerals operations.

4. Celebrate our successes through an annual members’ award for Biodiversity Achievement starting in 2011 and sponsored by Natural England.

5. Understand our contribution to delivery of local, national and international biodiversity, including Biodiversity Action Plan targets and future improvement using a range of indicators.

6. Increase our influence through contact with policy makers at all levels, including engagement with European initiatives in association with European Trade bodies.

7. Promote biodiversity education using industry assets such as restored sites and field study and education cen-
tress to encourage out-of-classroom learning and to make the most of first-hand experiences of the natural environment.

The biodiversity strategy will provide a framework for the industry’s contribution to the achievement of the UK Biodiversity Action Plan (BAP). Recent research by the RSPB indicated that mineral sites could meet 100% of the targets for nine out of 11 priority habitats in the UK BAP.

The mineral products industry is already collaborating with the RSPB and Natural England on *Nature After Minerals* (NAM), a successful initiative designed to help identify and deliver biodiversity opportunities on former minerals sites. However, for the UK mineral products industry to continue to make a vital contribution to improving biodiversity and for initiatives such as NAM to keep running, Government support at all levels is essential.

Nigel Jackson stressed, “National and local policy makers need to continue to recognize the role that the industry can contribute to biodiversity objectives, for example through the planning system and by securing adequate funding. The NAM initiative relies in large part on the Aggregates Levy Sustainability Fund (ALSF) which the Government has recently decided to scrap. Loss of this fund is a major setback for the interests of biodiversity and other key Government objectives.”

Environment Minister, Richard Benyon MP, said, “What has been said today about the value of the legacy of this industry is really appreciated and really understood by me.”

MPA members manage or control an area of land of over 115 square miles; equivalent to a National Park such as the Norfolk Broads. To date MPA has identified the establishment of at least two National Nature Reserves, 22 local nature reserves, 15 field study and educational centres and 13 nature trails within its membership, but the full picture is still being gauged.

Poul Christensen, Chairman, Natural England, said, “You do leave a legacy in what you do. The Nature After Minerals programme (...) is doing a hell of a good job for the natural environment - keep on doing it. I salute the minerals industry in the way you do nature conservation: working with local people and conservationists to transform extraction sites into new habitats for wildlife, new business opportunities and new places for people to enjoy. (...) The contribution MPA members make to the natural environment hasn’t always received, in my view, the recognition it deserves, it isn’t celebrated as it deserves to be and, to help right that wrong, Natural England is delighted to be supporting a new Biodiversity Award to celebrate the achievement of your industry.”
Dr. Mark Avery, RSPB conservation director, said: "It's still a surprise to some members of the public when they hear that places where minerals have been dug out, big holes in the ground, can be fantastic places for nature afterwards - but there are lots and lots of really good examples and the number of examples is growing all the time. I think that is a sign of success for the Nature After Minerals project. (....) There really are some wonderful sites for wildlife as a result of our joint working."

As part of NAM's work, recent wildlife surveys have revealed that many rare species can be found on former quarries. Species include bitterns, marsh harriers, shoveler ducks, rare native orchids, smooth snakes, sand lizards, nationally scarce moths and butterfly species.

---

**Future Heritage Lottery Funding - Don’t Forget to Have Your Say**

The Heritage Lottery Fund (HLF) are reviewing their funding and preparing a new strategic plan and urgently want more views on supporting the natural environment and biodiversity. Unlike many organisations HLF is in the fairly unique position of having extra funding from 2013 - amounting to £300m per year until 2019. They invest in the protection and conservation of both the built and natural environment – including in projects to protect biodiversity. So far they have had proportionately fewer responses from individuals and organisations interested in biodiversity and environment.

Please do share this request with other key stakeholders and help the HLF look at their approach to supporting the environment in the years ahead. What matters to you most about the UK’s heritage? Perhaps it’s the upkeep of a much-loved historic park or perhaps a precious landscape or your local nature reserve? Or is it a scheme to bring biodiversity heritage into an industrial heritage landscape?

There are two questionnaires available on-line. If you work within the heritage sector or community organisations in a professional capacity and would like to contribute to the full consultation, please fill in the longer questionnaire. If want to express your personal views on HLF funding in the future, please fill in the less detailed public questionnaire.

Please go to [www.hlf.org.uk/consultation2011](http://www.hlf.org.uk/consultation2011) and fill out the public questionnaire by **26 April 2011**.

The money that HLF has invested already has helped make a real difference to heritage and people during the past 16 years and includes £390 million invested in over 3,100 nature conservation projects but should they do more?

In addition to helping people to get involved in their heritage, HLF investment has helped create jobs, enhance nature reserves and contributed to reducing the loss of our habitats and species. HLF projects have given local people the chance to develop new skills and train as volunteers, which is both fun and rewarding.

All responses will feed into HLF’s new five-year plan which is currently being prepared for launch in 2012. **But don't miss their 26th April deadline!**

Bob Bloomfield
For Friends of the UN Decade on Biodiversity
Crop Wild Relatives – wild plants as a basis for food security

The recently published Natural England Research Report *Crop Wild Relatives: wild plant conservation for food security* (Hopkins & Maxted 2011) highlights the fact that Crop Wild Relatives (CWRs), the wild relatives and ancestors of crops, are increasingly underpinning global food security. Not surprisingly therefore a target for their conservation was agreed in 2010 under the Convention on Biological Diversity, at Nagoya.

Most of the food we consume today comes from small number of crops and for each there are a restricted number of varieties, which have been scientifically bred to be uniform and maximise yield. But these crop varieties only produce large amounts of food where there are high inputs of nutrients, energy, pesticides and water, which may not be so plentiful in the future. Current improved varieties may also not grow well in changed and more variable climates. These limitations add significantly to the challenge of feeding a growing world population.

Breeding new plant varieties is one of the few tried and tested ways to address the changing farmed environment and consumer demands. But to do so a supply of diverse plant genetic material is required. Unfortunately the spread of high yielding varieties means that 75% of global crop biodiversity was lost in the 20th century. Most experts now agree that genes from CWR are needed to make up for this genetic loss. Importantly wild populations are likely to be far more genetically diverse than uniform domesticated crops, and may contain genes which protect crops against new diseases and climate change; although genes from CWR have also been used to improve nutritional value and other aspects of crops.

A surprising number of CWRs occur in the UK and 303 species, subspecies and varieties closely related to crops have been identified. For example of the main cereal crops, three wild species of barley and one wild species of oats occurs. Wild vegetables and root crops are more numerous and include sea beet, the ancestor of sugar beet, and wild leek, parsnip, cabbage and turnip, these last two also the ancestors of oil seed rape. Our countryside is also surprisingly rich in wild relatives of fruits including wild pear, apple, raspberry, blackberry, red currant, black currant and gooseberry.

Whilst some CWRs are widespread and common, such as wild parsnip and wild oats, others such as least lettuce, and wild asparagus are rare. However the conservation of CWRs needs to conserve the full genetic diversity of the commoner species, as it is the breadth of potentially useful genetic diversity within a wide geographical and ecological range that breeders will use.

Seed banks, such as the Millennium Seed Bank at Kew have a role to play in conserving CWR diversity *ex situ*. But such collections can only hold a small part of the genetic diversity in the field, are expensive to maintain and seed does not remain viable indefinitely in storage. Also populations in the wild continue to adapt genetically to climate, new disease and other changes, and this newly emerging diversity will not occur in collections, where
genotypes are fossilised. There is therefore a strong case to be made for incorporating the conservation of CWRs through in situ conservation plans and projects, not least in protected areas and other places with high levels of plant diversity.

John Hopkins, Natural England
Nigel Maxted, Birmingham University

Reference

Winning poems take root among moorland plants

As part of the celebration of the International Year of Biodiversity in 2010, the Moorland Discovery Centre, Longshaw Estate, ran a Moorland Plant Poetry Competition. The competition was run to raise awareness of the rich biodiversity of our wonderful moorland habitats. We were surprised and delighted that the competition attracted such a high standard of entry from right across the country. The competition was organised by the Peak District National Park Authority and the National Trust, who run the Moorland Discovery Centre.

The winning and runners-up poems were revealed at a celebration day in February 2011. The competition winners were delighted to see their verses engraved on re-cycled garden tools at the Moorland Discovery Centre.

The competition really highlighted the enthusiasm people have for getting involved to discover more about their own landscapes. Our moorland plants can be over-looked but they proved to be a rich source of inspiration for this creative competition.

Sundew – Drosera rotundifolia

Darwin measured a drop from its haloes of syrup and how a leaf could cup a fly to become a stomach.

Winner
Caroline Hawkridge (adult category)
Wild plant conservation boosted in Breckland

A new £200,000 conservation project was launched by Plantlife to save the unique threatened wild flowers of Breckland in 2010. Breckland is one of the UK’s top five places for British botany, home to more than 120 rare and threatened wild flowers and other plant species and of international importance. A three-year project led by Plantlife is carrying out conservation work at 30 Breckland sites across Norfolk and Suffolk. The project - funded by GrantScape through its ‘Working with Nature’ biodiversity grants programme – will introduce new approaches to conservation in the Brecklands, as called for in the recently-launched Breckland Biodiversity Audit report.

With its open heathland and grasslands and dry ‘continental’ climate, Breckland is unique in the UK for its landscape and flora. Plantlife’s Breckland project comes at a critical time for the area’s most vulnerable wild flowers. In recent decades, landscape changes, especially commercial conifer planting and intensive farming, have led to significant losses with many surviving species facing local extinction. The area has already lost three types of orchid, as well as Starry Breck Lichen, Pasqueflower and Spring Cinquefoil. Between 1934 and 1980, 86% of Breckland heathland was lost, with more than 20,000 hectares of this commercially afforested.

“Breckland is one of the most important botanical ‘hotspots’ in England, yet many of its distinctive plant species have declined and are now extreme rarities,” said Tim Pankhurst, Plantlife’s Regional Conservation Manager in the East of England. "Without action, the future for Breckland’s most threatened and unique plants is bleak. GrantScape funding will allow Plantlife to put wild plants at the forefront of conservation action in Breckland for the first time, bringing plant populations at 30 sites literally back from the brink.”

Plantlife’s Breckland project is focusing on:

- The recovery of nine UK BAP priority species: Spanish Catchfly (60% decline over last 40 years), Spring Speedwell (57%), Tower Mustard (33%), Rare Spring Sedge (25%), Red-tipped Cudweed (63%), Field Wormwood (77%), Prostrate Perennial Knawel (50%), Fingered Speedwell (70%) and Grape Hyacinth (14%);
- Carrying out experimental management to benefit the above species and their habitats at around 30 sites across Breckland;
- Establishing a new network of volunteers to underpin and monitor the conservation work, with training and field days;
- Taking forward recommendations from the Brecklands Biodiversity Audit (BBA) launched in November 2010 by the University of East Anglia, in collaboration with partners in the region.
- Developing plans with local partners for a comprehensive landscape-scale conservation project in Breckland, using the knowledge gained from the project.

Additional funding for the project is coming from Anglian Water, who will be providing access to sites for potential restoration projects for rare Breckland plants. The Breckland project is also part of Plantlife’s Action for Plants programme, supported by Natural England.

For more information, contact Tim Pankhurst, Plantlife’s Regional Conservation Manager – T 01223 762052; E tim.pankhurst@plantlife.org.uk
Join the hunt for oil beetles!

This Spring Buglife – The Invertebrate Conservation Trust are launching a new national public survey to look for oil beetles. These amazing beetles have declined due to the loss of flower-rich habitats in our countryside and the declines in populations of wild bees. More information is needed on the distribution of oil beetles to enable conservation action and Buglife need your help!

There are four species in the UK: the Black oil beetle (Meloe proscarabaeus), Violet oil beetle (Meloe violaceus), Rugged oil beetle (Meloe rugosus) and Short-necked oil beetle (Meloe brevicollis). Oil beetles have one of the most extraordinary life cycles of any British insects - they are nest-parasites of solitary bees. Oil beetle populations are therefore dependent on the health and diversity of wild bees.

You are most likely to come across an oil beetle in March to June. Oil beetles can be found on wildflower-rich grasslands, heathland, moors and coastal areas such as cliff tops. Please keep a look out for oil beetles this spring, and visit the Buglife website www.buglife.org.uk to report your sightings and photographs, download an identification guide, and find out more about these brilliant beetles.

This project is in partnership with the National Trust and Oxford University Museum of Natural History, and is supported by Natural England.

Local surveys for Scarlet malachite beetles

Buglife is also launching a public survey to assess the status of the Scarlet malachite beetle (Malachius aeneus). Although this beetle was once widespread across Southern England it is now restricted to a few parts of Essex, Hertfordshire and Hampshire, often on village greens, meadows and road verges. This survey will focus on those areas where the beetle has most recently been found, to assess whether these populations still persist and to look for new populations within the vicinity. Although the Scarlet malachite beetle is large and distinctive the adults are only active for a few weeks in May, so some populations may have been overlooked. The largest population we know of in Essex was only discovered in 2005 when it was reported by the landowner in response to a similar Buglife survey. Hopefully there are more Scarlet malachite beetle populations than we are aware of and the new 2011 survey will help us to find them.

More information on how to identify Scarlet malachite beetles and how to report your sightings can be found on the Buglife website www.buglife.org.uk. This project is supported by Natural England.
Bardon Aggregates sites receive the first Scottish Biodiversity Benchmark awards from The Wildlife Trusts

Bardon Aggregates, part of Aggregate Industries, have been awarded the first Scottish Biodiversity Benchmarks for sustained land management at their Duntilland and Powmyre quarries. Both sites gained the award for their continuing commitment to creating and improving wildlife habitats around the quarries.

Jonathan Hughes, director of conservation for the Scottish Wildlife Trust, said: ‘The Wildlife Trusts’ Biodiversity Benchmark award helps companies assess their impact on the natural world and develop better ways of protecting biodiversity on their own holdings. I’m delighted that Bardon Aggregates have been awarded the Benchmark in Scotland for their Duntilland and Powmyre quarry sites.

‘By taking part in the Benchmark award, Bardon Aggregates have not only improved biodiversity on two of their flagship sites, they are also blazing a trail for other companies in Scotland to follow.’

Duntilland Quarry, a 165ha hard-rock operation adjacent to the M8 in North Lanarkshire, has been managed with sensitivity to wildlife over the past decade. To achieve the Biodiversity Benchmark, staff and management worked to an exacting Biodiversity Action Plan to ensure proper site management, allowing wildlife value to be improved for the long term. Quarry staff monitor and report on birds around the rock faces, noting behavioural changes.

Powmyre Quarry, located on the Strathmore estate at Glamis, in Angus, is a 97 hectare sand and gravel operation which opened in 2007. It is providing habitats for UK Biodiversity Action Plan species, including the brown hare, and enhancing key habitats, such as wet woodland.

Bruce Young, quarry manager at Powmyre, said: ‘Our site now has bird boxes (pictured) which have been supported by our local school. Staff monitor and record birds and mammals on site – something which may not have happened had it not been for the Benchmark.

‘While attaining our Biodiversity Benchmark was hard work and time-consuming, we feel the long-term payback of enhancement across Powmyre Quarry, and the development of our relationship with our community and external partners, more than exceeds the initial investment of time.'
Wakefield Metropolitan District Council Land Drainage Section
Marginal Planting Programme

Starting in 2008 the Council’s Drainage Section (LDS) formally project managed a district wide marginal planting programme, as part of the Council’s Flood Risk Reduction (FRR) Programme. This represents a significant cost effective biodiversity initiative within the Wakefield district.

Over the last 60 years there has been a loss of the UK’s native pond, wetland and marginal plants from water bodies and watercourses due to:

- filling in and silting up of ponds and wetlands,
- mining activity,
- modern farming practices,
- filling in and culverting of watercourses,
- pollution and imported invasive species.

For a few years in the 1990s the Council’s Environment and LDS sourced locally pot-grown, native, marginal plants for pond and wetland planting although this was subject to limited availability.

In 2008, to update and identify the local situation, LDS undertook a widespread consultation with the Council’s biodiversity officer and rangers, members of Wakefield Biodiversity Group, local professional ecologists, environmental managers, wildlife trusts and conservation groups. All consultees recognised the loss of species across the district and the benefit of planting locally sourced, native marginal plants around ponds, wetlands and watercourses.

In 2008 UK Coal’s 60 hectare (150 acre) former Sharlston Colliery site gained planning approval to be opencast, landscaped and restored as grazing and farmland, with meadow, heathland, ponds and footpaths for informal leisure purposes.

Before works began, UK Coal’s ecologists and members of Wakefield Biodiversity group discovered the presence of locally uncommon marginal plants in shallow wetlands on the Sharlston site. Species identified included a number of species of Rush (Juncaceae) including Jointed Rush Juncus articulatus, Sedge (Cyperaceae) including Common Cotton Grass Eriophorum angustifolium and Common Club Rush Schoenoplectus lacustris, as well as two species of Grass (Poaceae) including Marsh Foxtail Alopecurus geniculatus.

UK Coal proposed to translocate and manage these plants during the opencast operation in order to replant them in new ponds created on their restored site.

In May and September 2008, LDS’s contractors removed an estimated total of 15,000 mature marginal plants from Sharlston Colliery. BTCV were then commissioned to replant the plants in new ponds and wetlands under the Council’s control. The agreement required surplus plants to be returned after 2-3 years for UK Coal to plant up their new ponds at Sharlston.

This approach had the benefits for UK Coal of not having to build a receptor area on site, or manage the plants for 1-2 years. This approach was also more economical for the Council than using bought in plants. It also
helped ponds and wetlands across the district establish more diverse communities, avoided importing marginal plant species unsuited to local conditions.

Ecologists supported LDS throughout the plant removal and replanting operations by identifying suitable plants and donor areas at Sharlston Colliery, appropriate receptor ponds and wetlands across the district, the correct seasons for translocation and provided advice on successful planting techniques.

Marginal plants have established and expanded extremely successfully at all the receptor sites.

However following consultation with Wakefield Biodiversity Group, LDS decided that plant relocation would cease due to the potential for inadvertently spreading non-native invasive species. Indeed from a conservation point of view there are strong arguments that new water bodies should be allowed to colonise naturally. Nevertheless it was recognised that sites in more public areas, where visual amenity value is also important would require some plant introductions so that a lush vegetation structure would develop rapidly. New water bodies in remoter locations would be allowed to establish naturally. Indeed natural establishment is evident at many sites. Invasive species such as Common Reed (*Phragmites australis*) and Reedmace (*Typha latifolia*) which out compete other species, resulting in a monoculture would be managed in the early stages of colonisation. This will allow more diverse floral communities to establish. Therefore the preferred option for introducing plants was by collecting and spreading seed. Seed has been harvested from plants over the last 2 years to seed other ponds and wetlands. Ecologists are retained as required to work with LDS’s engineers on all stages of the marginal seed project and its management.

The LDS has commissioned the Ponds Conservation Trust to undertake ecology surveys on a number of FRR ponds and wetlands across the district for monitoring purposes.

UK Coal’s Sharlston Colliery site was largely restored in 2009. Rather than returning surplus plants to the restored Sharlston site the Council has agreed with UK Coal that providing marginal seed is a much safer method of establishing their ponds, and will also generate the amount of plant coverage required. The new ponds on UK Coal’s restored Sharlston site are programmed to be seeded in Spring 2011.

LDS has also commissioned ecologists, conservation groups and volunteers to identify and collect seed from native marginal plants in ponds and wetlands across the district under the Council’s control. The seed is spread into new FRR facilities across the district created by LDS.

Examples of some of the native marginal plant seed being collected are:

- Yellow Flag iris *Iris pseudacorus*
- Watercress *Nasturium officinale*
- Pendulous Sedge *Carex pendula*
- Water Mint *Mentha aquatica*
- Gypsywort *Lycopus europaeus*
- Skullcap *Scutellaria galericulata*
- Water Figwort *Scrophularia auriculata*
- Reed Sweet-Grass *Glyceria Maxima*
• Branched Burr-Reed *Sparganium erectum*
• Meadowsweet *Filipendula ulmaria*
• Purple loosestrife *Lythrum salicaria*
• Flowering Rush *Butomus umbellatus*

Plus those species which were moved from Sharlston.

LDS wishes to thank UK Coal for their foresight regarding the Sharlston Colliery plants, together with members of Wakefield Biodiversity Group, ecologists, BTCV and their volunteers involved in this programme and the Council’s service providers for allowing their ponds to be planted up.

To maintain proactive input, LDS is informing Wakefield Biodiversity Group of the marginal planting programme outputs to date and consulting them regarding the programme and proposals over the next 2 years.

For further biodiversity and engineering information regarding this article please contact Andy Higham or Mark Cropley on 01924 306643 or 306095. For further information and reports regarding the work of the Council’s LDS please visit the Council’s website at: -

http://www.wakefield.gov.uk/Environment/Land/LandDrainage/default.htm

---

**Two Seas Cross Border Co-operation Programme**

The conservation of biodiversity is a priority in the planning strategies of authorities on both sides of The Channel, in Kent and Nord Pas de Calais.

The “Trame Verte et Bleue” of Nord-Pas de Calais, translates as the willingness to restore and reconnect a natural and multifunctional ecological infrastructure. Meanwhile, the Valley of Visions project is working with communities, landowners and local groups to conserve the landscape, wildlife and rich heritage of the Medway valley in Kent, and encourage local communities to learn about and enjoy the area.

Kent County Council and the French Region of Nord Pas de Calais have been working with the Conservatoire Botanique National de Bailleul since July 2009 on an Interreg project known as ARCH (Assessing Regional Changes to natural Habitats).

The project aims to set up shared tools and methods to assess and monitor biodiversity, and to improve the way that habitats and species are mapped in both regions. To do this, ARCH will study the potential of using satellite services to help create and protect ‘green corridors’ in both regions.

ARCH will enable a wide range of stakeholders across Kent and Nord Pas de Calais to use biodiversity information in a more efficient and precise manner. A system that can be interpreted at various levels for the collection, storage and analysis of natural-habitat data will be adopted, and tools for managing information on species will be shared. The feasibility of using innovative techniques to develop and implement a long-term system to monitor changes in extent, quality and fragmentation of habitat across the project area will be investigated.
ARCH is an opportunity to create a joint approach to:

- understanding the rate of natural habitat change and improving the management of valuable areas;
- establishing a base methodology for determining fragmentation in the landscape, from which future habitat protection and creation can be judged;
- exchanging ideas in both regions on habitat assessment, conservation and management;
- developing and adopting a more sustainable system of assessing the state of the natural environment;
- improving access to up-to-date information to various users, for example, local planning authorities; land and wildlife advisors; land owners and developers;
- encouraging evidence-based, ecological, decision making during spatial planning, policy development and management of the natural environment; and
- communicating our natural environment to a wide range of audiences, and disseminating the project outputs and findings to other organisations in the 2 Seas area and across Europe.

At the end of the project, ARCH will have developed:

- a cross-border map of natural habitats (shared methodology on interoperable data, ground truthing, Corine biotopes standards);
- a common index of the fragmentation of natural habitats;
- a tool to inform land planners about natural habitats and biodiversity; and
- a ‘road map’ of the use of remote-sensing technologies that monitor and update natural habitats surveys. (The methodology and tests also will be reviewed by specialised European Union networks – Eurisy, EU Commission Directorate-General for the Environment).

Contact:
Laurence Guedon
Project and Communications Coordinator

archproject@kent.gov.uk or visit www.archnature.eu

Tel 01622 221 563
Pesticide application: Impacts on Biodiversity

Broad-spectrum pesticides are currently widely used in agriculture. Evidence is growing that such chemicals, insecticides especially, have a major long-term effect on non-target invertebrates many of which are important as biological pest-control agents or as important links in the food chain of farmland faunal groups. Pesticides may reduce invertebrate abundance through direct toxicity but also indirectly by restricting food supply or altering habitat. As a result, pesticides are now routinely screened for side-effects against non-target invertebrates for the purpose of registration.

The impact of pesticides on different invertebrate groups is highly dependent upon the timing of application. For example, autumn applications tend to drift more because crop and marginal vegetation heights are lower and may therefore contact invertebrates over a larger area. During recent decades herbicide use has increased and switched gradually from spring/summer applications to autumn/winter applications, reflecting the trend towards autumn sown crops over the last 30 years. Although the use of other pesticides has also increased, the timing of application still varies greatly between crops. It has been recorded that the impact of herbicide application on spider abundance and species in arable fields may have been through the gradual loss of vertical structural complexity in dead vegetation as it began to collapse and rot. Fungicide application was found to have no consistent effect on spiders, though several horticultural studies have shown that fungicides applied to control apple scab disease can have detrimental effects on non-target beneficial mites. Insecticide application has generally been found to reduce spider density and diversity in both crop and non-crop habitats. Most of the impacts act indirectly by altering the abundance and composition of prey populations from which spider populations usually recover within a few months. Timing of pesticide applications seems to play a role with summer applications having less impact.

Very little data occurs on trends in mollusc abundance due to the effects of insecticidal applications, whereas with Lumbricidae (earthworms) use of insecticides tends to decrease abundance.

Butterfly abundance within the UK has been stated to have been reduced due to increased insecticide use, removal and degradation of boundary features, along with the cutting and herbicide-spraying of field margins during summer periods. Herbicides reduce butterfly abundance indirectly when they cause the loss of larval food-plants and nectar or pollen sources for adults, particularly in boundary vegetation. There is some evidence that population change in some butterfly species is linked to changes in plant populations on agricultural land. However, the only clear associations are for species of butterfly that are increasing in response to improved availability of larval food plants such as nettles which are encouraged by fertilisers. As many butterflies in agricultural landscapes are associated with non-crop boundary vegetation much research has addressed the potential impact of spray drift into field edges and hedgerows. Evidence suggests that butterflies are at risk from spray drift in conventional fields and that a margin of unsprayed crop acting as a buffer zone reduces the risk from spray drift significantly.

Insecticides are reported to reduce the abundance and species richness of some dipteran families, particularly those with soil dwelling larvae, in crops, water and grassland habitats. Some families of flies such as hoverflies are very sensitive to insecticides, whilst others such as nematocera (midges and craneflies) have shown a mix-
features of responses depending upon the habitat and type of application. For example, chironomid larvae in ponds that received a single pesticide application or in wheat fields which received several aphicide applications showed little response, in contrast to the situation in streams where low level continuous applications greatly reduced populations. Hoverflies, however, are stated to be more abundant in headlands not sprayed by chemicals than conventional agricultural systems. This is likely to be an indirect effect of a reduction in available pollen sources that are known to be a factor limiting egg maturation in females within agricultural landscapes.

Within all agricultural and horticultural ecosystems correct identification of what is pest and what is beneficial is essential in order to prevent unnecessary pesticide applications and therefore unnecessary environmental damage to habitats and non-target species.

For further information concerning invertebrate biodiversity issues contact: Dr Andrew G. S. Cuthbertson, The Food and Environment Research Agency, Sand Hutton, York YO41 1LZ (e-mail: andrew.cuthbertson@fera.gsi.gov.uk)

Water vole versus American mink. Surveying for nothing? A positive tale of negative results in the Cotswold Water Park

Ben Welbourn  Biodiversity Field Officer  Cotswold Water Park Society

In 2001/02, baseline surveys of water vole (Arvicola amphibius) presence were undertaken in the Cotswold Water Park; an area comprising over 150 lakes and 10,000 hectares, and encompassing the upper reaches of the River Thames close to its source. This almost unique wetland network theoretically allowed for excellent movement and spread of our native water vole, but results indicated that while they were present, the prevalence of introduced American mink (Neovison vison) had taken its toll.

Dwindling numbers of water vole along the corridor of this great river and its tributaries, combined with a high abundance of this unnatural predator, suggested the need for a comprehensive mink monitoring programme. Such a scheme would be vital to ensure that any subsequent water vole habitat improvements were not in vain. Consequently in 2002, a mink control programme was established with initial support from Wiltshire Wildlife Trust.

8 years on and the programme has grown to comprise over 40 mink monitoring rafts and an army of dedicated volunteers to maintain them. Our red letter day was September 29th, 2010, when all rafts had been “mink negative” for an entire 12 month period – the first time since monitoring began.
In the world of fieldwork, the norm is perhaps to survey for signs of abundance or even just presence of a species or group, hopefully with the reward of sightings or evidence to adorn one’s field notebook like a prize. So to survey for a creature where the goal is a long term negative result, can actually be disheartening in some ways, and unappealing to many. Keeping volunteers motivated therefore, is key to the ongoing success of the programme and vital to the continued positive impact on water vole numbers across the Cotswold Water Park.

Recent water vole surveys have indicated population stabilisation on some sites and recent increases on others. Habitat improvements are ongoing and receiving great support from landowners and the wider public. Similarly, local press are all too keen to show their support and report on positive “Ratty” sightings, but are perhaps not so captivated by the fact that we haven’t seen any mink. We at the Cotswold Water Park Society however, are delighted!

© Gareth Harris
Coastal Vegetated Shingle is a BAP priority habitat and is one of the scarcest habitats in England, at less than 4,500 hectares in extent. Global distribution of shingle coastlines is largely limited to temperate shorelines, so the UK resource is of international importance. The pebbles (2 to 200mm in diameter) forming the basis of this habitat are only moved by waves, unlike sand that is blown about when dry to form the more familiar sand dunes.

Plant communities and other species found in the habitat are specialised to cope with the extreme conditions such as storm waves and on more stable shingle, the dry and soil-less conditions that limit plant growth. Shingle is known to support a number of rare and scarce species which require different facets of the habitat, from bare shingle for nesting terns, to more vegetated areas providing nectar sources for invertebrates. The importance of this habitat is also recognised at a European level, with two shingle Annex I habitats listed in the EC Habitats Directive, the ‘annual vegetation of drift lines’ and the ‘perennial vegetation of stony banks’ on more stable shingle. In order to report on the conservation status of vegetated shingle and target conservation efforts, it is vital to know where it is, how it is changing and what species it supports.

Working in partnership with Natural England and others, Defra and the National Trust recently funded a project to develop an updated inventory of the extent and distribution of vegetated shingle habitat in England. By using aerial photography interpretation (API) combined with ground-truthing visits to a sample of sites, (including several in National Trust ownership), a data layer giving the 2006-2009 extent was produced, now available as a download from the Natural England website. The overall current extent of the habitat in England is 42.76 km² (4,276 ha), showing little change in extent compared with the previous 1990s data layer. For the first time there was also an assessment of the key locations for ephemeral drift line habitats, where annual plant species are usually only visible between July and September.

Other outputs of the project included a technical report (detailing the rule base for data capture) and digitised versions of the original 1990s site surveys, with updated surveys of the sample sites. There are 15 BAP priority species directly associated with shingle, and the project assessed how feasible it would be to link existing sources of species data with the surveyed sites. There is a wide range of other important species that are largely only found on shingle, and these are collated in the report.

Coastal shingle contributes to flood risk management, as it absorbs wave energy. Beaches with a wide profile and adequate volume of shingle can help reduce the risk of overtopping in storm events. The data in this inventory can be linked with other flood risk management data, providing a basis for better planning for and adaptation to coastal change, especially related to long-term climate change. The legacy of past interventions and rising sea levels means that some shingle ridges will change in volume and shape, and may be vulnerable to damage during storm
events. However there are locations where breaches have naturally ‘filled up’ with shingle over time through coastal processes rather than artificial intervention.

Scottish Natural Heritage is currently reviewing a draft report and GIS inventory layer of vegetated shingle habitats in Scotland. The project was undertaken by the same team as the England inventory, the GeoData Institute, employing a similar methodology. The Sneddon and Randall maps have been digitised as a GIS layer providing a historic baseline of vegetated shingle communities at the 24 sites surveyed in the early 1990s. The project report discusses the extent, nature and context of vegetated shingle habitats in Scotland and by the end of 2011 there will be a far better understanding of the current UK coastal shingle resource, which is largely found in England and Scotland.

Since the publication of the Coastal Vegetated Shingle Habitat Action Plan (HAP) in 1999, several initiatives have improved the level of knowledge about this important habitat. These include national guidance on management and restoration http://webarchive.nationalarchives.gov.uk/20090214162333/http://www.eclife.naturalengland.org.uk/project_details/good_practice_guide/shingleCRR/shingleguide/home.htm and local projects supported by volunteers such as the East Sussex Vegetated Shingle Management Plan http://www.eastsussex.gov.uk/NR/rdonlyres/04C8BD90-8E98-4DB7-87CA-47AA0BA94E4A/0/shingle_mgmt_plan.pdf. The management of beaches in flood risk operations also has new guidance in the form of the 2010 Beach Management Manual http://www.ciria.org/service/knowledgebase/AM/ContentManagerNet/ContentDisplay.aspx?Section=knowledgebase&ContentID=17714.

The initiation of the Sand Dune and Shingle Network in 2006 http://www.hope.ac.uk/coast provided a platform for disseminating research and developments in the world of shingle. The Network helps to draw together people from a variety of backgrounds to discuss the issues facing shingle habitats. A 2008 workshop explored some of these issues and the resulting publication is available at http://www.hope.ac.uk/coast/occasional-papers.html. The latest edition of the Network newsletter focuses on shingle and is available at http://www.hope.ac.uk/coast/newsletters.html.

This guidance and information can be shared and developed through a range of partnership working on shingle sites to meet local, national and international needs, and to ensure that this habitat is better understood by those who use it and fully considered in coastal management for the next ten years and beyond.
Buckinghamshire and Milton Keynes Habitat Mapping Project

Buckinghamshire is recognised for its rich and varied landscape and habitats. Ancient parkland, chalk grassland and beech woodland are just a few of the habitats making up the County’s rich natural environment.

The environment is being placed under increasing pressure from changes brought about by climate, growth and development. Strategy and policy is changing to address such issues and are meant to better safeguard landscape qualities. Section 40 of the Natural Environment and Rural Communities Act 2006 provides just one example. It places a duty on all public authorities to have due regard for conserving biodiversity. Underpinning this requirement is the need for authorities to ensure they are equipped with a good understanding of their natural environments.

In a partnership project with Buckinghamshire and Milton Keynes Environmental Record centre, Milton Keynes Council, Natural England and Buckinghamshire County Council have developed a habitat map covering all of rural Buckinghamshire and Milton Keynes. The map provides a fine grain environmental assessment of the habitats present in the county. Using the Integrated Habitat System all undeveloped land in the county has been digitally mapped. The project brings together both new and existing information on a range of habitats making it accessible through a Geographical Information System (GIS). The project has resulted in a database which holds information of well over 65,000 individual habitats across the Buckinghamshire and Milton Keynes. It provides an overview of the habitats occurring in the county, their distribution and underlying characteristics. By bringing together a variety of information we have created a detailed record of the habitat types present, their management status and origin.

Over 3 years of detailed mapping and analysis has resulted in a report providing an overview of the habitats present in the county, their distribution and underlying characteristics. Data are pooled into five administrative areas presenting a summary of the habitat resource for each district. This represents a major step forward in our understanding, and creates an important tool to conserve the natural environment at a time when it is experiencing increased pressures.

It is hoped the project will help inform those involved in decision making related to our environment. The data can be used by local communities as a tool for providing awareness of the natural environment and act as an aid in decisions relating to their rural surroundings. It is also hoped the data will form a basis for further research and provide a baseline for climate change studies.

The report can be downloaded from [http://www.bucksc.gov.uk/bcc/environment/habitat_mapping.page](http://www.bucksc.gov.uk/bcc/environment/habitat_mapping.page) alongside appendices with further information about the project. Hardcopies of the main report is also available for purchase at £5. Please contact the Natural Environment Team at Buckinghamshire County Council for further details. For more details call 08453708090 or email countryside@buckscc.gov.uk
Honey bees: not essential for apple pollination

In their article on honey bees and apple pollination (Biodiversity News 52), Andrew Cuthbertson and Gay Marris (Food & Environment Research Agency, Defra) implied that the UK apple industry, and agricultural production more widely, depended mainly on the domesticated Honey bee for pollination services, ‘Bees in general make an essential contribution to agriculture and the environment through pollination of many cultivated crops and wild plants….The honey bee….plays a dominant role in this process as the major commercially managed pollinator to provide this service, although bumblebees and solitary bees are also available.’ But does the honey bee play a dominant role in the pollination of many cultivated crops and wild plants? The evidence suggests this is not yet the case in the UK and that wild pollinators (biodiversity) are more important pollinators than the domesticated Honey bee.

Honey bees are significant pollinators of crops. Yet the relative roles of Honey bees and wild insects in the pollination of crops and wild plants, in the UK and elsewhere, are poorly understood. Based on the number of British hives and the area of crops depending on pollination, the benefit that Honey bees generate for UK crops is believed to be a rather small fraction of the annual £440 million pollination service.

Coevolution between wild plants and insect pollinators has resulted in many specific relationships that cannot be replaced by Honey bees. Such relationships include solitary bees, bumblebees, butterflies, moths and hoverflies, which together represent many hundreds of species.

Honey bees are perhaps not ideal pollinators because they are adapted to avoid becoming contaminated by pollen: they carefully package their pollen into baskets. Consequently, Honey bee flower visits may not result in pollination. In contrast, many solitary bees store their pollen in places where it is accessible to the reproductive parts of flowers.

In the case of apple pollination, fruit yields after a single visit can be more than five times higher in flowers visited by solitary bees compared to Honey bees. Solitary bees, particularly mining bees (Andrena spp.), have been shown to provide consistently better apple pollination than other insects, including honeybees. Mason bees (Osmia spp.) are also much more efficient apple pollinators, such that 300 female mason bees are equivalent to an entire hive of 15,000 honey bees. Indeed, orchard owners use commercially-reared species of mason bees in many countries.

It is unsurprising that the contribution of wild pollinators in UK apple crops has not been commercialised: there are no financial incentives for understanding this service and the roles of different pollinators remain unmeasured. However, there are several common, wild mason and mining bee species in the UK, and bumble bees are also commonly observed visiting apple blossom. It seems likely that a very significant proportion of apple pollination is undertaken by wild pollinators. This ecosystem service could be fostered to the benefit of wild species. Honey bees only become ‘essential’ if natural pollination services are profoundly damaged.

Surely one of the central aims of sustainable agriculture must be to ‘not put all of your eggs in one basket’. Global institutions are now all too keenly aware of humanity’s reliance on a small number of staple foods (rice, wheat, etc.). The consequent pressures on food supply illustrate the risks of depending on only a few commodities. Similarly, we should be careful ‘not to put all our pollination services into one pollen basket’ – particularly where the principal species is subject to regular disease outbreaks. In addition, wild pollinators reach the parts that Honey bees can not reach. This includes pollinating flowers in areas of the countryside outside the range of Honey bee hives, pollinating flowers that Honey bees are physically unable to pollinate, and pollinating in windy and rainy weather when Honey bees are inactive.
We know that moths, butterflies, bumblebees and hoverflies are declining; we believe that addressing this decline in wild pollinators and pollination services should be a top priority. Buglife, the Bumblebee Conservation Trust and other organisations are setting a precedent by working on wild pollinator projects. Historically in the UK, Honey bees have been the main focus of research resources for pollinators. It is therefore good news that the ‘Insect Pollinator Initiative’ is currently funding research on wild pollinators. Yet long-term support for wild pollinators depends on recreating extensive areas of wildflower habitat, plus suitable pollinator nesting habitat, in the wider landscape. Importantly, this would deliver benefits for both agriculture and biodiversity. Helping wild pollinators should be the central tenet of pollination service protection; this requires a long-term and coordinated commitment from the Government, the scientific community, conservationists and the agricultural sector.

Richard M. Smith (Farming and Pollinator Officer) and Matt Shardlow (Chief Executive).

For further information on this and wider invertebrate conservation issues contact richard.smith@buglife.org, or visit the website www.buglife.org.uk. Buglife - The Invertebrate Conservation Trust, First Floor, 90 Bridge Street, Peterborough, PE1 1DY.

Britain’s Got Wetland Talent!

The Marsh Award for Wetland Conservation 2011

As the nation’s hopefuls gear up to hit our screens in Britain’s Got Talent this spring, WWT is looking for the unsung heroes whose real talent, for creating or looking after wetlands and wildlife for us all, usually goes unrecognised.

We’re asking people to nominate the wetlands – ponds, lakes, streams and others – that they enjoy visiting and think benefit their community. We will find the hard-working, talented people that look after them and shortlist them for the Marsh Award for Wetland Conservation 2011, giving them the chance to win £1,000.

Nominate your favourite wetland here until 30 April. It is simple and easy to complete in less than five minutes.

The Marsh Award 2011 will go to the person who is judged by us to be mainly responsible for managing the wetland in recognition of their unsung contribution to creating a wetland for everyone to enjoy.

The things we will be looking for to help judge the award are:

- The wetland is accessible to as many people as possible
- The wetland is attractive and brings a wide range of benefits to the people who live nearby
- The wetland is home to a wide variety of wild plants and animals
- The wetland is managed by someone who, either in their job or in their spare time, makes a difference by caring for the wetland, and/or improving the benefits it provides to local people. They could do this either themselves or through organising others.

There is more information on the benefits that wetlands bring for people on the rest of the WWT website.

If you'd like to find out more about what you can do in your home and garden, check out the Festival of Gardening

The Marsh Award for Wetland Conservation will be presented at the Wetland Futures conference in June. The Marsh Award for Wetland Conservation is part of a portfolio of awards run by the Marsh Christian Trust.
Discover Anglesey’s Coastal Nature Reserves

Anglesey’s coastline is full of opportunities to escape in search of stunning scenery and a sense of wilderness. Ninety five percent of the island’s 125 mile shoreline has been designated an Area of Outstanding Natural Beauty (AONB). Nestling in quiet corners here are some peaceful patches just waiting to be discovered. North Wales Wildlife Trust manages several such reserves, known collectively as the Anglesey Coastal Nature Reserves.

As spring unfolds the Trust offer plenty of opportunities to get out and experience the sea breeze during a season rich in anticipation and wildlife spectacles...

Porth Diana is the smallest of the reserves and a patchwork of colour in summer, including bright yellow gorse and the purple hues of heather. Part of a network of coastal heathland on the west of Holy Island, it is also home to a dainty treasure; the Spotted Rock Rose, Anglesey’s county flower.

In the south west of the Island, narrow, tree-flanked lanes curve inland towards Coed Porthamel. As night falls on the 20th of April we’ll wonder through this quiet reserve, torch in hand, keeping a keen eye for “Creatures of the Night”.

A landfill site in the 60s, it’s now a very different place. In a landscape with a paucity of woodland it’s a heaven for birds, bats and moths. Venturing through the white carpet of Ramsons during spring, the air is heavy with garlic, Old Mans Beard festoons the branches and damp ferns flank the edges of the old quarry. Despite glimpses of its past in the form of old bottles poking out of the vegetation, the site has the feel of a temperate jungle. A local expert will be on hand to help us identify the creatures we encounter.

In the north, Cemlyn’s distinctive shingle ridge and lagoon hosts the only breeding colony of Sandwich Terns in Wales and pulses with life all year round; seabirds and coastal plants like Sea Kale in summer, and waders and wildfowl in winter. We’ll be calling on all wildlife detectives in June to join us with our annual “Cemlyn Creature Count” on the 12th; it’s the perfect opportunity to discover the sheer array of wildlife here. The challenge is to spot and identify as many different plants, minibeasts and birds from the lagoon, land and sea, in two hours. Last year was our best yet; can we discover more than 200 species this year...?

In the east of the island near Llangoed, Mariandyrys offers fantastic views of Snowdonia, but look around the reserve itself and a multi-coloured carpet of wildflower-rich limestone grassland and heath is revealed, resonating with the shrills of grasshoppers and buzzing bees. “Mariandyrys Minibeasts Marvel”, July 25th sees us venturing out with sweep nets, pots and hand lenses at the ready in an attempt to discover a variety of creepy crawlies.
The limestone allows a great diversity of wildflowers to flourish here and support an abundance of invertebrates that call Mariandyr ys home. These include butterflies such as the rare Grayling and Brown Argus, up to 80 species of moth, beetles, ants, spiders, ladybirds and much more. Everyone welcome, so why not join us and see what you can find?

Discovering new places or getting to know your patch and living with a landscape intimately through the seasons can be rewarding. To anyone interested in getting involved with Anglesey’s Coastal Nature Reserves and helping us maintain a living landscape, there will be a warm welcome at Cemlyn on Sunday 8th May. Come and meet the Cemlyn wardens and learn how you can help the tern colony and participate in the project. (Booking required)

For more information on the project and our events please visit our website www.northwaleswildlifetrust.org or to reserve a place please contact us on 01248 351 541 or email nwwt@wildlifetrustswales.org

**Disused quarries offer hope for threatened crayfish**

More than 100 white-clawed crayfish, an endangered species in Peak District and Derbyshire rivers, now face a brighter future thanks to safe pools in a disused quarry.

White-clawed crayfish - the UK’s only native crayfish - have been devastated in recent years by the invasive non-native signal crayfish which spreads a deadly plague.

But 18 months ago the Crayfish Arks for the Peak District and Derbyshire Project set up crayfish-friendly havens (or ‘arks’) in two ponds at a disused limestone quarry owned by the National Trust.

Project workers and volunteers moved 101 healthy white-clawed crayfish to the site from the National Trust’s nearby Calke Estate. Now, completely isolated from rivers where non-native species and disease can spread, it is hoped they will breed and flourish.

Natural England provided funding of more than £20,000 from Defra’s Aggregates Levy Sustainability Fund, which helps compensate for the environmental or social impact of quarrying. This was one of the last projects to be funded this way, as Defra has had to remove this source of funding under government cuts. A considerable amount of time was also provided free by project partners.
Further potential ‘ark’ sites for the future have been identified at other aggregates sites in the Peak District, and last month quarry industry representatives attended a seminar on enhancing biodiversity at their sites, hosted by the Peak District National Park Authority.

Peak District Biodiversity Action Plan co-ordinator Karen Shelley-Jones, who organised the project, said: “Our white-clawed crayfish are being severely depleted by the non-native signal species, which is bigger, more aggressive and largely unharmed by the plague which it carries. It was originally introduced to the country for farming in the late 1970s, and since then has been spread to rivers and streams by people who weren’t fully aware of its devastating effect.

“In recent years crayfish plague has wiped out Peak District populations in the Manifold and Dove, but we used healthy donor sites in wetlands on the Calke estate and now the crayfish can breed safely away from potentially risky river habitats.

“We hope in the future to be able to locate remaining pockets of white-clawed crayfish and increase their protection or move them to safer sites. Former quarry sites can represent one of the ways of conserving this species into the future.

“This project turned out to be a brilliant demonstration of organisations working together across geographical boundaries to give one of our threatened native species a brighter future.”

Organisations who collaborated were the Peak District Biodiversity Partnership, Lowland Derbyshire Biodiversity Partnership, Derbyshire Wildlife Trust, Staffordshire Wildlife Trust, National Trust, Natural England, the Environment Agency, the ecology consultancies ECUS Ltd and Peak Ecology Ltd, and the site owners and operators who allowed the project team to assess their sites.
The Welsh Clearwing in the Elan Valley

A Major New Population

The Welsh Clearwing, *Synanthedon scoliaeformis*, is an elusive, day-flying, moth that to date has only been found in the UK in a small number of locations in Wales, the English Midlands and Scotland. It is a Red Data listed species and has been declared a Priority Species by the Welsh Assembly.

During the summer of 2009 an imago Welsh Clearwing was found on the Radnorshire Wildlife Trust’s reserve at Gilfach, a few miles north of Rhayader in mid-Wales. From this Pete and Ginny Clarke, Radnorshire County Moth Recorders, decided to have a look at other likely sites in the area including the Elan Valley, where, with Welsh Water’s Countryside Ranger Simon Breeze, they found several positive signs both in Radnorshire and just over the border into Brecknock. After this PJ looked at other areas in the Elan Valley and found other positive signs.

On this basis Pete Jennings decided to include the species in the Elan Valley BAP and to seek some grant aid from the CCW to undertake a fuller survey in 2010.

Welsh Clearwings lay their eggs in crevices on the trunks of mature birch trees, usually Downy Birch, *Betula pubescens*, in open, sunny positions. The eggs hatch and the small larvae tunnel into and feed on the bark of the tree trunk. After 2-3 years the larvae are ready to pupate which they do beneath the bark. Emerging as adults in June or July. This leaves characteristic holes some 5mm in diameter usually at 1-2 metres from the ground sometimes with the pupal case, the exuvia, persisting at the exit.

Searches were made of suitable trees in the Elan Valley during 2010 and also pheromones were trialled to attract the adults.

A survey form was produced which included tree location, altitude, aspect, no of emergence holes, presence of exuviae, tree size, tree girth, holes of other inverts such as beetles, height of holes above the ground, surrounding habitat, shading density etc. Simon Breeze started the survey work in 2010 but the major part was carried out by another of Welsh Water’s Countryside Rangers, Sorcha Lewis.

Sorcha found over 50 occupied or previously used trees over a wide area of the Elan Valley. Most had 3-8 emergent holes but one had 24 and another 33. Also some 29 exuviae were found and one egg-laying adult. The survey continues and to date over 75 used trees have been found making the Elan Valley one of the two most important sites for the species known to date in the UK.

Generally trees used are in sunny or open, sheltered positions. Over recent years many thousands of such mature birch trees must have been lost by way of hedgerow restoration schemes etc and so the needs of the species are being included into Glastir and hopefully into the Countryside Stewardship Scheme in England.

Pete Jennings

Biodiversity Coordinator, Welsh Water. Site Manager, Elan Valley.
The End of a Golden Era … and a Good Thing Too

If a decade ago, your reserve wardens had mentioned they were having problems controlling the spread of ‘Ludwigia’, you would be forgiven if your initial reaction was one of jumping for joy – thinking that your site had newly acquired one of Britain’s rarest plants. The Hampshire Purslane Ludwigia palustris is the only native representative of the Ludwigia genus. It is a diminutive plant that sprawls inconspicuously in pool margins in places such as the New Forest. Nevertheless, from the description of the plant your wardens have been attempting to control, it is clear that you are dealing with a much larger, rather attractive-looking plant – but one that bears a sinister front. The plant is Large-flower Water-primrose Ludwigia grandiflora from the warmer regions of the Americas.

It was first recorded as a neophyte in Britain in 1998 at the former Barn Elms Reservoirs, now the Wildfowl & Wetlands Trust’s (WWT) London Wetland Centre (LWC) in SW London, and has since been found at 15 sites around the UK where monitoring occurs. Plant material was collected by Neil Anderson and sent for identification to Rodney Burton (London Natural History Society Botany Recorder). Rodney Burton kindly wrote back to WWT highlighting several interesting facts about this recent addition to the British flora. In some locations on the continent, there had clearly been difficulties in identifying the exact species of Water-primrose Ludwigia spp., as two similar-looking species occur in Europe: Creeping Water-primrose Ludwigia peploides and Large-flower Water-primrose.

Rodney Burton also described the plant as “overrunning” a French farmer’s pond and Water-primrose was already proving problematic to control in France. An example would include Marais d’Orx in France, where Water-primrose occupied a few m² in 1993, but had extended over an area of 130 ha by 1998. Rodney Burton’s discretionary tale about the hapless French farmer goaded WWT to take action. In 2000, the plant had already spread to an area of 25m² at LWC. Annual management by hand-pulling with teams of WWT volunteers helped thereafter to slow the plants spread.

With advice from Jo Heisse of the Environment Agency (EA), WWT began herbicide management in 2008: an application of glyphosate (herbicide) and Topfilm (sticking agent). By summer 2010, Water-primrose was successfully eradicated. LWC and Hever Castle are the first 2 sites in the UK to have succeeded in eradicating Water-primrose using an effective herbicide treatment developed for DEFRA by Dr Jonathan Newman’s team at Centre for Ecology & Hydrology. The eradication programme at LWC was a huge achievement after all the hard work by the WWT reserve team and volunteers over the past decade.

The EA’s best practice advice for control of this invasive species at LWC proved very necessary in securing the eradication of the plant. Accounts from the continent, including one 500 ha lake in Southwest France becoming entirely covered in Water-primrose in 6 years (equivalent growth rate of 83 ha a year), illustrate the importance of dealing with invasive non-native plants like Water-primrose as promptly and effectively as possible. An economic study by CABI-Bioscience has estimated that Water-primrose could cost the UK over £242 million if it were allowed to establish fully in the UK. The consequences of this invasive plant if left unchecked would include: the

Water-primrose dominating the surface of an expanse of open water set behind a river weir in France © Trevor Renals
Spring

Local & Regional

Choking up of extensive areas of open water and the knock-on effect this would have on native wildlife and wetland habitats; and the clogging up of waterways and the negative impact this would have on a variety of recreational activities (as well as the health and safety implications of an invasive water plant that can grow to depths of 3m). As a result, Water-primrose was the target for the first Invasive Species Action Plan (ISAP) for the UK to be developed by the Invasive Non-Native Species Framework Strategy. The EA’s lead on the DEFRA initiative to demonstrate that it should be possible to control a non-native invasive wetland plant in the UK should be applauded.

Ultimately, as the success of the ISAP increases, with other sites like LWC managing to eradicate Large-flower Water-primrose, real hope is generated regarding the potential for eradication of other non-native invasive plant species across the UK. It seems surreal to think that the possibility of eradicating the native Hampshire Purslane’s non-native cousin, the Large-flower Water-primrose, could herald a turn around in fortune for the rare Hampshire Purslane in its own right – where a number of its ponds in the New Forest have been colonised by the invasive non-native New Zealand Pigmyweed *Crassula helmsii*. The effective eradication of the seemingly ubiquitous New Zealand Pigmyweed from affected sites is something of a ‘holy grail’ for conservation managers across Britain – but that is another story to unfold. Let us concentrate initially on eradicating Water-primrose from the UK – let us learn to walk first, before we start to run.

For more information:

WWT London Wetland Centre:
http://wwt.org.uk/london


ID sheet at the GB Non-Native Species Secretariat: https://secure.fera.defra.gov.uk/nonnativespecies/home/index.cfm

GIGL: http://www.gigl.org.uk/

Be plant wise campaign: http://beplantwise.direct.gov.uk/index.html

© Jo Heisse
Noble Chafer in the New Forest

The New Forest is the only place in the UK where the rare noble chafer beetle has been found not in a traditional orchard habitat. The People’s Trust for Endangered Species (PTES) has been awarded a grant by the New Forest National Park Authority to find out more about this elusive beetle and its whereabouts in this ancient forest.

On sunny, summer days noble chafer beetles have been seen basking on hogweed at the side of the A35 by a local entomologist. Other than that we know very little about the New Forest population, for example we have no idea where the females lay their eggs and the larvae develop.

In order to gain a better understanding of this vulnerable beetle, we have undertaken a survey of the forest surrounding the most recent noble chafer sightings, using GIS to document and map trees with veteran features such as rot holes, cracks and splits in the bark. The next step will involve visiting each of these trees to search for signs of the beetles’ presence.

The female lays her eggs in decaying wood within live trees. The larvae hatch approximately two weeks later and feed on the rotting wood debris (mould) in the cavities and hollows. As the larvae consume the wood mould, they produce characteristic droppings called frass (see photo). However since they only feed on rotting wood, noble chafers do not harm the trees they inhabit.

We are asking the residents and visitors of the New Forest to look in their gardens, campsites and parks for signs of the beetle.

For more information on the noble chafer, to request some project flyers or to report a sighting please contact Conservation Officer at PTES, Laura Bower on laura.bower@ptes.org or call 020 7498 4533.
Ponds across South Yorkshire restored to former glory

In April 2010, Sheffield Wildlife Trust received a grant to undertake the South Yorkshire Ponds Project across Barnsley, Doncaster, Rotherham and Sheffield. The Project was funded by Biffaward, a multi-million pound environment fund managed by the Royal Society of Wildlife Trusts (RSWT), which utilises landfill tax credits donated by Biffa Waste Services.

The Project was carried out in partnership with Pond Conservation and the South Yorkshire Biodiversity Forum, with additional support from the Environment Agency and in co-operation with various landowners across the sub-region. In total, 18 ponds over 11 different sites were surveyed and restored.

Ponds have been identified as a habitat for priority action across the sub-region. Many of our ponds are deteriorating in quality, reflecting the national picture of severe pond decline. Sheffield Wildlife Trust has been working in partnership with Pond Conservation on a number of projects over the past three years to map, survey and restore our valuable pond resources. The Biffaward funded project continued to build on the success of previous projects.

Ponds are extremely valuable for wildlife and they provide great opportunities for people of all ages to learn about this wildlife and the natural environment, through events like pond-dipping or simply by seeing the variety of animals living in or using the water. These include dragonflies and a whole host of other invertebrates; amphibians such as frogs and newts; birds or bats feed on insects over the pond whilst herons and kingfishers hunt for food in the water. Many also have a great variety of plants growing in them, either floating on the water or around the margins of the pond.

During the course of the project, detailed biological surveys were carried out on a selection of ponds across South Yorkshire. Many of the ponds had not previously been surveying and this provided a good idea of what ecological value the ponds had and how best to restore the ponds to benefit both people and wildlife. Great Crested Newt surveys, Water Vole surveys and Predictive System for Multimetrics (PSYM) surveys were all carried out.

Following on from the surveys, practical restoration work was carried out. This restoration work ranged from tree removal to improve bankside vegetation, silt excavation to restore pond depth and clearance of pond vegetation to restore open water areas. Managers of the sites have been provided with recommendations for future management to ensure that the ponds remain of good ecological value.

For more information on the South Yorkshire Ponds Project and for details on the ponds that have been restored, visit Sheffield Wildlife Trust website at www.wildsheffield.com
The Norfolk and Suffolk Broads is the UK’s largest protected wetland and contain 75% of the UK’s lowland fen, an EU priority habitat. This Broadland habitat supports unparalleled species richness and species rarity not found in any other lowland wetland, inland waterway.

The Broadland fens are internationally recognised for twelve fen plant communities, four of these are new communities discovered by the recent Fen Survey. The reed community containing milk parsley, which is the food plant of the swallowtail butterfly caterpillar, is almost wholly confined to the Broads and covers over 20% of the Broads fen. Internationally important plant species found on the fens include the fen orchid, which within England is confined to a few fen sites.

The fens are dissected by networks of dykes (ditches) which support internationally important aquatic plant communities that have been lost from the open water. Within the fen dyke systems holly-leaved naiad and a further five nationally important aquatic plants are to be found.

The Broadland fens contain many rare invertebrate species not found elsewhere including moths associated with reed, snails that enjoy dense vegetation and two-winged flies whose distribution is only beginning to be mapped.

The survey

A three-year intensive vegetation and invertebrate survey has just been completed. This colossal survey was undertaken by contractors (ELP, OHES, Arachne and Liverpool University) and managed by the Broads Authority, co-funded by the Broads Authority and Natural England, with a contribution by Essex & Suffolk Water.

The aims were to map and assess ecological condition, define assemblages and changing status of communities and provide a baseline for assessing future climate change, sea level rise and site management.

The Plant Results

- The 7000 sample points revealed plant communities that are only found in the Broads (for example the mixed fen vegetation with milk parsley, the food plant of the Swallowtail caterpillar).
- These unique groups of plants are prompting a rewrite of the national plant communities.
- Some of the best bits of fen found within the survey were located in areas restored and managed by the Broads Authority and partners.
- Turf-ponding (creating shallow open water areas within open fen) provides the most effective way of conserving species-rich fen.
- Vegetation communities are being lost and changed as a result of loss of habitat (e.g. reedswamp and valley-side areas), nutrient enrichment or encroaching scrub.
- The presence/absence of certain plants has been assessed as an indicator of levels of salinity – this suggests an overall increase in salinity in fen vegetation in some areas.
- Some important areas are becoming more reed dominated, with the loss of rare wetland plants.
The Invertebrate Results

- The Broads fens contain unique invertebrate communities of aquatic and terrestrial beetles, spiders, two-winged flies and hoppers.
- Two communities which are particularly important are those associated with wet conditions, either in permanently wet fen and/or fen dykes.
- Hydrology or the water regime is the most important factor affecting the invertebrates.
- Vegetation management may impact individual species. For example, if the areas of fen managed by regular commercial cutting were significantly increased, recolonisation for less mobile invertebrate species would become difficult.
- We need to know more about the importance of annual fluctuations and seasonal variations in hydrology and tolerance of assemblages to change.

Full reports of the results can be found on the Broads Authority website: [http://www.broads-authority.gov.uk/managing/land/fen/fen-workshop-2010.html](http://www.broads-authority.gov.uk/managing/land/fen/fen-workshop-2010.html)

Conclusions

The Fen Survey demonstrates that undertaking conservation management boosts the habitats and their wildlife. In many places this has created wonderful biodiversity hotspots with turf ponds providing ideal conditions for retaining species rich fen. Closer collaboration between conservation bodies and land-owners is sharing best practice and helping identify the best possible management options.

The fens need to be retained as priorities for Environmental Stewardship Higher Level Scheme Agreements to provide the support to get the best possible management of sites. If possible the payment levels need to be raised to truly reflect the cost of best practice management.

Worryingly, comparisons between this survey and that of ten years ago does show a loss of reedswamp, continued encroachment of scrub where management is insufficient and impacts from increasing incursions of saline water. This gives rise to poorer vegetation communities overall. This indicates that insufficient appropriate management is in place and that further investment is required as well as a need to understand the options for improving water quality.

Next steps will take place on multiple fronts with the Broads Authority working with partners to press for further fen management and associated strategic funding programmes; continued improvement of catchment scale work to improve the water environment; efforts to connect the wetlands to improve resilience; and identifying how to adapt the fens and wetlands to rapid climate change.

For further details contact:
Andrea Kelly (andrea.kelly@broads-authority.gov.uk) Senior Ecologist or Sue Stephenson Environment Officer (sue.stephenson@broad-authority.gov.uk)
Return of the Welsh Specklebellies

From its title this article could be about a rare breed of pig or sheep repatriated with its homeland, but is about something far more exciting. The specklebellies are a group of large lichens with a noticeably speckled underside. Three species have been found in Britain. Two species (the Intricate Specklebelly *Pseudocyphellaria intricata* and Norwegian Specklebelly *P. norvegica*) are very much at the northern edge of their world range being much more at home in tropical rainforests, whilst the third (the Lacerate Specklebelly *P. lacerata*) clings precariously to just a handful of sites in western Britain and in Madeira and the Azores. It must be one of the world’s rarest species. These are proper rain forest species.

All three lichens have been recorded from Snowdonia in the past but no details of localities could be traced. The food-producing, photosynthetic partners of these lichenised fungi are cyanobacteria (blue-green algae). They were particularly susceptible to sulphur dioxide pollution and do not grow well in acidic sites. With Snowdonia deluged in rain, and the rain still significantly acidified by pollutants, the likelihood of survival seemed slim.

With all the most recent records from the Aber Gwynant Valley above Beddgelert, a search seemed feasible – at least until you see the valley. Almost all of the several square miles consist of woodland or rock outcrop. Needles and haystacks kept springing to mind, and just how long can a fruitless search go on for? The British Lichen Society had visited the valley twice without finding any.

Serendipity or just plain luck resulted in the discovery of the Norwegian Specklebelly. After a day in senior management deliberations in Bangor and on my way home and dressed in a pin-striped suit, I just had to get into the real world and pulled into a little lay-by high up the valley at the top woodland edge. The trees were disappointing and very acidic, but the volcanic rocks were basic and a treasure trove of cyanobacteria-containing lichens. There amongst them was the Norwegian Specklebelly. Almost certainly now lost from England, its nearest locations are over the Irish Sea in Killarney to the west or on the Mull of Kintyre to the north.

Later on a foray further south in the valley, aided by Peter Benoit and Andrew and Janet Graham, on block scree we located what had every appearance of being the Lacerate Specklebelly. Protected by its inclusion on Schedule 8 of the Wildlife and Countryside Act, it could only be photographed and the image sent for confirmation by an expert. The result was inconclusive. To my shame I never really appreciated the significance of this discov-
ery. It was only when I started work on writing a Red Data Book of Welsh Lichens a decade later, and all the Specklebellies had been placed on the Welsh Section 42 list as being species of principal conservation concern in Wales, that I realised its importance. The Welsh population was not just an odd outpost of a large Scottish population. The Scottish population was tiny and its world distribution severely limited to a small part of the Western Atlantic. It was important to confirm its identity.

Enlisting the photographic skills of Liz Fleming-Williams a decade later, the block screes were re-examined. Now much diminished in area, a tiny patch was located and photographed and its identity confirmed. Two out of three specklebellies had been refound. But what of the Intricate Specklebelly? After photographing the screes we set off south into the ash woods of Hafod y Llan. The rocks were tantalisingly just about basic enough for cyanobacterial lichens, but supported little of note. Just as light began to fade a magnificent stand of maiden ash trees was located – some of the largest I have ever seen in Wales. There on the trunks of three trees was the Intricate Specklebelly. As trees age their bark becomes less acidic and the spread of the crown tends to shed some rain that otherwise would have acidified the bark.

Elation quickly turned to concern. With such tiny populations did they really have a future? Stochastic (otherwise known as “I don’t believe it!”) events could easily carry them away. The Norwegian Specklebelly had just escaped being scraped off its rock by a falling tree. The Lacerate Specklebelly was on a block scree threaded through with paths and littered with old drinks tins from an adjoining campsite, and how such large ash trees remained upright on such a steep scree slope was beyond belief. But somehow they do seem to survive – just. Acid rain is still the main threat to this group of lichens, a threat we have somehow contrived to forget about in the midst of our concern over global warming.

A very close watch now needs to be kept on the sites and the help of all the owners and users of these areas sought. The specklebellies will undoubtedly need a helping hand should accident dislodge them. Our past management has robbed them of the ancient trees they evolved to occupy and acid rain has further limited their rock and tree habitats. Hopefully we can now begin the long haul necessary to reduce acid rain and encourage the growth of new generations of ancient trees. They just have to “hold on in there” as our American cousins would say and yes, specklebelly is a good American name!

Ray Woods is Plantlife's Lower Plants Champion.

This is a reprint of an article which appeared in Issue 37 of the quarterly magazine Natur Cymru - Nature of Wales. Annual subscriptions cost £16, or £15 by Direct Debit. Cheques payable to Natur Cymru Ltd to : Natur Cymru, Maes y Ffynnon, Penrhosgarnedd, Bangor, Gwynedd LL57 2DW or visit www.naturcymru.org.uk or 01248 387373.
A new identification tool for British Marine Bivalves

A new genus and species of bivalve with an unusual feeding method – sucking body fluid from its prey. It has been named *Draculamya* - the Dracula clam.

In Spring 2010 the National Museum Wales released an online guide to British marine bivalves. This guide includes the 363 species of bivalve currently known from British waters from the intertidal zone to the deep sea (5000m). Each species page has a full description, full colour plates including internal and external images of the shell, images of colour and shape varieties, juveniles and of the anatomy, where useful. A species distribution map shows where the animal is likely to be found (not just where it has previously been found) and is accompanied by ecological information and further data on where the species is found outside of the British Isles.

The UK sea-bed has been impacted by many activities notably through oil and gas exploration and most recently the search for sites for renewables. These activities require environmental impact assessments (EIAs) that rely heavily on the analysis of benthic communities. Correct identification of each species is therefore crucial in determining whether or not areas have been impacted. With exploration for fossil fuels entering deeper waters, benthic ecologists in consulting agencies have encountered a great number of deep water species that are not to be found in identification guides to shallow shelf faunas. The most recent illustrated identification guidebook to British bivalves does not include species found deeper than 200m and even though the deep water bivalves of the UK have been studied in the past, papers on these species are scattered throughout various journal articles, some of which are 150 years old. These old articles are difficult to obtain so our guide pulls together every species that has been discovered in our study area and includes references to the original literature. More generally all benthic samples are notoriously full of small or juvenile bivalves that can be difficult to identify, especially when they have not been encountered before. Supplying guidance to juveniles has been another major thrust for our product. This lack of current capacity resulted in the major source of funding for our project coming from the Department of Energy and Climate Change.

The main advantage of an electronic guide over a printed one, besides saving on paper, is that it is fast and easy to update. Since the launch of our website a species new to the UK was discovered. The shells were sent to us for identification confirmation and were imaged, described and added to our site immediately. We have also been sent additional distribution information from several groups of marine benthic ecologists that have used our guide and have discovered additional locations for species. We would like to encourage people to use the site and contact us with any new information. http://naturalhistory.museumwales.ac.uk/britishbivalves/

From our work so far it has become apparent that for the deep waters there are many new species to be described, and many taxonomic problems to be resolved. Other future plans for the site are to include more comparison plates for similar species, keys to bivalve families that are particularly difficult to identify and we would like to expand to include British gastropods, although funding is still being sought for this particular plan!

Anna Holmes

National Museum of Wales
The Upper Cree Project
Restoration in the River Cree catchment to benefit a wide biodiversity

Cree Valley Community Woodlands Trust (CVCWT) presently manages over 1800 hectares of woodland and other habitats in the Cree Valley near Newton Stewart in Dumfries and Galloway. These are managed using long term management agreements with landowners.

CVCWT’s objectives are to create a native broad-leaved woodland of national importance and high conservation and landscape value, through a community partnership which, together with landowners, the community and local agencies, will focus on improving the social, ecological and economic value of the Creek valley through the promotion of native woodlands.

This is being achieved by restoring and linking fragments of native woodlands and associated habitats by natural regeneration and planting, maximising the benefits of the woodlands by creating opportunities for species of high conservation value to colonise the new woodlands from established ancient and semi-natural habitats.

It is well accepted that large woods and forest habitat networks are more robust and more valuable for scarce species. This project will greatly extend the current network already established by CVCWT. The Upper Creek Project is the latest piece of the jigsaw. This 3 year project aims to produce a riparian corridor along the northern section of the River Cree to its source at Loch Moan. This corridor will also extend up 3 of the main tributary burns of the Cree, the Clauchrie, Fardin and Cairnfore burns, to their sources in the hills. Most of this area was formerly extensively afforested and still contains conifer plantations, but large areas of the riparian zone have been clear-felled. The wildlife corridor will consist of a mosaic of habitats including mixed native broad-leaved woodland. One hundred and twenty hectares within the 670ha site are being planted with local provenance trees. This will not only create a valuable riparian corridor, but will also contribute to the health of the watercourse, providing shade and cover and also detritus in the form of rotting leaves. This in turn will provide food for invertebrates which will provide food for other aquatic life such as salmonids. Conifer regeneration is also being removed from the riversides and it is hoped that the overall reduction in conifers which had led to acidification of the watercourse, coupled with appropriate riparian habitat management, will improve conditions for the brown trout and salmon found in these waters. The waterways are gradually improving chemically, but biological recovery is still lagging behind. The Upper Cree Project aims to boost this biological recovery.

A corridor of broad-leaved trees will be formed along the clear-felled riparian zone

The Upper Creek project could not have been possible without funding from the Tubney Charitable Trust, Scottish Natural Heritage and the Forestry Commission Scotland (FCS) with whom CVCWT have a 25 year management agreement on the land.
CVCWT are working closely with Galloway Fisheries Trust (GFT) who are also running a parallel project concentrating on improvements to and monitoring of the watercourse to benefit a range of rare fish species found in the River Cree, including Atlantic Salmon, European Eel, Sea, Brook and River Lamprey, Allis and Twaite Shad, and Sparling (Smelt). Riparian management will benefit aquatic species throughout the course of the river.

The project will make significant contributions to the Dumfries & Galloway Local Biodiversity Action Plan. It will greatly expand the priority habitat of Native Wet Woods as well as addressing the needs of many UK and Local Biodiversity Action Plan (LBAP) species. Emphasis will be on habitat management to benefit the widest range of species, but where UKBAP, LBAP and species on the Scottish Biodiversity List are known to be present, specific habitat management will ensure their conservation or enhancement.

The Cree catchment would appear to hold good numbers of Otter and Water Vole. This was indeed confirmed after FCS agreed to fund surveys of water voles and otters on key stretches of the Cree and its tributary burns within the project to ascertain the status and distribution of the riparian mammals present. This would prevent any potential unnecessary disturbance or damage to these mammals and also help us to plan future beneficial management.

The surveys were carried out by Malcolm Ginns of Lutra Ecological Services whose particular interest is riparian mammals. Malcolm was ably assisted by Gillian Dinsmore (a local student). The surveys revealed healthy populations of water voles, otters and water shrews. Water vole populations can become fragmented and isolated, leading to local extinction. The combination of loss of habitat and the adverse effects of the alien mink have led to large declines in water voles in many parts of the UK. Careful management will ensure that the Upper Cree water vole populations remain connected and healthy.

High and regular spate conditions in the River Cree mean that the small tributary burns and ditches become vital for water voles. Keeping these clear of conifer regeneration which shade out bank side vegetation and planting willow slips for winter fodder are just two key management strategies to benefit water voles. Planting willows is just one of the jobs being carried out by CVCWT volunteers.

Dumfries and Galloway is still one of the remaining strongholds of the Red Squirrel, although incursions of Grey Squirrels are becoming more common and squirrel pox has also now occurred. The Galloway Forest Park may well become one of the last bastions for the Red Squirrel and it is known from elsewhere in the country that Red Squirrels can survive and ‘hold their own’ within coniferous areas even when surrounded by Grey’s. The Upper Cree Project area would represent an ideal opportunity for Reds, fairly well surrounded by the mostly coniferous Galloway Forest Park less favoured by Greys but with a core of predominantly small seeded tree species favoured by Reds.
In CVCWT’s management area in the Upper Cree, there are large areas of suitable habitat for Barn Owls crawling with their favourite prey the field vole. However there are not many suitable buildings to nest in and large trees with suitable cavities are non-existent. The relative abundance of voles may be more of an issue affecting the numbers of breeding pairs of Kestrels. However the provision of nest boxes will help to ensure that in good vole years, that Kestrels can find suitable and secure nesting sites. The provision of nest boxes will therefore ensure that CVCWT areas being managed for wildlife are utilised to their full extent by desirable and often endangered bird species.

**Barn Owl nestbox built and erected by CVCWT volunteers**

Black grouse are known from the Upper Cree, and the mosaic of woodland and open habitats with recovering (from afforestation) heather and blaeberry will provide ideal habitat for this species. Some areas are being planted at lower densities with favoured tree species such as birch, rowan and hawthorn being planted for winter food sources.

Many other LBAP species are being catered for with this mosaic of habitats and care is being taken to retain connectivity between open habitats. This will benefit small pearl-bordered fritillaries, argent and sable moths and large heath butterflies, a small surviving population of which having been found on an area which was conifer plantation planted on a deep peat bog area where the LBAP species bog rosemary has also been found alongside clumps of cranberry.

It is hoped that, as the Upper Cree develops, it will become an important area for populations of other LBAP species currently found lower down the Cree Valley, to expand into. These could include bat species such as the Leisler’s and birds such as the willow tit.

The long term management commitments by the Cree Valley Community Woodlands Trust will ensure that the Upper Cree will remain a vital link for a wide biodiversity for future generations to enjoy.

For further details about the project and other work carried out by the CVCWT, please contact Pete or Linda on 01671 401423 or e-mail enquiries@cvcwt.org.uk or read the blog on our website at www.cvcwt.org.uk
UK Biodiversity Indicators

Several members of the UK BAP (Biodiversity Action Plan) community will have recently been involved in a meeting to assess the quality of the UK Biodiversity Indicators – the 5th meeting of the Biodiversity Indicators Forum. Biodiversity indicators can be used to show changes in various aspects of biodiversity, such as the population size of important species, or the area of land managed for wildlife. The currently existing set of indicators was selected in 2006, and was created to help measure progress against the 2010 Convention on Biological Diversity (CBD) target, to ‘significantly reduce the current rate of biodiversity loss by 2010’, and also the European Union target to halt biodiversity decline.

In October 2010, a new set of ‘20 targets for 2020’ was adopted at the 10 Conference of the Parties (COP10) of the CBD, and in parallel, a new European Biodiversity Strategy is currently being prepared and is due for publication in May 2011. In response, it was decided that the indicator set should be re-assessed, to ensure that the indicators continue to be based on robust and reliable data; and are relevant to the new international and European goals and targets.

The 5th meeting of the Biodiversity Indicators Forum was held in March 2011, and its objectives were:

- to discuss the quality and relevance of the UK biodiversity indicator set in the light of the adoption of new global and European 2020 targets and:

- to generate options for the development and refinement of the indicator set.

Several of the existing indicators were identified as requiring improvement, and the main issues with these were predominantly around data security and the sourcing of data in the future, and data quality, particularly surrounding modelled data and estimates. In addition, a comparison of the indicators against the new 2020 targets demonstrated that whilst all of the existing indicators can be re-used, for several targets none of the current indicator set are of relevance, and therefore new indicators will need to be created to measure progress towards them.

The forum focussed on just a selection of the key areas identified as requiring development, including: the development of ecosystem service indicators; possible indicators of the impacts of climate change; methods of measuring the impacts of the UK's activities elsewhere (‘footprinting’); and ways of creating an accurate measure of ‘volunteering’ activity relevant to biodiversity. A number of proposals were put forward about how to develop indicators in these areas further, and some of these will be developed over the next few years to create new indicators. In addition, the meeting highlighted a number of additional areas that will also require development, and it is anticipated that further workshops and meetings will be held shortly to address some of these.

The presentations from the workshop, and a summary report, will be available on the JNCC website shortly. Go to http://jncc.defra.gov.uk/default.aspx?page=1824 for further details and for more information about the UK biodiversity indicator set.

UK BAP website update

Please note that it was mentioned in the previous issue of Biodiversity News that the UK BAP website was being migrated, and that we anticipated that the new UK BAP website would be up and running by the beginning of April 2011. The migration has taken a little longer than anticipated, but the new website should be available at http://www.jncc.defra.gov.uk/ukbap by the end of April.

For further information, or to provide us with some feedback, please contact:

UKBAP@jncc.gov.uk
Rapid Risk Assessment for Potentially Invasive Plants

Invasive non-native plants represent a small sub-set of the 70,000 or so non-native plants used by gardeners, foresters, farmers and landscapers in Britain. Preventative action and early intervention offer our best hope of dealing with invasive non-native plants cost-efficiently and with least environmental damage, but we must be careful not to unnecessarily curb the use of plants in horticulture or our productive landscapes. How can we hope to differentiate between plants we should worry about and those which are unlikely to ever be of concern?

Natural England has just published details of a new Rapid Risk Assessment scheme developed by Plantlife to try and separate the benign from the potentially invasive. The system is based on a simplified version of the Australian Weed Risk Assessment, a process that has been well-received internationally as a tool for identifying invasive threats. By recommending a shortlist of plants for which the more detailed risk assessment is considered imperative and/or prudent and a list of plants for which such assessment is deemed currently unnecessary, the Rapid Risk Assessment screening process can help policy-makers to prioritise limited resources. It may also give land managers advance warning of the non-native plants to keep close watch of for early signs of invasive behaviour. Almost 600 plants have been screened using the new process and each has been assigned a broad level of invasive threat. The full report ‘Horizon scanning for invasive non-native plants in Great Britain’ is now available to download from Natural England's website at: http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/threats/nonnativespecies.aspx

Electronic and hard copies of a summary report from Plantlife ‘Here today, here tomorrow? Horizon scanning for invasive non-native plants’ outlining the Rapid Risk Assessment and also illustrating some of the key botanical sites Plantlife considers to be under threat from invasive non-native plants are available from Plantlife. Email invasives@plantlife.org.uk for a hard copy or download the report from www.plantlife.org.uk/publications.

For more information, contact Sophie Thomas, Plantlife’s Invasives Officer 01722 342756.
Wytham Woods
Oxford’s Ecological Laboratory

Edited by Peter Savill, University of Oxford, Christopher Perrins, University of Oxford, Keith Kirby, Natural England, Peterborough, and Nigel Fisher, University of Oxford

Wytham Woods tells the Wytham story in a way that is accessible to both scientist and general reader alike. It provides a fascinating overview of what the Woods are like, their history, composition (both plant and animal), and how their wildlife has changed over time. This iconic location has been the subject of a series of continuous ecological research programmes dating back to the 1920s, a level of continuity of research effort that is extremely rare. Hence there is a strong emphasis on the significance of the scientific research that has been done there and how this has contributed to ecological thinking elsewhere.

Available in paperback in June, we would like to offer subscribers to Biodiversity News an exclusive 20% off the retail price. Go to http://ukcatalogue.oup.com/product/9780199605187.do, add the book to your shopping basket and enter the promotional code AAFLY5 to claim your discount.

Irish Biodiversity Knowledge Quest

How many species are there in Ireland? Are there many species still to be recorded? Which groups are poorly understood? What groups are under threat of extinction?

These questions and many more were discussed by top Irish scientists at a major meeting organised by the National Biodiversity Data Centre last August. For the first time, these scientists came together to produce an overview of the state of knowledge of Ireland’s biodiversity. So what did they find?

**Known species numbers for Ireland**

There are over 30,000 species of animals, plants and fungi known from the island of Ireland. Of these, the most speciose are the insects, non-insect invertebrates and fungi, with 11,422, 8,000, and 5,500 species, respectively. Invertebrates, therefore, make up almost 60% of our total biodiversity. This is in sharp contrast with the birds, mammals and plants (those groups that we are most familiar with) which account for less than 10% of our species. Invertebrates are the most overlooked aspect of our biodiversity yet they are integral to ecosystem functioning. One example of the economic value of the services that invertebrates provide is that of bees and pollination. A recent report documents that bees are worth €85million per annum to the Irish economy.
Conservation assessments

Of these 31,000 species, what is their conservation status? How are our species faring? And are many under threat of extinction? Ireland along with the other European countries committed to halting biodiversity loss by 2010. However, only 13% of our biodiversity has undergone a national conservation assessment. In other words, only 13% of species have been assessed for their vulnerability to extinction. How will we know if biodiversity loss has been halted if we don’t even know how many species we have? Or for those 31,000 that we do know of, how can we implement conservation measures if we don’t know which are under threat of extinction? In order to halt biodiversity loss, we need a full inventory of our species, to undertake national assessments of threat of extinction, and then prioritise species for conservation.

A quarter under threat of extinction

Of those species that have a national conservation assessment, almost a quarter is under threat of extinction. To give a few examples; the corn bunting is now extinct in Ireland, the great yellow bumblebee is endangered with extinction, and the salmon is vulnerable to extinction. The good news, however, is that a work programme is underway for the development of conservation assessments. These are a collaborative process between the National Parks and Wildlife Service (NPWS), Northern Ireland Environment Agency, the National Biodiversity Data Centre and the Centre for Environmental Data and Recording (CEDaR).

Key gaps in our biodiversity knowledge

The State of Knowledge document is an extremely important development for the understanding of Ireland’s biodiversity. We now have an overview of what we have and the level of understanding for each biological group. However, it also highlights the gaps in our knowledge. As a partner document to the State of Knowledge report, the National Biodiversity Data Centre has published a Knowledge Gaps document. This lists key knowledge gaps that could realistically be filled between now and 2020, the timescale for the next biodiversity target. Among those gaps is capacity building. The largest portion of our biodiversity occurs in the smaller, less well-known organisms and the challenge lies in developing expertise in these groups. Another major issue is the need for an Integrated Land Management System, which would seamlessly link biodiversity data with environmental and land use information.

Both documents can be downloaded from biodiversity.biodiversityireland.ie - a purpose-built website with detailed information and links to databases, websites, and backing documents.
Small stream of water: great river of knowledge

A community-based project in a corner of England has mapped out a positive future for the whole planet in an outstanding example of the Big Society in action and has won the backing of many eminent people such as the Right Reverend Tim Stevens, Bishop of Leicester.

A by-product of this fascinating project is a new book titled, *Exploring a Productive Landscape*, and launched this week. It captures the best of past experience and present understanding of people and their surrounding environment and shows how this insight can be used to meet the challenges presented by climate change, an increasing population and depletion of our natural resources across the world.

The four-year research project led by the Game & Wildlife Conservation Trust on farmland surrounding the Eye Brook stream in Leicestershire has also been praised by leading politicians and commentators, including Agriculture Minister Jim Paice, Shadow Environment secretary Mary Creagh and pre-eminent journalist and writer Jonathan Dimbleby.

The book expresses an urgent need to develop a strategy that will protect our countryside in the face of the challenges presented by climate change, an increasing population and depletion of our natural resources.

This community-based project outlines the history and future of a very ordinary small stream catchment. *The publication: Exploring a Productive Landscape*, is a significant wake-up call for those involved in managing the countryside as it pin-points many of the current threats facing not only wildlife but society as a whole.

The Right Reverend Tim Stevens, Bishop of Leicester said: “This excellently produced book reveals how the farmed landscape shapes everyone’s lives, despite most being far removed from that environment. It will stimulate the debate over how the farmed landscape should be used in the future.”

Government Farming Minister, Jim Paice MP, in a personal tribute said, “The Defra Business Plan recognises that the environment is the natural foundation on which our society and economy are built and that our long-term prosperity, economic success and quality of life are enhanced by our environment. As this book highlights, if we use and manage our natural assets in a sustainable way, they will continue to meet not only our needs, such as for energy, sustenance, minerals, fresh water, clean air and fertile soils, but the needs of future generations.”

Jonathan Dimbleby; current affairs presenter, organic farmer and former president of the Soil Association and...
Campaign to Protect Rural England (CPRE), said, “This book is a great example of the ‘Big Society’ in action. Skill, expertise, dedication and enthusiasm have brought together, in one small place, a host of very important issues that face the whole country.”

*Exploring a Productive Landscape*, is published by the Game & Wildlife Conservation Trust and written by the Trust’s own staff, in conjunction with several members of the Eye Brook valley community. It clearly demonstrates how the local community is central to future policy decisions.

It explores how our rural landscapes have been shaped by the changing needs of countless generations of people. It underlines the huge demands that are now being made on our countryside to provide food, water, and fuel in the light of a growing world population. Vitally, given these increasing demands on land, it shows how there can still be room for wildlife and beauty.

The book takes a fresh and optimistic approach to understanding these pressures and shows how we can learn from this historical knowledge to make contemporary land management decisions that balance the need to feed a growing nation with sustaining wildlife conservation and a healthy environment.

The book brings together a number of sources of information that have traditionally been considered to be disparate and even conflicting. A key source of knowledge is the scientific research carried out by the Trust on its wildlife-friendly research farm business at Loddington; the Allerton Project.

Dr Chris Stoate, Head of Research at the Trust’s Allerton Project and main author of the book said, “It has been a real privilege to work on this project with such a diverse group of people. We are all the wiser for this, and the book provides a way to share this experience more widely. The really important thing, though, is that we build on this new-found knowledge to live more sustainably, not just in the future, but now.”

Publication of this book precedes the publication of the government’s Natural Environment White Paper which is expected to provide opportunities for local communities across the country to take control and find innovative ways of protecting their natural environment in the face of population growth and increasing consumption. *Exploring a Productive Landscape* is a shining example of a community-based project that can provide practical evidence to inform future policy at local and national level.

*Exploring a Productive Landscape: from a long history to a sustainable future in the Eye Brook catchment*, is packed with colour images and old farming photographs and maps. Heritage lottery funding means the book is priced at just £10 plus p&p. Proceeds will be used to continue to develop the catchment community’s project work. ISBN: 978-1-901369-12-0. Also available online at: [www.gwct.org.uk/eyebrookbook](http://www.gwct.org.uk/eyebrookbook) or telephone: Natalie Augusztinyi on 01572 717220.
Have a wild weekend in Bristol this summer
Festival of Nature 18-19 June

The Festival of Nature unleashes the city’s wild side this summer when it returns to Bristol Harbourside, on the weekend of 18-19 June.

The biggest event of its kind in the UK, this festival gives wildlife enthusiasts of all ages the opportunity to explore, enjoy and get close to the natural world – all free of charge.

Throughout the weekend there will be loads of free and exciting activities, talks, workshops, films and entertainment. Bristol Aquarium will be showing free IMAX screenings which will give visitors a unique opportunity to see fantastic wildlife films on the amazing large-scale dome, and the BBC Natural History Unit will have a special display of their new 3D technology. Visit the Amphitheatre and explore the Wildlife Bee Garden where you can build nest boxes, pick up some seeds and take home plenty of ideas for recreating a wildlife haven in your own garden. Look out for bugs, bats and other creatures and some special visitors.

Other highlights include a contemporary sustainable living show, straight from Olympia in London, and the bustling Festival market packed with traders selling local produce and hot food from across the Southwest.

Please visit www.festivalofnature.org for more information

© Festival of Nature
Flora locale
Training Programme 2011

The Flora locale training programme is created for people involved in the design, management and restoration of landscapes for biodiversity, whether on a farm, smallholding, village green or city park. Each event is led by an individual with practical experience and provides an informal opportunity for participants to learn from an expert and each other. For further details of individual events see www.floralocale.org.

All events must be booked in advance. Book either by using the booking form (see back page) or book and pay on-line at www.floralocale.org. All events are charged at our standard fees unless otherwise stated.

Fees £100 / Concessions £75
Early bird discount if you book more than 28 days in advance of 10%

WALES

Woodland ground flora in new and established woods
Thursday 5 May 10am -3.30pm Location: Gwynedd
Facilitator: John Harold, Moelyci Environmental Centre

An introduction to woodland ground flora with site visits to mature SSSI woodland and new woodland and coppice plantings. Key topics will include: the possibilities and pitfalls of introducing woodland plants into new woods; making sensible choices about species selection, sources of stock, and future management.

Grassland restoration for new owners and managers
Friday 10 June, 2-5pm Location: Mold, Flintshire
Facilitator: Alun Evans

This event is aimed at people who are new to grassland management and who are interested in increasing wild flowers in their fields. Different restoration techniques will be considered and there will be an opportunity to visit a nearby flower-rich grassland SSSI.

FREE event but please book in advance.

Managing urban spaces as wildflower meadows
Thursday 16 June 10am – 3.30pm Location: Colwyn Bay, Conwy
Facilitator: John Harold, Moelyci Environmental Centre

This outdoor event will take a close look at an exemplar site for urban meadow management. The course will include sessions on plant identification and will provide an insight into the process of turning ‘municipal’ grass into a biodiversity hotspot by making simple changes to site management.
SCOTLAND
Management of wildflower grassland
Thursday 30 June  Location: Aberdeenshire
Facilitator: John Malster
An introduction to the management of wild plants in a variety of habitats such as amenity grassland, meadow, pasture and woodland glades. The meadows range from a 200-year old species-rich grassland to a 20-year old wildflower grassland.

NORTHERN ENGLAND
Woodland ground flora in new and established woods
Thursday 12 May  Location: Otley, West Yorkshire
Facilitator: Gordon Haycock, Haycock and Jay Associates Ltd
A workshop looking at introducing woodland ground flora to developing plantations. Topics covered will include: possible pitfalls, seed collection and propagation tips, large-scale methods of introduction and suitable ground flora for each site. We will explore opportunities to increase biodiversity through creating woodlands in both urban and rural locations.

MIDLANDS
Constructed wetland systems: a biodiverse, low-entropy alternative to conventional reedbed and mechanical systems
Tuesday 19 July  Location: Ledbury, Herefordshire
Facilitator: Jay Abrahams, Biologic Design
Look at the planting for a WET System for wastewater purification, resource production, as well as habitat creation and biodiversity enhancement. The benefits of a WET System over conventional Reedbed Treatment Systems and mechanical wastewater systems will be discussed in the light of increasing energy costs and climate change.

EAST ENGLAND
Specifying for and creating flower-rich habitats in towns and countryside
Friday 24 June  Location: King's Lynn, North Norfolk
Facilitator: Emorsgate Seeds
Look at the use of wild seeds for landscaping and biodiversity projects ranging from field margins on farmland to urban green roof schemes. Examine practical guidelines on specifying seed covering selection of appropriate species and seed origin. Discuss practical issues of ground preparation, weed control, sowing and aftercare.

Chalk grassland management
Thursday 30 June  Location: Dunstable, Bedfordshire
Facilitator: Ben Poulton and Steven Mason, Acer Conservation
Starting with an overview of management techniques on chalk grassland, this session will also look at proactive land management, including under and overgrazing and the restoration techniques being used. During the site visit brush up on identification of grass and broad leaf plant types as indicators of quality and management.
SOUTH EAST ENGLAND
Enhancement and management of grasslands
Thursday 16 June Location: Bishop’s Waltham, Hampshire
Facilitator: Pete Potts

A practical look at different species-rich grassland sites: seeding new chalk banks, reseeding of neglected chalk down and enhancing an existing sward/hay meadow by a change of management techniques. The day will include a discussion of techniques for enhancing existing grasslands and developing new wildflower grassland using seed.

Seed collecting & use for restoration and re-introduction
Wednesday 6 July Location: Wakehurst Place, West Sussex
Facilitators: Michael Way, Millennium Seed Bank (Royal Botanic Gardens Kew) with the Weald Meadows Initiative

This day will review the science and practice of collecting, preservation and use of high quality seed samples for subsequent multiplication ex-situ. Seed specification, sowing rates, site preparation, seed sowing, plug planting and conservation management, including grazing, will be considered.

SOUTH WEST ENGLAND
Grassland management, restoration and creation under Higher Level Stewardship
Wednesday 29 June Location: Bath
Facilitator: Emorsgate Seeds

The day will be field-based and will look at fine examples of unimproved limestone grassland with associated rare species, and many examples of restored and created grasslands. There will also be an opportunity to see field-scale crop production of wild seed and brush harvesting.
RSPB Dorset Events April – June 2011

Sat 23 and Sun 24 April 9.30 am-4.30 pm
The Big Wild Stocktake at Radipole and Arne
The stocktake takes place at our Radipole Lake reserve on Saturday and at our Arne reserve on Sunday. So drop in to either/both reserves on the correct day to take part and help us with the wildlife stocktake. Add your sightings to our bio-blitz boards. Free event. All welcome. No need to book. On Saturday, meet at our Radipole Lake Visitor Centre. On Sunday, meet us at our Arne reserve car park.
Contact details: Radipole Lake, 01305 778313; Arne 01929 553360.

Sun 24 and Mon 25 April 10 am-3 pm
Easter Family fun at Radipole
Free event. Have fun exploring nature trails. Games and other children's activities! Contact: 01305 778313.

Wednesdays April - June incl. 10 am-12 noon
Heathland amble at Arne walk
From Dartford warblers to smooth snakes, raft spiders to dragonflies - who knows what we might find? Free. No need to book. Contact us, 01929 553360.

Sun 1 May 4.30 am-7 am
Dawn chorus at Arne walk
A cacophony of sound as the reserve's inhabitants wake up. Then a lovely breakfast and a chance to chat. Members £3, non-members £6, children free. Booking essential, 01929 553360.

Sun 1 May 10 am-4 pm
Spring Open Day at Garston Wood
Free guided walks leave on the hour. RSPB staff and members of our South Wiltshire Local Group will help you learn more about our woodland flowers and birds. Full details from Arne reserve office, 01929 553360.

Sun 8 May 5.30 am-8 am
Dawn chorus at Radipole walk
Come along, wake up with the birds and find out which song belongs to which bird. Discover why our reedbeds, so full of song, are such important places for these birds. All welcome. Members £4, non-members £6 (includes breakfast). Booking essential, 01305 778313.

Sun 8 May 8 am-10.30 am
Radipole - the sights and sound of spring walk
Don't fancy getting up with the larks? Then join us at this later time. We start with breakfast. All welcome. Members £4, non-members £6 (includes breakfast). Booking essential, 01305 778313.

Sun 22 May 8 am-4 pm
Puffins on Portland
A special day with something to please everyone! From 10 am-3 pm there will be lots of fun activities for the children! Full details TBC. Contact us, 01305 778313.

Sun 22 May and 19 June 1 pm-5 pm
Spider Sunday at Arne walk
Track down a wide variety of spiders with naturalist, Tony Sheridan. See if you can catch him out on his spider knowledge! A fantastic introduction to the spiders here! Free. No need to book. Contact: 01929 553360.

Wednesdays 25 May – June incl. 8 pm till late
Nightjars at Arne walk
Experience the eerie calls - hopefully catch a glimpse of these elusive heathland birds. We may see Dartford warblers and a hobby before the nightjars come out to hunt. Members £3, non-members £6, children free. Booking essential, 01929 553360.

Sat 28 and Sun 29 May 10 am-5 pm
Sat 25 and Sun 26 June
Reptile weekend at Arne
Arne is one of the few places in Britain where you can find all six British reptiles. Learn about the reserve's scaly side! Drop in anytime for our regular free 'show and tell' sessions.
10 am-12 noon – 'Reptile Ramble' walk each morning.
Booking essential on 01929 553360 for the walk. Members £3, non-members £6, children free.

Wed 1 till Thurs 30 June
Radipole's photographic competition
Capture your favourite part of this reserve nestled in the heart of Weymouth. Full entry details on 01305 778313.

Sat 4 June 2 pm-4 pm
Photography workshop at Radipole Lake
Lots of tips to help you improve your photography. Free event. Booking essential. Contact us, 01305 778313.

Sat 4 and Sun 5 June 10 am-4 pm
Up close! Come to Radipole optic demo
Thinking about some new binoculars or upgrading to a new telescope? Come along to this free event and try out our wide range of optics, all available to purchase on the day. Whether beginner or expert our fully trained advisors are here to help. Contact us, 01305 778313.
"We sell a wide range of binoculars and telescopes, available to try and buy every day of the year, with expert advice on hand to help you get the best solution, but we also run special events, such as this, where a wider range is available to try." Michelle Williams, Retail Manager.
NATURE DETECTIVES!

Become a Nature Detective with the Wildlife Trust at Randalls Farm and get face to face with nature!

Get up close and personal with wildlife as you uncover clues to find out who lives at Randalls Farm:

- Discover what lurks hidden in the watery depths of the pond
- Become a forensic investigator and uncover the mystery of the owl’s dinner by dissecting owl pellets and identifying skeleton remains
- Be a wildlife adventurer with our nature explorers kit and discover the mini beasts hidden in their wild habitats
- Hunt for animal tracks and signs to find out who uses Randalls Farm when we’re not about

Then get crafty and create bug homes, plant flower seeds and make bird feeders to attract wildlife into your own garden or outdoor space.

Join us

- on Saturday 14th May 2011 from 12 – 4pm
- at Randalls Farm Environmental Education Centre, Broadmead Road, Stewartby, Beds. MK43 9NE

For more information and to book please contact the team on

Phone: 01234 768542
E-mail: randallsfarm@wildlifebcnp.org
Booking essential

Suggested donation of £2.50 per person, £6 per family
Again a very high standard of entries for the front cover competition—keep them coming!

© BTCV

© Pond Conservation

© Ben Stammers

© Andrew Gagg—Plantlife

© BTCV

© Paul Kirkland