

ENGLISH NATURE
Magazine

Issue 84

March 2006



Learning to love nature

How outdoor education spreads the word

Food for thought

Farm cultivates
conservation message

A harsh lesson

Video teaches value of
our fragile heaths

Seal patrol

How a community rallies
to watch over wildlife

Natural England

Major changes are currently taking place within Government about the way England's landscapes and nature are managed, protected, funded and enjoyed in the future.

A new independent body – Natural England – to be created in October 2006, is bringing together the current roles of English Nature, the Landscape, Access and Recreation division of the Countryside Agency and the environment activities of the Rural Development Service.



Cover picture by Paul Keene, Avico Ltd



Children enjoy the bluebells in Ringshall Wood, Hertfordshire.

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Leading role announced for Natural England



Environment Agency

Dr Helen Phillips

Dr Helen Phillips, Director for Wales at the Environment Agency, has been appointed Chief Executive Officer Designate of Natural England.

Helen has recently taken up her appointment and will play a leading role in setting up Natural England – the new body

that will have responsibility for conserving, enhancing and managing the natural environment – before it assumes its full statutory responsibilities in October.

She said, "My earliest priorities will be to establish good relationships with national, regional and local partners. I believe that the time is right to put land managers centre-stage to improve biodiversity, landscape, access, recreation and sustainable food and farming. I intend that Natural England will be a trenchant champion for the environment, putting people at the heart of our decision-making."

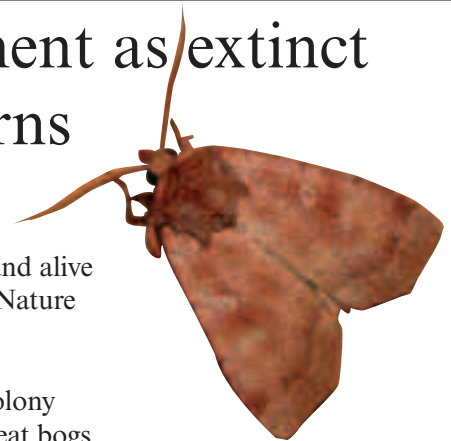
Rosy moment as extinct moth returns

A moth which was believed to be extinct in England has been found alive and well on a National Nature Reserve in Cumbria.

The rosy marsh moth colony was discovered on the peat bogs of Roudsea Wood and Mosses NNR in August by English Nature site manager Rob Petley-Jones – giving an extra boost to the reserve's Golden Jubilee celebrations last year.

The moth was last seen in England in the Cambridgeshire fens in the 1860s and a small population was found in Wales in the 1960s.

Rob said, "Seeing this lovely moth restored to England's wildlife is perhaps the most exciting thing to happen in moth



Rob Petley-Jones

Rob's rosy marsh moth conservation for years. To find a species which was thought to be extinct was a great privilege – and the fact that it happened here at Roudsea during our Golden Jubilee year was a real bonus."

English Nature will be working closely with partners like Cumbria Wildlife Trust and Butterfly Conservation to find out how well-established the moth is at Roudsea and whether it occurs on any of the other peat bogs in North West England.

On the trail of mammals



Susan Sharafi/MTUK

The red squirrel – spotted in the last three surveys

Mammals Trust UK (MTUK) is seeking volunteers to help track the animals sharing our back gardens and local green spaces.

Mammals like hedgehogs, bats, brown hares, shrews, red squirrels, otters and water voles have all been found living right on our doorsteps. Even if we don't see them, they leave us all sorts of clues, like:

- bark stripped from tree trunks and branches by grey squirrels
- fox dens under sheds or in holes in the undergrowth
- badger hairs snagged on wire fences
- nut stores hidden in nooks and crannies in the garden by squirrels, mice and other small rodents
- tops of plants nibbled away by rabbits.

From 3 April 2006, MTUK, which works to conserve our native mammals, needs people to record signs and sightings of mammals in green spaces within 200 yards of a building.

To find out more contact: Mammals Trust UK, 15 Cloisters House, 8 Battersea Park Road, London SW8 4BG, phone 020 7498 5262 or email enquiries@mtuk.org

MTUK is part of the People's Trust for Endangered Species who also want people to look out for one of our most threatened insects, the stag beetle. The beetles spend most of their four to seven-year life cycle as larvae, living underground, eating rotting wood. They finally emerge as adults for just a few weeks in May, June, July or August. The third Great Stag Beetle Hunt runs



Derek Middleton/PTES

Male stag beetle

Find out more on www.ptes.org where you can record sightings on-line.

during these months – the only time when you can see them above ground.

Wildlife sites in good health

English Nature's latest assessment of the country's best wildlife sites shows that 69.8 per cent are now in favourable condition. Of the total 1,073,828 hectares of Sites of Special Scientific Interest (SSSIs), nearly 750,000 hectares have had their wildlife and geology managed well enough to keep them in, or bring them into, favourable condition.

The Government's target is 95 per cent of SSSIs in favourable condition by

2010 and these results mean that 130,000 hectares have been brought up to standard since the last assessment in 2003.

Dr Andy Brown, English Nature's Chief Executive, said, "Bringing so many of our precious wildlife sites into good condition is a credit to our conservation officers, who have visited and assessed every site and to the 32,000 land managers who take action on the ground."

People are waking up to the fact that there is real concern over the future health of our environment. But while waking up to it is one thing, actually doing something about it is another.

Yet even small shifts in the choices we make about the way we live our lives can have big implications for wildlife. And the best place to start if we want to build a community which makes responsible, sustainable decisions, is with its children.

We are responsible for forming our children's attitudes and ideas, what relationship they develop with nature – what they understand and whether they care.

Education is key – and there's a lot more to learning than sitting in a classroom. In this issue of English Nature magazine we look at some of the more innovative, and inspiring approaches that work outside the school gates.

We look at the importance of getting out to do real fieldwork on pages 4 and 5, and hear about a London-based project which turns the most unlikely inner city sites into outdoor classrooms. We visit a Devon farm which shows visitors how what they eat connects with wildlife on pages 6 and 7, and on pages 8 and 9, hear how role-playing real dramas can change the way teenagers relate to heathland. Quarries, too can add a welcome touch of drama to the learning experience – read about this on pages 14 and 15.

Story-telling, art, videos and theatre – there are some wonderful stories here about imaginative ways in which our children are learning to care.

These, and more, I hope you enjoy reading.

Amanda Giles



Learning the value of outdoor study

"It is really, really important that citizens learn to value their environment and to understand the science behind the great ecological dilemmas which face all of us. Never before has there been so much talk of education about sustainability, about biodiversity and citizenship.

"All these aspirations remain 'pie in the sky' unless every pupil has an entitlement to extend his or her study of science outside the classroom. It is in the field that science becomes alive and where acting locally becomes thinking globally."

Professor Lord May of Oxford, former Chief Scientific Adviser to UK Government

To gain real understanding of the natural world, it is generally accepted that we need to spend time outdoors getting first-hand experience of living things.

Recently there is growing concern that young people are missing out on these encounters, as secondary education moves away from fieldwork in teaching science.

A new project piloted in five London Boroughs, is working to redress the balance by identifying barriers which prevent schools from going out into their local green spaces and by supporting teaching in the city's parks and commons.

The London Outdoor Science (LOS) project is run by a partnership of English Nature, the Field Studies Council and the Science Learning Centres, based initially in Newham, Camden, Islington, Hackney and Tower Hamlets. It is funded by the Office of the Deputy Prime Minister.

The project is surveying all 60 schools in these boroughs and early responses from 20 of them reveal that only three do outdoor fieldwork for GCSE science.



Students get out in the field to study freshwater invertebrates

Eight schools said they did not have time. Teachers commented that there was too much administration involved in finding convenient sites, making travel arrangements and carrying out the necessary risk assessments. Other barriers put forward were limited school equipment, no space and lack of staff knowledge and skills.

The project team notes that primary schools, in contrast, seem to make the most of their local sites.

The LOS project is helping to overcome these barriers in secondary schools by designing activities for outdoor lessons which fit into the new national curriculum and are targeted at 13 to 14-year-olds who start their GCSE studies in May. There will be training for teachers and help with assessing the risks associated with outside activities.

As well as providing funding, English Nature has been mapping the best

Factfile

- The Field Studies Council (FSC) is an educational charity set up in 1943 to bring environmental understanding to all. It runs a network of 17 UK education centres, provides training courses, information and publications.
- Science Learning Centres (SLC) form a national network set up by the Department for Education and Skills (DfES) and the Wellcome Trust, offering professional development courses for people involved in science education.

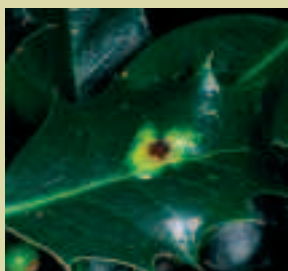
For further information visit: www.field-studies-council.org/outdoorscience/

places in the boroughs where schools can set up their outdoor classrooms. Fifteen schools have already expressed an interest in taking part.

English Nature Conservation Officer, Rachel Cook, who serves on the LOS Steering Group, said, "By using local green spaces to reinforce science taught in the classroom, this project is raising awareness of the natural world, and helping to create interest and appreciation of these wildlife-rich green spaces."

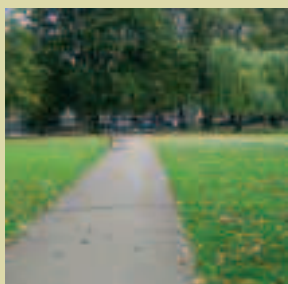
The results and good practice gleaned from the pilot project will be shared across other London Boroughs later this year and will be posted on a website for teachers, along with teaching materials. The ideas and resources will then be tried out with teachers in the Midlands.

Outdoor lessons



Ian McLean

Leaf mine on holly by *Phytomyza ilicis*



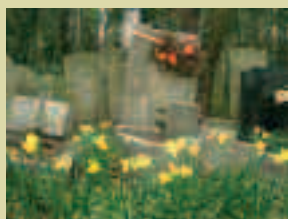
Melissa Glackin

Plashet Park, ideal for studying air pollution



John Beedington

West Reservoir, Hackney



www.towerhamletscemetery.org

Tower Hamlets Cemetery



Melissa Glackin

King's College science students visit Mile End Park

Cycle of life

Among the holly bushes of Mudshute in Island Gardens, Tower Hamlets, students can trace the fate of the holly leaf miner which lays its eggs on the leaves to pupate.

This small fly can be used to study food chains and webs and environmental changes as emergence holes and tear marks on the leaf are evidence of predator attacks. Students can also watch surviving larvae pupate and become flies.

Breathing space

Air pollution can be studied by fixing sticky tape on trees to take a reading of soot particles. Children can compare differing levels of pollution in mini quadrats near to school, then progressively further away from the road into the park.

Hampstead Heath in Camden, West Ham Park, and Plashet Park in Newham are ideal open spaces bounded by roads which are within walking distance of a number of schools.

Aquatic studies

Areas of water in Mile End Ecology Park in Tower Hamlets, Waterlow Park in Camden, and West Reservoir in Hackney provide the perfect settings for comparing invertebrates in differing aquatic locations and studying the reasons for their distribution.

West Reservoir has contrasting river and reservoir habitats where pupils can identify and study the different residents. They will find out about pollution indicators such as snails and bloodworms, which can tolerate pollution, and mayflower larvae, which need a clean environment – a surprise discovery at Mile End Park.

Shady characters

Cemeteries can provide the perfect setting for comparing species thriving in shaded and unshaded habitats. At Tower Hamlets Cemetery and on Hampstead Heath, Camden, students will be able to compare the leaf sizes of woodland and grassland plants and think about why they differ.

Teaching practice

A group of postgraduates from King's College, London, visited several local urban sites to consider how they could be used for practical science teaching.

LOS Project Officer, Melissa Glackin, said, "East London's Mile End Park might not immediately spring to mind when you think about aquatic life studies, plant adaptations due to grazing, or lichen studies, but these were all practicals successfully completed during the visit."

Farm cultivates food for thought



Visitors meet the North Devon ruby red cattle in the livestock barn

An organic farm set up to reconnect people with food, farming and the countryside throws open its doors to the public this month.



Torbay Coast and Countryside Trust

Boardwalks on the nature trail

A new visitor centre and nature trail at the Ocombe Farm Project in Devon will provide a focal point for education and open up the 150 acre Local Nature Reserve for everyone to enjoy. It houses an education centre, training and conference facilities, alongside a farm shop, café, bakery and butcher's shop.

The shops and café display information about the origins of the food on sale.

Dominic Acland, Director of the Torbay Coast and Countryside Trust, (TCCT) which manages the project, explained, "We are an educational charity as well as a conservation charity and this centre will be a focus for learning about farming and food. We want to change people's perspective on food and its importance to wildlife.

"Your choices about what you eat have a huge significance for conservation. The greenest thing you can do is think about where you buy your food, ask questions about how it was grown and where. All this will help to support farmers who care about the environment."

An IT suite in the centre features 10 computer terminals linked to a network of 'wildlife cameras' dotted around the reserve. The webcams will let visitors take a peek into bird boxes and a barn owl roost as well as getting a general 'live' taster of what there is to see around the farm.

You can look around the working farm and livestock barns and see the traditional suckler herd of North Devon ruby red cattle or the rare Dorset Downs sheep, which graze the grasslands in a wildlife-friendly way.

The 2km nature trail meanders through wet woodland, orchards, traditional meadows and unimproved pasture. Boardwalks and stone paths have been created to make the reserve accessible to everyone, including people with wheelchairs, prams or pushchairs.

There are spectacular flushes of orchids in June, and a bird hide on the nature trail gives you the chance to view barn owls early in the morning, or the circl buntings, which breed locally. You may even be able to spot the great green bush cricket.

For more information visit www.occombe.org.uk



Look out for barn owls

The Ocombe Farm story

The concept of creating a working organic farm to act as a showcase to the public was developed in the mid-1990s after plans to use the site as a golf course were shelved.

At the heart of the farm, near Marldon, on the fringe of urban Torbay, is a Site of Special Scientific Interest (SSSI), designated in 1992 for its wet woodland and unimproved calcareous grassland, which is rare in Devon.

English Nature has supported the project from the outset to help more people understand the important links between farming, landscape and wildlife. We have helped maintain and improve the habitats on the farm and advised on bids for funding. We have also set up a Wildlife Enhancement Scheme (WES) to improve the condition of all the SSSIs managed by the Trust and paid for touch screens in the Ocombe Farm IT centre.

A £395,000 grant from Defra's Rural Enterprise Scheme funded most of the work on the current project. Countryside Stewardship scheme grants amounting to £40,000 were additionally awarded for the nature trail and wildlife cameras. The new farmyard and cattle barns were built in 2004 and work started on the visitor centre in September last year.

The farm is now fully organic and certified by the Soil Association.



Torbay Coast and Countryside Trust

The new visitor centre

Organic matters

The Ocombe bakery is used to teach people about food and healthy lifestyles and how different food production methods affect the local economy.

Visitors and school groups can try their hand at grinding flour and making bread. The farm shop has a butcher's cutting room and counter.

Profits from the café, bakery and shop will fund the educational work. They will be used to reinforce the farm's message, emphasising the origins of the food on sale and making the connection between food and the environment.

Dominic said, "We make sure when we buy food to sell in the farm shop that it has been produced in a responsible way, either organically or within a Countryside Stewardship scheme.

"Eighty per cent of the produce we sell is from Devon farms and the Trust is working to create a network of accredited suppliers to support the Ocombe brand."



Torbay Coast and Countryside Trust

Freshly baked loaves from the Ocombe bakery

On the menu

There is a range of educational activities linked to the national curriculum at primary and secondary level.

There will be events ranging from farm tours, to lessons about the grazing patterns of sheep, or food-smoking workshops.

Some forthcoming attractions include:

11 April, 14.00–17.00 – Dandelions and garlic

Find out how to make the most of the season's wild food.

26 April, 19.00–20.30 – Garden and farmland birds

Illustrated talk.

29 April, 6.00–8.00

Dawn chorus walk and breakfast.

For further information contact Julian Carnell on 01803 606035, or 01803 520022 (Ocombe) or email info@countryside-trust.org.uk

Harsh lesson takes the heat off heathlands

Dorset teenager Chris is at a loose end and feeling rather bored. He reckons it would be a really good laugh if he could spark up a fire on the 'wasteland' heaths near his home.

Chris knows he's in big trouble now! He ends up at the local police station where he is questioned for hours, fingerprinted and put in a cell. As if today hadn't turned out badly enough – he could now end up with a criminal record as an arsonist.

Luckily, on this occasion, the drama is a fictitious scenario created for the filming of *Backfire*, an educational video for Dorset schoolchildren highlighting the consequences of heathland fires.

But it reflects a very real problem which threatens the survival of the heaths with their internationally-important wildlife. Because the heaths are close to houses, they face regular damage from being churned up by motor vehicles, dogs disturbing wildlife and at the top of the list – arson. If these important

European sites are allowed to deteriorate, smooth snakes, sand lizards, breeding birds such as the nightjar and

woodlark, and some other plants and animals may suffer or even disappear completely.

Conservationists caring for the heaths know that education is key if they are to get people to treat this precious habitat with respect.

The Urban Heaths Partnership works to protect the Sites of Special

Scientific Interest (SSSIs) and has an Education and Outreach team which encourages people to make the most of these accessible open spaces without damaging the very thing they come to enjoy. *With rights come responsibility* is the theme of the education campaign.

Urban Heaths Partnership Manager, Heather Tidball, said, "The urban heaths are wonderful places to visit and, as most of them have open access, they can be a great attraction for people who don't usually get a chance to get out into the countryside.

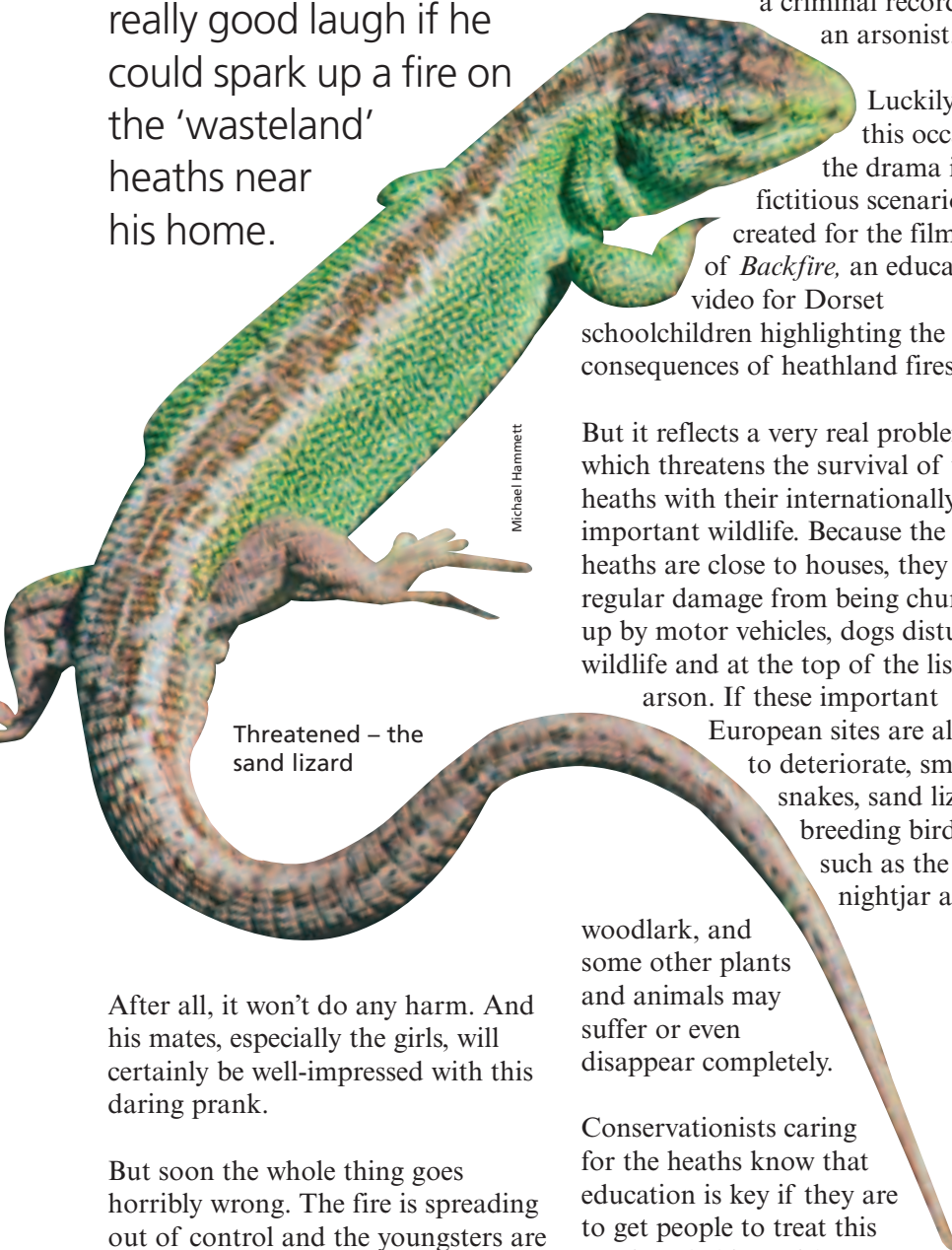


Pete Doherty, Doherty Associates

A prank on the heaths ends in serious trouble in the *Backfire* video

"We want people to enjoy what they have to offer, but also to understand that they really are quite fragile. We feel that education is the best way of changing people's attitudes and instilling respect for their environment.

"The history of misuse has affected the conservation status of the heaths and our educational work with young people and the community is essential to achieving favourable or recovering condition by 2010. Basically we are managing the sites by managing people."



Michael Hammett

Threatened – the sand lizard

After all, it won't do any harm. And his mates, especially the girls, will certainly be well-impressed with this daring prank.

But soon the whole thing goes horribly wrong. The fire is spreading out of control and the youngsters are powerless to stop it. There are fire engines and sirens everywhere and neighbours are being evacuated from their homes.



Backfire video stills:

Messages in focus

The *Backfire* video – aimed at 13 to 14-year-olds – is given out to schools as part of a teachers' pack with facts about the heaths, ideas for lessons, worksheets and information sources.

Younger children, says Heather, are more easily moved by the plight of the heathland creatures themselves so the information pack for six to seven-year-olds tells Sam's Story – how Sam the sand lizard, Bob the butterfly, Andy the adder and Danni the Dartford warbler lose their homes when the heath is destroyed in a fire.

For 10 to 11-year-olds the educational pack is called *Matches and Mayhem*. It includes a DVD entitled *Seconds Out* highlighting the knock-on effects when the fire service is tied up fighting a heathland blaze and is delayed getting to other emergencies.

Out-of-school activities have been set up for children and young people's groups to encourage responsibility from an early age.

The partnership's education programme supports Personal, Social and Health Education (PSHE) and citizenship curricula as well as science and geography. As part of the co-ordinated approach, specialists from the conservation partners, including English Nature and the Wildlife Trusts, visit schools or youth groups to talk about the wildlife. Field visits to the heaths can also be arranged for older pupils.



Children from Baden Powell school, Poole, meet a grass snake

The partners

- The Urban Heaths Partners are: English Nature, Dorset County Council, Bournemouth, Poole and Christchurch Borough Councils, East Dorset District Council, Dorset Fire and Rescue Service, Dorset Police, Dorset Wildlife Trust and the Herpetological Conservation Trust.
- Their work is co-funded by a £1.2 million grant from the European Union LIFE-Nature Fund.

The video

- *Backfire* was produced by independent film-makers Doherty Associates for the Urban Heaths Partnership and the East Dorset Crime and Disorder Reduction Partnership.
- Local schoolchildren and police officers played the characters.
- Last year it was recognised as the best non-broadcast programme in the Royal Television Society (Southern Centre) Awards.

Nature for Schools

English Nature has a web-page providing environmental education resources for teachers and students.

In the *Nature for Schools* section there are:

- more than 100 lesson plans linked to the National Curriculum
- ideas for activities and information to help pupils understand the natural world
- over 500 links to related websites.

It supports primary and secondary studies and includes lesson plans based around activities, supplementary information for teachers and suggested locations for outdoor work.

The links connect to a cross-section of sites with information on sustainable development, which may be of interest to children, students and adult learners as well as teachers.

Visit http://www.english-nature.org.uk/science/nature_for_schools/

Reaching out

Lasting impressions



Katie Mawhood from Bakewell Junior School creates her natural artwork

“Creating art from natural objects is a different approach to help people to learn about their local wildlife,” says Emma Mortimer, English Nature’s Community Conservation Officer in Derbyshire.

Schoolchildren and adults created works of art to portray the wonders of Lathkill Dale in the **Derbyshire Dales National Nature Reserve**. Pupils from Bakewell Methodist Junior School learned about the importance of woodlands by collecting leaves, seeds and twigs from their favourite trees. Local potter Sue Mulroy helped them to press the objects into clay to make dishes as lasting artefacts.

English Nature teams use a whole range of imaginative methods to inform people about conservation issues and help them to get a better understanding of nature. Here we feature a selection of the innovative events which have taken place across the country.

English Nature also ran a community workshop at nearby Monyash where 30 visitors created a large clay sphere, using impressions of natural objects found in the Dale to represent local habitats and geology.

Schools interested in environmental educational activities on the NNR can contact Emma or Caroline Thomas (Community Education Manager) on 01629 816640.

Creature feature

Puppets of a dragonfly, an otter, a mink, a water vole, a heron and a pike were used to introduce visitors to the creatures living on **Shapwick Heath NNR** in Somerset.

English Nature commissioned the Fat Cat Theatre Company to stage the Environmental Theatre in a marquee on the reserve. Each animal character took centre stage to act out their story in a light-hearted, amusing way. They created a picture of their home, their eating habits and the threats they have to face.

More than 300 people enjoyed the performances, put on for school parties, the local community and visitors.

“The puppets were a great success and truly engaged the children,” said English Nature Site Manager Phil Holms. “It’s something we would certainly wish to do again.”

Puppeteer Jane Leakey introduces Roger the Otter to two eager helpers

Mammoth topics

Fossils were used on English Nature's stand at Norfolk Show to bring to life the exotic wildlife which roamed Norfolk half-a-million years ago.

The exhibits included bones of small mammals, fish and shells from Cromer Forest Bed, a freshwater deposit laid down 500,000 years ago when the climate was temperate. Larger hippo, mammoth and elephant fossils borrowed from Norfolk Museums Service gave proof that a range of very different creatures had roamed the county at different geological times and in climates ranging from glacial to tropical.

The team used the display, a related quiz and interpretative panels to get visitors thinking about the challenges climate change poses for nature conservation. They raised questions like:

- What is the future for our wildlife?
- How can we ensure that it is able to respond to these new pressures?
- How can individuals make a difference?

The stand featured hands-on microscopes and an art competition. Popular bird box/insect houses made from recycled timber were given as prizes for quiz winners.

Su Waldron, the Norfolk team's Communications Officer, said, "The approach was a great success and the stand was highly commended in the Best Rural Educational Stand Awards."



English Nature

A young visitor pores over the climate quiz on the English Nature stand

Tales of heathland wisdom



The Brecks Countryside Project

gypsies as the heath folk struggled to maintain their way of life on the dwindling heaths.

The lifestyle of these people and their relationship with their environment was brought to life for a modern-day audience through a story-telling event held by the Breckland Society and the Brecks Countryside Project, sponsored by English Nature through the *Tomorrow's Heathland Heritage* project.

Story-telling on Brandon Park Heath, Suffolk

The heath-dwellers of the Norfolk and Suffolk Brecks were seen as little more than vagabonds by the 18th century 'improvers' intent on ploughing up the heaths to plant their crops.

But these rough-and-ready heathland folk maintained a simple, effective harmony with their landscape, finding everything they needed around them on the land. Their culture was recorded in song and dance by groups of travelling

The play was performed on Brandon Park Heath near Brandon, Suffolk, by touring players Ray Sargeant, Will Ferris and Polly Daniel who portrayed a Victorian song-collector gathering stories from a Romany couple camped on the heath. It was part of a five-year programme of events set up to encourage more people to support the conservation of Breckland heaths.

Mysteries of the mosses



Joan Daniels

The raft spider sculpture

Visitors to **Fenn's, Whixhall and Bettisfield Mosses National Nature Reserve (NNR)** on the Shropshire/Wales border can learn something about the reserve's elusive bog creatures, whatever the weather.

On wet and windy days when the curlews, raft spiders, brimstone butterflies, hobbies and their dragonfly prey are sheltering out of sight, visitors can still get a picture of the inhabitants from a series of

carved sculpture plaques set in appropriate places on the reserve.

The sculptures are the work of the locally-based British Woodcarvers Association who also run woodcarving events on the NNR.

Visitors make carvings from prehistoric bog pines exposed by peat cutting and learn how crucial bog restoration is helping to combat the effects of climate change by storing carbon.

A wide variety of ideas are used at the NNR to teach people about Britain's third largest raised bog where, over the last 14 years, English Nature and the Countryside Council for Wales have been restoring the peat bog to its former glory after its near destruction by commercial peat cutting.

FOCUS ON... Castle Eden Dene



English Nature

Watch out for wildlife

English Nature manages the reserve and aims to keep the woodland, which supports 450 species, as natural as possible.



Allan Drevitt/English Nature

Northern brown argus

From April to May there is a cover of wild garlic and some bluebells. Look out for the rare herb Paris, water avens and, later in the year, wood avens.

Living and dying trees provide homes for fungi and insects and the gorge supports a range of mosses and other bryophytes. A star attraction is the argus butterfly (otherwise known as the Durham, northern brown or even Castle Eden argus) which breeds at the coast.

If you move around quietly you may glimpse roe deer. Sparrowhawks hunt over the reserve, while woodcocks enjoy the undergrowth and great spotted woodpeckers breed in the woods.

How to get there

- The reserve is 1.5 miles from Peterlee town centre and can be reached by car from the A19. There is a car park at Oakerside Dene Lodge.
- Bus services go as far as Peterlee bus station. From there it is a 1.5 mile walk along a tarred footpath through pine trees past Peterlee Lodge Hotel.
- There are bicycle racks at Oakerside Dene Lodge. Bikes are not allowed in the Dene as the steep paths are unsafe for cycling.
- Visitors are advised to avoid the site in bad weather when it can be subject to landslips and falling trees.

Where to walk

There are three marked walks around the NNR:

- The Yew Tree trail: A 2 mile walk, taking 2–2.5 hours, through yew, oak and ash woodland, passing fascinating rock formations.
- The Red Squirrel Trail: A 1.75 mile walk, taking 1–2 hours, crossing the gorge via Gunner's Pool Bridge, offering views over the tree tops and passing the castle.
- The Geology trail: A 4 mile walk taking 2–3 hours and visiting nine points of geological interest, such as landslips and the Devil's Lapstone – a large block of fallen limestone.

Crossing the gorge via Gunner's Pool Bridge

Ten thousand years of wild woodland growth, set inside a deep limestone gorge – the perfect setting for a fascinating outdoor adventure.

Castle Eden Dene National Nature Reserve, near Peterlee, Co Durham, is the largest semi-natural woodland in North East England. The yew, oak, and ash are descended from the wildwood that once covered most of England.

The 221 hectare reserve is renowned for its yew trees – the Saxons called the area Yoden, meaning Yew Dene, or yew valley, which later evolved into the modern-day Eden Dene.

The Dene has fascinated people for thousands of years with its unusual rock formations and the dramatic 30 metre-deep gorge, carved out by post-glacial melt waters. Visitors can look down into the gorge from Gunner's Pool Bridge.

In summer it can be completely dry as the Castle Eden Burn, which flows through to the sea at Denemouth, disappears into the limestone.

From 1757 until the mid-20th century, the land belonged to the Burdon family, who loved the wild countryside and created many of today's paths as well as rebuilding the nearby castle.

Castle Eden Dene is one of English Nature's spotlight reserves, which means it is one of the best places to enjoy wildlife in attractive surroundings.

Seasons tell a story



English Nature

The bumblebee helps with pollination. Castle Eden Dene NNR has had an educational focus since it first became a National Nature Reserve under the Peterlee Development Corporation in 1985.

The reserve has a dedicated Education Officer, Steve Metcalfe, who works with around 2,500 children. "Because the site adjoins the town, there are a number of schools in walking distance," said Steve. "Teachers like to come out and show the children first-hand how nature works, but they need somewhere safe and convenient to do it. Castle Eden Dene with its woodland, wildlife and geological features is the perfect spot.

"Everything today has to be linked to the national curriculum," explained Steve. He uses the seasons to bring the information to life.

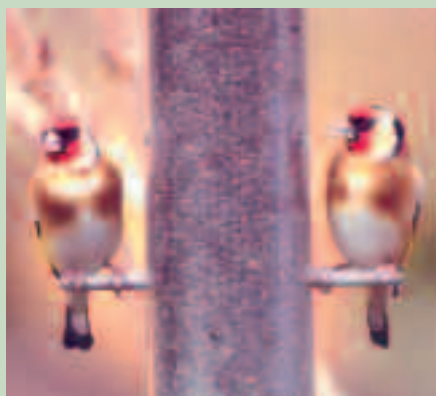
- In spring, children study pollination, with the woodland offering the perfect setting to look at relationships between plants and light. They find out why woodland plants flower in spring before leaves emerge on the trees because they need light to produce flowers, which they need for pollination. Light metres are used to carry out light surveys and the data can be used later for maths exercises.
- In summer, the topic is water. Groups trace the length of the river to see how the Dene was formed

and if the gorge is dry they can study its features. There is also a purpose-built area for pond dipping.

- In autumn, groups study photosynthesis, seed dispersal, food chains and webs.
- In winter, the theme is birds. Children visit the feeding station where they can see birds like goldfinch and great spotted woodpecker.

College students use the reserve to examine the development of the landscape in the context of the regeneration of a former mining area.

"Community engagement is just as important as formal education programmes," Steve stresses. "With housing on the doorstep, we want to encourage people to enjoy the countryside while educating against anti-social behaviour at the same time."



Jim Patterson

Goldfinches visit the feeding station

The Durham Voles – a volunteer group serving the NNR, the National Trust and the Durham Wildlife Trust – get involved by giving practical help.

A *Celebrating our Coast* day attracted more than 800 visitors and fun ideas like a midsummer garden party and rock concerts on the meadow, have helped connect with groups who would not normally visit a nature reserve.

APRIL – MAY

Apr
09

Easter Egg Hunt and Activities

10.00–12.00 Castor Hanglands NNR, Cambridgeshire

Join the Easter Bunny for activities like egg-decorating and making easter baskets. Suitable for all the family. The reserve can be muddy so suitable footwear is a must. Pushchairs and prams not advisable.

Booking essential. The event is free but donations welcomed for the Help Save the Indian Elephants project.



Contact: Gill Gilbert or Sarah Tarrant
01733 405850

Apr
22

Reptile Ramble

9.30 Hartland Moor NNR and Stoborough Heath NNR, Dorset

A guided walk to hunt for Britain's rarest reptiles, sand lizard and smooth snake, on the National Nature Reserves. Meet at English Nature's Dorset team office, Slepe Farm, near Arne, Wareham.



Contact: English Nature's
Dorset team
01929 557450

Apr
23

Creative Writing on the Mosses

12.30–16.30 The Manor House, Fenn's Whixall and Bettisfield Mosses NNR

Creative writing afternoon and picnic for St George's Day led by author and poet Gladys Mary Coles.

Booking essential.



Contact: Jackie Giles (weekdays)
01743 282000 or
Joan Daniels (weekends)
07974 784799

May
01

Flowers of the river bank

14.00–16.00 Moor House-Upper Teesdale NNR, Durham

A stroll along the banks of the River Tees, to see a wonderful range of wild flowers such as globe flowers, wood cranesbill and orchids. Meet at Bowlees car park by the footbridge to the visitor centre. Bring waterproofs and strong footwear.



Contact: The reserve base
01833 622374

The Hythe Beds at Dryhil

Unearthing quarry stories



Tedbury camp Somerset

A trail of evidence telling the story of how our landscapes have been formed can be uncovered in many former quarry sites.

An educational project has been set up to tap into this wealth of geological information exposed at the surface of disused aggregate quarries across the country.

The *Earth Science On-Site* project is funded with £110,000 from the Aggregates Levy Sustainability Fund (ALSF) run by English Nature and the Countryside Agency to reduce the negative (or improve the positive) impacts of quarrying on local communities and the environment. The project identifies sites which are convenient for schools and have the best geological and geomorphological features for educational use.

The initiative is run by UKRIGS (UK Regionally Important Geological Sites) in partnership with

the Earth Science Teachers Association (ESTA).

English Nature's Senior Geologist/Palaeontologist, Jonathan Larwood, said, "Quarry sites create an exposure of rock which would not naturally have been visible. This reveals a range of features, like faults, folds and relationships between different rocks, which reflect the development of the local landscape. You can also link the use of stone – like road stone and building materials – to the social history of the surrounding area."

The project demonstrates how each site can be used by schools to deliver the earth science parts of the National Curriculum from ages seven to 16 (GCSE level). Local geologists and teachers visit selected sites and examine the features before developing teaching materials at the appropriate level.

John Reynolds of UKRIGS and ESTA, a retired teacher, said, "Teachers can be reluctant to do field visits because they can't always be sure how much they will get out of the visit before they go. We have the sites tested by geologists and teachers

– not just for their geological value, but also to see if they are suitable places to bring children – safe, accessible and close enough to schools."

The information is available for downloading on www.ukrigs.org.uk (click education). There are exercises to do on site at different levels – including testing rocks for porosity, sketching rock faces and examining fossils. Extensive preparation and follow-up work is included and links made to other areas of the curriculum.

On site

- The pilot project, which ran from 2004–2005, covered the National Stone Centre and Black Rock, Derbyshire, and Park Hall and Apes Tor, Staffordshire.
- The current two-year project began in June 2005, and includes South Elmsall, West Yorkshire; Dryhill, Kent; The Ercall, Shropshire and Barrow Hill, Dudley.
- The final phase, which runs from 2006–2007, will study Tedbury Camp, Somerset; Ryton Pools, Warwickshire; Mosedale, Cumbria; and Meldon Quarry, Devon.

Ercall Quarries, Telford, Shropshire



Ercall Quarries, part of an extensive Site of Special Scientific Interest (SSSI), has been disused since 1985.

You can see the layers of Cambrian (530 million years old) sedimentary rocks on the right, resting on an ancient landscape of eroded Precambrian (560 million years old) igneous rock on the left. All the rocks have been tilted by later earth movements. There are several hard rocks, particularly quartzite, which were last extracted for road stone for the M54.

Dryhill Picnic Site, Sevenoaks, Kent



Dryhill is a Regionally Important Geological Site (RIGS) featuring Hythe Beds, alternating sandstone and limestone, from the Cretaceous Period 140 million years ago. The disused quarries are now used as a picnic site.

You can see gently folded harder limestones (Kentish ragstone) alternating with softer sandstones (hassock), downfolded to form a syncline. The hard rock was used as building stone from Roman times and more recently, until the 1960s, as aggregate.

How does your garden grow?

All children have an innate curiosity about the natural world, but all too often this is given no opportunity to express itself or else is stifled, **writes Steve Berry.**

Cars have put paid to the freedom to roam about independently on foot and cycle, as enjoyed by children in the 1950s. Gardens, therefore, are now more important than ever as places where children can safely come into daily contact with – and learn about – wildlife.

Whether at school or at home, there are many simple things you can do to build on your children's instinctive interest in nature. Here are just a few:

- Start a compost heap or a wormery. Turning kitchen and garden waste, cardboard – and even the contents of your vacuum cleaner bag – into crumbly compost within 12 months or less seems like magic, whatever age you are!
- Make a small pond. Even an old washing-up bowl sunk into the ground and filled with water will attract flying aquatic insects in no time. Measure how fast the water level goes down to show the effects of evaporation.
- Put a bulb into an old glass, fill it with earth and watch the root system develop.
- Hang up some bird feeders with different contents, near the house or classroom and get the children to record all the different species which visit. Make a note of which species prefer which foods.
- Give your children their own garden patch to look after. Sow some seeds which have a high germination rate like sunflowers or tagetes.
- Go on a caterpillar hunt. Blue tits may give you a clue where to find them as they will be feeding them to their young. Collect a few and keep them in a plastic box, with air holes. Feed them with fresh leaves every day but take care to supply the leaves of the plant or tree you found them on. Some will only eat that species. Clean out the box regularly and watch them grow and – ultimately – pupate. If you're patient, you can eventually watch the adult moth or butterfly emerge from the chrysalis.



Children have an instinctive interest in nature

Nick Baker

Wild Ideas

CREATING YOUNG NATURALISTS



Experiencing the magic of finding a grasshopper



Ceri Fitzgerald

Nick Baker out in the field

I try to avoid uttering oft-repeated clichés if I can help it, but there is one that I will shamelessly allow to pass my lips without fear of contradiction. And that is: 'Children are our future'.

Working with the younger generation and trying to instil a little bit of what I love about the natural world is something I hold very dear. That is why I work closely with English Nature, the RSPB Wildlife Explorers, the Wildlife Trusts' Watch Groups and the Field Studies Council.

Recently it dawned on me. While everyone I know is developing skills and moving on into the adult world I have, if anything, regressed. My entire living is derived from experiences I taught myself as a kid. Tracking badgers is similar to tracking rhinos. The rules are the same. An English woodland functions quite similarly to a rainforest.

So it turns out that while I was dabbling in cattle troughs, constructing hides, making moth traps and analysing droppings I found on

my lawn 25 years ago, I was learning the skills of my trade, on which I now depend.

The same skills that now seem to be quite a rarity. This reflects rather badly – something is seriously lacking in the greater scheme of things.

The insidious rise of 'health and safety' restrictions that permeate every corner of our lives have also sadly started to eat away at the real world of dirty fingers, soggy cuffs and scuffed knees that are field trips.

Field trips are now rare in most educational establishments including university courses! How can a student study ecology without experiencing its magic in action – the real deal, a sunny spring woodland or a day-trip pond-dipping and kick sampling (surveying small creatures on the stream bed by dislodging them into your net).

It's more serious than simply depriving the souls of the young. What is actually happening now, I have been informed by many senior ecologists, is that there is a dearth of people who have any real experience applying for jobs. They have the degrees, the knowledge and the savvy but few have any experience of applying it to the real world. In brief, there is a terrible shortage of people who can tell a bug from a beetle or a winkle from a whelk.

So what can we all do about it other than bend the rules? The secret lies, I think, in informal education. Inspiring

kids is easy if you know how. We simply supply the desire, hint at the mystery and the fun to be had and so provide the younger generation with the essential ingredients they need to do it themselves.

It's a hard challenge that gets trickier all the time, now we are dealing with the playstation generation who can plug in and immerse themselves in a virtual reality as soon as they shrug off the school blazer. It's not their fault. It's just that they do not know that, for a lot less money than a games console, they could buy a moth trap – a pleasure that not only lasts, but educates and contributes to our understanding of the natural world too.



Derek Ratcliffe

Unforgettable – the elephant hawk moth

I hope I'm not sounding glib here, but I bet any kid will remember seeing their first elephant hawk moth long after they have forgotten their highest score on *Grand Theft Auto*!

Nick Baker is a presenter with the BBC's *Really Wild Show*

Green vision under the spotlight

Creating an outdoor play area for children with special needs in Devon and transforming a 'dumping ground' in Moss Side, Manchester, into a green oasis, were among the success stories outlined at a recent conference on community development.

Real Sustainable Communities was a two-day event in London, run by BTCV and English Nature to discuss the realities of building sustainable communities. What really happens when the big ideas of policy and vision come up against the local challenges of skills, funding and confidence – especially within disadvantaged communities?

The conference was part of English Nature's ongoing work with BTCV to deliver joint aims and objectives to:

- make greenspace and nature more relevant
- enhance social inclusion
- improve people's health
- provide educational opportunities
- engage with new, diverse audiences.

Jonathon Porritt, Programme Director of Forum for the Future and a BTCV Vice President, was one of the key speakers and there was a

video address from Rural Affairs minister Jim Knight.

English Nature's People and Nature Communications Officer, Hazel Hynds, said, "As well as providing a fantastic opportunity to showcase the lottery-funded BTCV People's Places award scheme and English Nature's Wildspace! grant scheme,



Greener, safer, cleaner – tackling anti-social behaviour

the conference brought together around 300 practitioners, policy makers and grant recipients. What really brought the event to life was listening to the stories of real people, and hearing about the difference these schemes have made to their local communities."

English Nature's Chief Executive, Dr Andy Brown, led a workshop titled *Greener, safer cleaner: Why Green should come first* which prompted debate around the Office of the Deputy Prime Minister's neighbourhood initiatives. It discussed issues including the relative importance of parks and urban green spaces in moves to clean



Parks – making green spaces more relevant

up the environment, compared with tackling anti-social behaviour, graffiti and abandoned vehicles, and whether Neighbourhood Wardens should be given training on the importance of protecting biodiversity.

English Nature's Wildspace! scheme involves communities in the improvement, care and enjoyment of their local environment through Local Nature Reserves. All funds were committed in 2003 with projects completing in September 2006. The scheme is now engaged in a range of measures to support projects to continue beyond Wildspace! funding. BTCV's People's Places award scheme (now closed to applications) is funded by the Big Lottery Fund and supported by English Nature to create or improve environmental community resources in areas of deprivation.

Find out more about the conference at www.btcv.org/ppawards



Jonathon Porritt addresses the conference

Book Review

Demons in Eden: The Paradox of Plant Diversity

Jonathan Silvertown.
University of Chicago Press 2005.
\$25.00/£14.50

John Hopkins, English Nature Senior Ecologist, reviews the book:

Around the world, the ongoing loss of plant species is not only due to the creation of lifeless deserts.

It is also due to the spread of a small number of demonic plants capable of vigorous growth and rapid spread. The challenge of plant and habitat conservation is to keep these species in check.

In this book, Jonathan Silvertown, one of our most eminent English plant ecologists, takes us on a highly readable tour of the science of plant diversity. He visits places in England and abroad which have been at the forefront of research.

The tour starts at Kew Gardens, London, the world's finest collection of living and preserved plant specimens. It goes on to stop at National Nature Reserves like Castle

Hill in Sussex, Tadham Moors in Somerset and North Meadow in Cricklade, Wiltshire.

Other stops include the famous Park Grass experimental plots, at Rothamstead Research Station, Hertfordshire, the world's oldest ecological experiment. We are also taken to Barro Colorado in Panama, the world's best-studied tropical rain forest, and on a tour of Florida to experience the horrendous ecological and economic impacts which can be wrought by alien species – those plants which are well-behaved at home but show their full devilish potential to dominate when abroad. On this journey, Jonathan looks for the key to understanding what kept these demonic plants in check until humans unleashed their satanic properties.

Jonathan is the author of many scholarly articles but here he writes in a style which is both

engaging and entertaining, and discusses some of the most significant plant conservation issues of the day.

There are easily-understood explanations of why nutrient enrichment causes decline in species richness, how alien species pose such a threat to plant and animal diversity and the developing science on which we will have to base decisions on the use of GM crops.

This book is a testament to the important role of English scientists in developing understanding of plant diversity, and an altogether good read.

Chicago University Press titles are available through online distributors such as Amazon.com.uk or NHBS.



Surveying a miniature world

Paul Lacey, Terrestrial Wildlife Team, English Nature

Invertebrates, minibeasts, creepy-crawlies – call them what you will, they tend to be overlooked by most people.

However, they form what is arguably the most important community on this planet. They are the basis of much of the food-chain of larger animals, act as pollinators for many plants and recycle nutrients in the soil.

David Attenborough's recent TV series *Life in the Undergrowth*

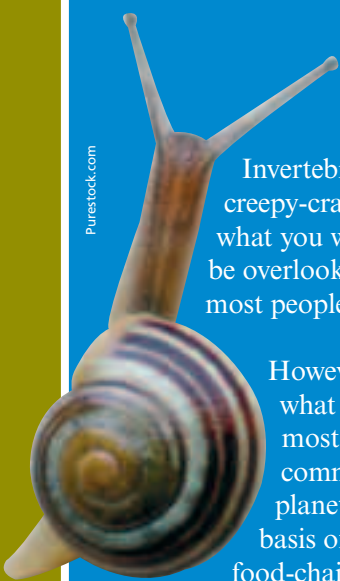
revealed some incredible facts about this miniature world, particularly the part these creatures play in making our planet habitable for all life, including humans. So it is vital to consider the invertebrate communities when making decisions about managing the land.

Organising surveys to determine site quality for invertebrates, a new booklet from English Nature, aims to advise ecologists and other professionals involved in managing sites. The conservation of biodiversity is an important part of current planning policy, and a site survey forms an integral part of

many development proposals. However, knowing when it may be appropriate to commission an invertebrate survey is not always easy.

This booklet provides examples of important habitat features, guidance for planning a survey and its subsequent evaluation, with many other sections that professional ecologists may find useful.

It can be downloaded from the English Nature website www.english-nature.org.uk or you can request a copy from the Enquiry Service. Call 01733 455100/1/2 or email enquiries@english-nature.org.uk



Purestock.com

Springwatch



With spring just around the corner it is time, once again, to take part in the biggest survey into the changing season.

The annual *Springwatch* survey is run by the BBC in association with the Woodland Trust and the UK Phenology Network. In 2005, more than 150,000 records were submitted.

You can get involved and help scientists understand more about climate change by recording sightings around your home of the species listed below.

Recordings can be made on-line, by filling in the postcard in this magazine – or, if you're out and about exploring one of English Nature's fantastic National Nature Reserves, you can text your sightings as soon as you spot them.

The wildlife to look out for is:

Frogspawn – look in ditches, ponds and streams after early February.

Seven-spot ladybird – look in gardens, woodland, hedgerows and meadows from February to March.

Red tailed bumblebee – look in gardens and grassland for queen bumblebees coming out of hibernation to search for pollen from March.

Peacock butterflies – look in gardens and along flowery banks to see them out and about in search of nectar from late March.



Look out for Hawthorn

Hawthorn – look in scrub, hedgerows and woodland from the end of April to May.

Swift – look near buildings, and for silhouettes against the sky from late April to early May.

Recordings should be submitted by the end of May.

To find out more visit:

<http://www.bbc.co.uk/nature/animals/wildbritain/springwatch/>

Bill Oddie, Kate Humble and Simon King will be back on our screens from May 29 for another three-week celebration of UK wildlife. *Springwatch* will be on Monday to Thursday at 8pm on BBC2.



Science update

One way we share our scientific knowledge with others is through a series of English Nature Research Reports (ENRRs). Here are some of the current hot topics.

ENRR 665 The Future of Transport 2005–2015.



Traffic on the A30 through Goss and Tregoss Moors NNR

Over the next 10 years and beyond, transport will continue to be a major political, environmental and social issue.

Travel is on the increase, especially by road and air, with significant implications for the natural environment. The building and operation of transport infrastructure

can have a severely negative effect on wildlife, either directly through physical damage, or indirectly by fragmenting habitats.

Environmental changes may also have an effect on transport and its infrastructures. For example, railways which cross or skirt around peat bogs that have been rewetted due to rising temperatures and soil dryness, may become unstable.

This report will inform English Nature's contribution to the review of the Aviation White Paper later this year and the Government-commissioned study into transport and productivity. It will help to shape Natural England's thinking on transport issues.

English Nature recommends principles to guide transport policy. These include:

- reducing the need to travel, by improving access to local services and green space and making the most of existing transport networks,
- reducing pollution, from cars and aircraft in particular, by encouraging people to use more environmentally-friendly transport and increasing fuel costs,
- making sure the cost of each type of transport reflects the full environmental cost,
- reducing negative effects by including measures in transport plans to protect wildlife, habitats and landscapes.

For a full list and electronic copies of recently published ENRRs, visit the publications section of our website on www.english-nature.org.uk or contact our Enquiry Service on 01733 455100/01/02, email enquiries@english-nature.org.uk for a printed version.

Send in the Seal Patrol!

Grey seals which breed on the beaches of Horsey in Norfolk, have been quietly delighting the community for over 20 years.

The colony of around 100 seals turns up between November and January each year to give birth to their pups on the sandy beach. Local people love watching them and monitoring their progress.

But in recent years, the secret has leaked out, and more and more visitors now arrive to view the wildlife spectacle.



Christine Kirby

Martham resident John Heseltine, who co-ordinates the group, said, "The breeding season is the most important period in the seals' lives and it only lasts four or five weeks, so the least we can do is give them a bit of breathing space."

"With all the nature programmes on TV, people are more interested in wildlife and suddenly they were turning up in their hundreds. Some were flying kites and playing football around the seals and dogs were running off their leads. Seal mums were getting traumatised and we were afraid the pups may be chased into the sea before they were ready and would drown. Young girls were even trying to hug the pups and we feared someone was going to get hurt."

Initially the villagers tried to cope alone but, feeling swamped, they approached the Winterton NNR where Mr Heseltine is a volunteer warden.

English Nature's Assistant Site Manager, John White, said, "At weekends and during the Christmas holidays, the seals were attracting up to 200 visitors a day. Our volunteer summer wardens look after the reserve's little terns from May to July but were free to join up with the villagers during the winter period and now we have a dedicated team of around 15 seal wardens."

The Broads Authority also gave their support and some of their own wardens to strengthen the team.

The seals on Horsey beach

The seals' favourite beaches are just outside the boundary of the nearby Winterton National Nature Reserve (NNR) and don't enjoy the reserve's protection.

Residents grew increasingly concerned about the level of disturbance to their special guests. They called in English Nature experts who helped set up and train an organised seal-watch team to guard the colony.



John White

Seal wardens John Heseltine and Christine Kirby keep watch

The wardens engage with visitors as they arrive, provide information and direct them to vantage points on the sand dunes where they can view the breeding colony from a safe distance. They make sure everyone treats the wildlife with respect and that dogs are kept on leads. For the most part, people are happy to oblige and keen to find out more. With English Nature funding, the group hopes to publish an information leaflet for the next breeding season at the end of this year.

John White said, "It all seemed to go really well. This year we had 106 pups compared with 70 to 80 in previous years. Only time will tell whether this is due to the reduced levels of disturbance."

Mr Heseltine added, "We were happy this year that the seals were pretty relaxed. The sea was marvellous for learning to swim, there was plenty of fish and the crowds were kept at bay. It is amazing to see how the seal numbers are going up and we have no doubt that our efforts are worthwhile."

Anyone who would like to join the seal wardens can contact English Nature's Norfolk team on 01603 598400.