

Environmental Education



Preparing the ground

Sowing seeds for Wildlife in the City page 11

NAFSO news

 **nafso**

Inspiring Field Studies Educators

Pages 16—17



Clearing the air

Pages 25



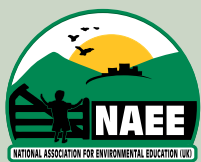
Woodlands working

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Pressing flowers

Page 30



National Association for Environmental Education (UK)

The key network for all concerned about our relation with the natural and built environments; promoting sustainable education

NAEE UK has, for over fifty years, provided support for educators and education professionals to supply and deliver all aspects of environmental education across all levels of the curriculum.

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There are different categories of membership.

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| | |
|---|--|
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National Association for Environmental Education (UK)

University of Wolverhampton
Walsall Campus
Gorway Road
Walsall WS1 3BD
Tel/Fax: 01922 631 200
Email: info@naee.org.uk
Website: www.naee.org.uk
Facebook: www.facebook.com/NAEEUK
Twitter: http://twitter.com/NAEE_UK
LinkedIn: www.linkedin.com/groups/NAEEUK

Contributions:

The editor welcomes articles and reviews by members and supporters.
Contact editor@naeeuk.plus.com for details

Books, DVDs and other materials for review should be sent to the NAEE office above.

The opinions expressed in the articles of this journal are those of the authors and do not necessarily represent those of the NAEE.

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Cover images

Main Picture: Jamie Shortland and young members of the Nottingham Religious Society of Friends (Quakers) prepare a seed bed for sowing wildflower seeds.

Other pictures (l-r): Performing an air quality test for Cleaner Air 4 Schools; Wood crafts from the Forest Schools conference; Pressed flower art from Pakistan.

Update on the national curriculum review

Where now for the curriculum
review and NAEE's role in it?
Juliette Green profiles the current
state-of-play

| | |
|----------------------|--|
| December 2011 | The Department for Education (DfE) published The Framework for the National Curriculum, a report by the Expert Panel, which advised the National Curriculum review. Of particular interest to NAEE was Aim 5: to "promote understanding of sustainability in the stewardship of resources locally, nationally and globally" citing examples of "high performing jurisdictions" whose curricula give a high-level reference to sustainability. |
| March 2012 | We encouraged our members and supporters to write to their MPs asking them to endorse our view supporting the inclusion of Aim 5 as part of the revised National Curriculum and to relate our message to the Secretary of State for Education, Rt Hon Michael Gove MP. Several members received replies, including letters from Michael Gove and Nick Gibb MP (Minister of State for School). The responses referred to sustainability but not environmental education as a whole. |
| June 2012 | The draft Programmes of Study for the three core subjects – maths, English and science – were published. Of particular interest to NAEE were the numerous references to pupils using 'the local environment throughout the year' to study plants, animals, habitats, light and shadows, etc. However, there was no mention of environmental issues; local or global. For example, pupils are encouraged to learn about the plants living in tropical rainforests but no reference is made to their conservation. |
| August 2012 | There will be a "debate on the content of the primary curriculum with key stakeholders, including learned societies, subject associations and teacher unions. This will inform any changes to the content in readiness for the full public consultation towards the end of this year." NAEE wrote to Michael Gove to ask if we could be added to this list of key stakeholders and informing him of our wealth of experience when it comes to Environmental Education. We are awaiting a reply from the Secretary of State for Education. |

Thank you for a positive and productive year



Dear Colleagues,

Our milestone 100th edition of Environmental Education, with its variety of case studies and features from the United Kingdom and our partners across the world, provided a strong exemplar, a clear voice, showing what NAEE is and does. Thank you to readers who provided positive comments.

We plan to build on the positive messages presented in the journal through continuity, and some new installments.

We report on the continuing good news of the Kenrick Project as it brings children up close and personal to nature experiences in Birmingham (page 4) and, to show we are not just about what you can see, a case study about air pollution (page 25) and carbon schools (page 28).

Welcome to Stuart Neyton, NAEE's new Coordinator who joined us at the July meeting, with Tom West stepping aside to pursue his studies but who we hope will join the Executive Committee.

New journal features to look out for include a series *Books About.....*, with plants the first of these. The Webwatch section now covers 2 pages.

Next year is International Year of Water, please send in case studies about water use and conservation issues and/or questions for our Summer issue. We also wish to highlight examples of sustainable building practices in *Environmental Education*.

If readers have book titles or websites they would like included, or case studies as per the above requests, please get in touch via info@naee.org.uk.

Free Membership is now available to all students – see page 2 for details.

Let's keep working together for the education and the environment!



Gabrielle Back



Henricus Peters

NAEE Co-Chairs



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naee.org.uk



More schools benefit from Kenrick Days project

Heatha Gregory
Executive member
NAEE

Following on the success of last term's pilot project, NAEE is extending its funding to enable many more Birmingham school children to benefit from day visits to environmental centres.

Three successful schools are preparing their students for their trips this autumn term starting with St Vincent's Catholic Primary School in Nechells who will be taking year 5 and year 6 students to Hams Hall Environmental Study Centre as part of a half-term curriculum theme entitled 'Go with the Flow.' This will include a range of learning objectives from their geography, science, ICT, art, dance and RE curriculum studies.

As part of their preparatory work, students at St Vincent's will be learning about climate and weather patterns as well as landscapes and landforms, giving them a sound background before their visit.

In particular, whilst at Hams Hall, the students will be studying the River Tame, looking at key vocabulary related to river features and processes. They will observe and name a range of river features and find evidence of the processes of erosion, transportation and deposition at work. Labelled field sketches will be completed and measurements relating to depth, width and speed of flow. They will observe a tributary stream as an interesting contrast to the main river.

The Kenrick bursary is enabling Calthorpe Special School to undertake two trips. Key stage 4/5 students are currently exploring the theme 'Responding to the local natural environment' within the curriculum subject 'Environment and Community'. For the first group, preparatory work will be sensory-based in the main with pupils exploring, smelling and tasting a range of plants within their school environment. Responses will be recorded in order to compare if similar responses are expressed on the trip to the Botanical Gardens. Hopefully pupils should




Hugh Kenrick Days



experience a contrast in the texture and smell of plants in relation to their experience in the school playground.

The second group will be visiting the Birmingham Nature Centre. Currently the pupils are preparing for their visit by exploring textures, pictures and sounds of animals and familiarising themselves with model animals and soft toys in anticipation of seeing a range of different animals and birds that they would never see in their city location.

St Augustine's Catholic Primary School, Handsworth is also taking a class of year 2 students to the Botanical gardens, here they will be looking at plants in different environments within the science curriculum.

We look forward to bringing you an update as to how they got on in the next journal. 



Mrs Anne Kenrick, MBE

Continuing our series profiling NAEE's Presidents and Vice- Presidents, we profile Mrs Kenrick

Sue Fenoughty
Executive member
NAEE



During the Second World War, Anne Kenrick received horticultural training at the Swanley Horticultural College in Kent. It was bombed in 1944 and relocated first to Nottingham University Agricultural Department and then to Wye College near Canterbury which later merged with Imperial College in August 2000.

On leaving college, Anne became head gardener at Winchester College, and then worked for a firm of landscape architects in London. After her marriage to Hugh Kenrick in 1950, an early visit to South Africa left a profound impression when she stumbled on a wooden shack converted to a school room at Kirstenbosch Botanic Gardens, in the lee of Table Mountain, where local children were educated about the flora and fauna of this fertile area. This memory inspired her to found the school room centre at Birmingham's Botanical Gardens, where until recently, Birmingham City Council funded a full time head of centre for school visits. Due to cuts in the city's budget, this full-time post was recently withdrawn, although a freelance tutor still runs school visits.

Her interest in education deepened and she became a governor of the seven schools of the Birmingham King Edward Foundation and also of the Queen's Theological College.

Her horticultural experience was in demand as a member of the judging panel for the RHS Flower Shows at Chelsea and around the country and she served on the RHS Council. She was also associated with the National Council for the Conservation of Plants & Gardens now called Plant Heritage. She was invited to set up a project to restore the 18th Century gardens at Castle Bromwich Hall. It was here, in the early 1990s that I first met Mrs Kenrick, after she had approached Tim Brighouse, then Birmingham's Chief Education Officer, to extol the educational opportunities in the Gardens which led to the 'living history' project I set up later for local schools.

The memory of that moment, years ago in South Africa, hasn't dimmed and she is passionate about the need to introduce city children to the joys of learning about their rich environmental heritage beyond the urban streets where their homes and schools are situated.

Encouraged by the success of Paul Cadbury's project to provide educational facilities at a farm for Birmingham school visits, Mrs. Kenrick is keen to see such valuable resources are more widely accessible to schools, since the City council no longer funds school environmental visits, due to the withdrawal of environmental education from the National Curriculum and local authority cuts in the education budget. The farm visits enable city children to see and experience first hand where their food comes from, and many are inspired to start growing food in plots back at school. Visits to the remaining outdoor learning centres give city children a glimpse of the wider world where they can discover the plants and animals that live in the natural environment and begin to understand and appreciate the importance of the balance of nature and how they are a part of it. This valuable 'environmental education' helps to equip young people with the knowledge and understanding of the environmental issues that face us today.

As a result of the recent education cuts, Birmingham schools now have to pay the full rate for a day's visit to a Birmingham City Council outdoor learning centre. Schools also have to pay the travel costs, which were once funded by the city council. The H. & A. Kenrick Trust fund provides bursaries to nine city schools annually to cover the costs of visits to these centres. The bursaries are awarded to schools that show how the visits link to the school curriculum, with an emphasis on raising the students' environmental awareness.

Midlands 2012 and beyond

NAEE Co-Chair, *Gabrielle Back*, reports on projects with which she's been involved on behalf of the Association







2012 and beyond




In June 2012 primary schools from Coventry, Warwickshire, Rugby and Warwick district attended an education for sustainable development event called 2012 and Beyond. This outdoor event with environmental sustainability at its core has been organised annually for the last ten years by the councils of Coventry, Warwickshire and Rugby in partnership with Action 21.

Held at the Coombe Abbey Country Park in Warwickshire, school children were involved in activities over three days and some 45 schools, each with up to 35 Key Stage 2 pupils, participated in workshops delivered by professionals from a variety of disciplines covering a wide range of appropriate topics.

Event Aims

The ability to understand the principles of sustainable development and to have the confidence and knowledge to act for the greater good has never been so important, so the event aimed to:





-  Raise awareness about environmental sustainability;
-  Challenge negative perceptions of the natural world;
-  Inspire by bringing about a change in the behaviour of children and schools;
-  Deliver national curriculum requirements by providing high quality educational workshops;
-  Provide teachers with materials and ideas for teaching these issues under the National Curriculum;
-  Strengthen the relationships between schools and Local Authorities;




-  Enable familiarity and create an interest in the natural world;
-  Use the natural world as a tool to inspire communications and team-working in young people;
-  Provide an opportunity for children from various areas to come together in a partnership educational event.


Curriculum Links


The workshops covered National Curriculum requirements set out in geography, science, PHSE/citizenships programmes of study at KS2. The event directly supported the commitment to sustainable development as set out in the statement values, aims and purposes in the curriculum. Activities built on key skills including communications, problem solving and working with others.

Activities included such topics as:

-  Energy savers; interactive sessions concerning energy; its source, use and practical experiments including use of thermal imaging technology for that wow factor;
-  Food for life, focusing on what we eat and how it gets to the plate, looking at intensive and free-range food production methods;
-  Hunting minibeasts in woodland meadow and grasslands, providing an opportunity to scavenge for minibeasts in different habitats, thus identifying and observing lifestyles, adaptations and learning about food chains and biodiversity;
-  The water we use investigated ways of more efficient use of water, and how it is used in other parts of the world. This was an interactive fun activity with a great chance to

-  get wet;
Bike and Hike taught about the environmental and health benefits of walking and cycling as opposed to travelling by car. This was a hands-on activity session;
-  Fair Trade explored the trade justice issue by examining aspects of the chocolate trade from the cocoa plant to the supermarket shelf;
-  Healthy Sustainable Lifestyles focused on discovering how regular exercise can be fun, makes you feel better and has lasting effects

-  on health;
The composting activities informed about the importance of composting and green waste recycling with associated environmental benefits.

The event was highly educational and achieved to maintain a high level of enjoyment and learning and endeavoured to support the ongoing work of schools arising from their experiences. 

www.action21.co.uk/education_for_sustainability.html

From Tips to Ships: Start Imagining project

Start imagining is a new programme designed to encourage everyone to get creative at schools, youth centres, libraries, at home – there's space for imaginations everywhere! The focus is on inventive "upcycling" helping to transform junk like empty cereal packs and broken plastic beads into fabulous art, crafts and special things.


Entitled From Tips to Ships, Start Imagining's national competition was inspired by HM the Queen's Thames Diamond Jubilee pageant where up to 1,000 boats journeyed up the river Thames last June. School children throughout the UK were given the opportunity to create extraordinary and visionary models of boats or ships using recyclable materials.

The winning creations formed part of an exhibition displayed at the Discover Greenwich Centre at the Old Royal Naval College. Co-chair of NAEE and chair of the RIBI Environment Group, Gabrielle Back, organised an exhibition in Coventry for Coventry and Warwickshire schools to participate in the Tips to Ships competition locally and nationally. Recycled models of boats were showcased at the Methodist Central Hall. The exhibits were judged and prizes and certificates awarded.

Year 7 students from Cardinal Wiseman School built the ships as part of their learning challenge. Using recyclable materials they worked in small groups to produce the models. Photos of the boats were also entered into the national competition and six of their boats won and were part of the special exhibition in Greenwich. All their amazing entries were displayed together in Coventry to create their very own flotilla.



Making imaginative objects from 'waste'

Amongst the many other wonderful entries, pride of place went to Radford Children's Centre, who produced and displayed one giant boat, a combined school entry that also involved their parents. The initiative was a fantastic spectacle and great success. 

www.startimagining.co.uk

Centenary celebration



The Wildlife Trusts celebrate 100 years of nature conservation

Emma Robertshaw
*Media Officer
The Wildlife Trusts*



n 16 May 1912 a banker, landowner, naturalist and scientist named Charles Rothschild got together with like-minded enthusiasts to whip-up

support for a radical idea: to identify and protect the very best of the UK's wild places. Thus began the Society for the Promotion of Nature Reserves which would later become The Wildlife Trusts movement: the first time that anyone had come up with a vision for nature conservation.


Before 1912, the emphasis was on trying to protect individual species. Rothschild's plan was different: to safeguard the places where wildlife lived: the moors, meadows, woods and fens under attack from rapid modernisation. An expert entomologist, Rothschild succeeded in enlisting the support of 50 Fellows of the Royal Society, the then Foreign Secretary Sir Edward Grey and future Prime Minister Neville Chamberlain, while the then Speaker of the House of Commons, James Lowther MP, became the first president.

From that spark of an idea, and the 339 acres of wild fenland in Cambridgeshire that Rothschild bought himself to save for nature, grew a movement across the UK that would see a network of Wildlife Trusts acquiring and managing land. Later in the 1940s and 50s, the Society took the Government by the hand and led it toward legislating for nature for the first time, establishing National Parks, National Nature Reserves and Sites of Special Scientific Interest. Many of these wildlife-rich jewels are still cared for by The Wildlife Trusts today.

The 1960s saw these reserves cease to be



academic field laboratories and become treasured refuges for people to enjoy, learn about nature and get involved. In the 1970s, Trusts proposed the first marine reserves, the start of vital work that continues today to secure protection at sea for the rarely-seen treasures, among the most productive on Earth, around our shores. Urban nature conservation flourished in the 1980s. People realised that living in a city is no bar to enjoying nature and Trusts set about transforming derelict inner-city sites into oases for wildlife.

Today there are 47 Wildlife Trusts promoting a far-reaching vision for nature known as A Living Landscape and Living Seas. As well as protecting what already exists in reserves and other special places, Wildlife Trusts are working with landowners, local communities and partners to aid nature's recovery on a wider scale. Rothschild's Woodwalton Fen, for example, is now part of an inspirational project to create a huge 3,700 hectare wetland. 

The junior branch of the Wildlife Trusts has over 150,000 members:

www.wildlifewatch.org.uk

More information about the Trusts' projects mentioned in this article can be found at:

www.wildlifetrusts.org/living-landscape

www.wildlifetrusts.org/living-seas

Attracting wildlife

Philip Sainty

Communications officer
NAEE

Nottingham friends meeting house is located in Nottingham city centre and its primary use is as a place of silent worship by the Religious Society of Friends, commonly known as Quakers, in Nottingham. Though very much in the heart of the city, the area in which the building is located is known as the arboretum. There is an arboretum, in addition to a large general cemetery and, about half-a-mile up a hill out of the city, is the Forest Recreation Ground: known for its tree-lined walks, laid out by Joseph Paxton, and the annual Goose Fair.


Due to the propensity of green space, birdwatchers classify the area as broadleaf woodland. Nuthatch, Jay, Treecreeper and Woodpecker, can be seen among the more common birds in the meeting house burial ground. Recognising the burial ground as an asset for nature, as well as people, Nottingham Quakers undertook to manage the grounds in a way that promotes and protects wildlife and the environment. Part of this means involving young



Jamie explains the principles of purpose of the day to the youngest members of the meeting

people from the meeting to help them interact with, and care for, nature.

It was for this reason that, in addition to the annual sowing of wildflower seed that we've done for the last three years, we asked the local Wildlife Trust to come and work with our young people and help them sow specific areas that they can watch grow and benefit wildlife. Jamie Shortland, from Nottinghamshire Wildlife Trust, came on a cold but clear Sunday morning to help them do just that.

Jamie is part of the Trust's *Wildlife in the City* scheme. He has helped schools and community organisations around Nottinghamshire to create areas beneficial to wildlife on their land, be it part of a school playing field or on a community allotment. The Trust supplied the seed and, at the end of the day, thanks to Jamie and the seed from the Trust, friends had many new wildflower beds to attract even more birds next year. 

Friends from Nottingham meeting showing off their packs of seed



You can find out more about Wildlife in the City at

www.wildlifeinthecity.org

And Nottingham friends meeting house at:

www.nottinghamquakers.org.uk

The full range of photos from the day are on our facebook page:

www.facebook.com/friendsmeetinghousenottingham

A landmark Cumbrian day

In the past, part of NAEE's role was to act as the national coordinating and representative body for regional Environmental Associations across the country. *David Fellows* reports on a bittersweet event: the decision of the last regional Association, Environment Cumbria, to wrap up after over thirty years. They will be leaving a legacy for local schools, however

'Celebration' might seem a strange word to use for the end of a long standing regional organisation, the Cumbrian Association for Environmental Education, more recently known by its shorter name of "Environment Cumbria". It came into being when the new county of Cumbria was founded back in 1974. It provided a range of after school and weekend meetings often in the form of visits to new or improved sites outside school which could provide valuable experiences, enhancing pupils' learning in what we have always referred to as "the most varied, valuable yet vulnerable" county in the UK. For several years we also ran weekend LEA conferences at Higham Hall near Cockermouth, such was the status given to learning about the environment. We've always been linked to the National Association whose motto has been "Education about, through and for the environment", a need that we know is even more pressing in this century.

By 1981 we had produced our first resource guide to interesting Cumbrian sites for study, based on a model pioneered by our Northumberland colleagues with whom we still maintain a long-standing link. This was revised and enlarged in 1982 and a third updated edition was published in 1991, all supported through the County Education Department. Profits from sales of these guides were set aside for a further digital edition but the demand is no longer there. So it was decided last year to use the remaining money for enhancing environmental work at a few of the many schools who still value EE through a competition open to all of them. There were four outstanding entries, from Hawkshead, Kirkoswald,



NAEE Vice President Mick Waters presents a cheque to pupils from Ulverston Infants

Skelton and Ulverston Infants who were each given £250 and a worthy runner-up from Roose School, Barrow. They were asked what they had done in terms of EE and sustainability, what they were planning for the future and how additional funds would help. Their submissions will be on the National Association's website and we hope to return next year to see what successes and, no doubt, some frustrations they have met: this year the biggest one has been the amount of wet weather!

The presentation of the cheques was made on Thursday 13th September after school at the magnificent Cumbria Outdoors Centre Hawes End on Derwentwater. Our




Mick Waters with pupils and staff from all four winning schools

presenter was Mick Waters, the highly respected educationalist, ex-Cumbria headteacher and now, along with several other senior roles, the National Association's Vice President. Mick spoke of how so many children have had their horizons extended by the interest excited by their teachers in the study of the world around us and especially through vivid firsthand experience in it. The demand for EE with its ability to enhance all subjects in the curriculum has drained away steadily over the last twenty years. As Mick pointed out:

"We now work in a school system driven by data. If we can measure it then it must be important and if we can put the data into graphs or spreadsheets then it must be correct. We can then use the suspect data to inspect and measure our schools, to say

whether they are good or not. Successive governments have led themselves into believing that they are counting the right things not that they are simply the easily countable."

NAEE's mission is to re-establish the imaginative use of the environment to inspire learning that is exciting, enjoyable and hence...efficient and to rescue teachers from the avalanche of advice and dictation by government agencies on just what we should teach, how we should teach and what consequences we'd face if we didn't. Local teachers and schools will have direct access to our greatly enlarged website which will continue to post information on courses and environmental opportunities around the county. 

David Fellows is NAEE's Honourary Treasurer

The accountability framework is so demanding with schools pitched against each other. The danger is that the children become a 'currency' that can bring us 'scores'. We all know of children who have their last year in primary school spoiled by over emphasis on the narrow diet of the tests. Children should go places, make things, build things, sing, play, look closely at their world, meet fascinating people and learn about themselves. We risk preparing for the future to the extent we overlook the present that all children deserve...a joyful childhood."

— NAEE Vice-President Mick Waters

Learning about and for the trees

Forest Education Network Launch Event
APF Show, Ragley Hall Estate, Warwickshire
Saturday 15th September 2012

Juliette Green

NAEE Executive Member
and Outdoor Learning Tutor

This launch took place in the Education Tent at the APF Show – the UK's largest forestry, woodland and arboricultural exhibition. The event began with a speech by Sir Terence

Mallinson, President of the Forest Education Initiative (FEI). He introduced the Forest Education Network (FEN) as the successor body to the FEI in England. We were told that England currently has some of the least well-managed and least sustainable woodlands in Europe; a statistic that the FEN is keen to reverse.

The Forest Education Network (FEN)

There were originally FEI 'cluster' groups around the country (comprising teachers, woodland owners, environmental charities and education authorities), and these have now joined up to be part of the FEN, which will be run by the Council for Learning Outside the Classroom (CLOtC) in partnership with the National Route. The Network offers no funding, being a 'communication line' between the various local groups and seeking to raise standards of delivery of forest education, taking on a wider, more diverse, representation from education, forestry and timber.

The FEN is currently compiling a database of partner organisations and individuals, on which NAEE is now listed. The Network will also work closely with FEI colleagues in Scotland and Wales and the new Forest School Association.

Time and Space

Next was an inspiring talk from Jon Cree, training coordinator at Bishops Wood Centre in Worcestershire and Chair of the new Forest School Association. Jon talked about how woodlands can provide the *time* and *space* to develop the 'whole brain' approach, by which he means engaging both hemispheres: the 'logical' left brain and the 'creative' right. Woods and forests can stimulate 'imaginal' thought (creating images in the mind) which can then lead on to creativity, meaning the application of imagination to the real world. He spoke of our 'innate connection' with trees and their links to stories, metaphor and language.

The Forest School Association (FSA)

The FSA was launched on 7th July 2012 as a UK-wide independent body representing and supporting Forest School Practice around the UK. Prior to this there had not been a central organisation for Forest School, as this is really an



Examples of woodland craftwork, such as these benches, featured at the conference

'approach' to outdoor learning rather than one particular organisation. The Association's main aims include: to formulate national standards, develop new qualifications, research and share data and to share and promote best practice and principles for Forest School Practitioners across the UK. Of particular interest to us here at NAEF is their aim to 'promote environmental improvement and conservation by educating, encouraging and assisting local populations in environmental practice'. It is important that children and young people don't just see the woodland as a resource (for the 'bushcraft' elements of Forest School such as building shelters and making fires), but that they also learn about the woodland environment, the plants and animals that live there, and how the activities they carry out can help to foster caring attitudes for the environment.

The FSA is still in a developmental stage, with the most pressing priorities being a website (currently the Archimedes website comes up when you search 'forest school' on the internet and these are only *one* training provider), a new logo (to replace the current temporary one), a national conference in the summer and an FSA standards badge (they will recommend training providers on their website).

FEN and FSA

The two organisations have very distinct remits, but there are a lot of cross-links and a good dialogue between the two. The FEN is an 'umbrella support service' concerned with the forests and woodlands themselves with the wider remit of covering all forest education and relating that to forestry, timber and products in this country too. The Network is made up of a range of different organisations including the owners, teachers, learning coordinators, woodland activity leaders as well as those in Forest School delivery. In contrast, the FSA is made up of Forest School practitioners: schools, education groups and individual teachers.



Working forest machinery gave those attending an insight into managing forests

The Whole Picture

The final talk of the event was from Jez Ralph, Technical Advisor at the Silvanus Trust. This is a charity that aims to bring together forest education and the forestry/timber business to help people understand the full spectrum of forests. He stressed the importance of educating young people about *all* the values of woodlands, not just as wildlife habitats but also as a valuable source of natural materials that can be used, and stated that young people should be taught about aspects such as wood harvesting, sustainable woodland management, sustainability and the uses of timber. He made an excellent point that 'the environmental value of a forest depends on the management of timber production', for example, coppicing provides timber but also lets light down to the forest floor to enable wildflower growth.

Aside from the information that I learnt about the FEN and the FSA, the links and distinctions between them, the APF show as a whole gave a valuable insight into the whole picture of forestry, from traditional practices (such as pole lathe turning and horse logging) to hi-tech equipment. 🌲

Additional information provided by
Fiona Groves, FEN Coordinator

More information—
www.foresteducation.org

July 7th 2012 was a surprisingly sunny day after the heavy showers and floods of the previous week. Apt, then, for the launch of the new Forest School Association in the woods of Elvaston Country Park, just outside Derby, and a pulling together of all the Forest School threads in the UK.

This day was a culmination of almost 20 years of Forest School in the UK and two years' consultation on what a UK-wide Forest School Association would look like. Directors were elected and now we have a new organisation that will support Forest School practitioners throughout the UK, be an advocate for Forest School and act as a governing body for the Forest School qualifications. In this first year we will be employing a development officer, establishing a website as the main port of call for Forest School and a members/practitioners reference point, supporting local groups and running a national conference. If you wish to find out more please contact us on fsa@outdoor-learning.org or call us on 01228 564407

— Jon Cree, Chair, FSA



NAFSO news

NAFSO Professional Development Event

3rd—5th January 2013

Fieldwork Experiences: making links with adventure in Lincolnshire, hosted by PGL Caythorpe Court

This is the highlight of our year when NAFSO members and other delegates from partnership organisations have the opportunity to disseminate best practice in field studies. As NAFSO is the only organisation which represents professionals employed in teaching to develop and promote field studies this event is traditionally held in the “quieter” winter time, although many field study and environmental centres now run courses for visiting school pupils throughout the year.

Tom Davis, from PGL, and Chas Matthews, NAFSO, have organised an amazing selection of workshops and adventurous field work options for delegates to enjoy, both on site and further afield in Lincolnshire. Networking and informal discussions are important parts of the more formal programme of workshops, day visits, keynote speeches, NAFSO AGM, etc. Caythorpe Court is only 20 minutes drive from Grantham Railway station. The site offers ensuite accommodation for every delegate in a purpose-built wooden chalet with underfloor heating. Details will be available in September on the NAFSO web site: www.nafso.org.uk

NAFSO Journal and Review 2012

This is an annual publication of a wide range of articles written by members of NAFSO and other invited colleagues from partnership organisations. It often reflects and progresses topical themes arising out of members’ interests and concerns at the preceding Professional Development Event. The recently released Journal and Review is 24 pages long with twelve articles ranging from reflective educational topics to practical activities and useful tips. Issues of operating field studies in a commercial environment are addressed by an experienced practitioner, whilst another author discusses the importance of field teachers encouraging a sense of place and identity in the context of education. The latter article regrets that more people have not had the opportunity

of exploring their own country (how many of you readers have visited the north of England or Scotland?) whilst a third article introduces engaging environmental activities that can be done anywhere and contribute to a national research programme (yes, the OPAL surveys). Articles about the *Leave No Trace* courses, *Climate Week*, *Trees for Life Project* and *Growing Schools* bring us up-to-date with activities around the country. Finally a book review for environmental educators rounds off the journal.

The most recent Journal and Review was, unusually, published only in electronic form this year although previous and future copies will be printed copies. If the above list interests you and you would like to see it, but are not a member of NAFSO, then please contact the NAFSO administrator through the web site or phone 01780 782386.

Group membership

NAFSO has recently started a group membership scheme as a cost-effective way of involving more people from organisations in NAFSO. All group members will receive the electronic newsletter and have access to the website and electronic publications. However, only one hard copy of each publication will be posted to the lead group member. Full members will also be able to apply for the unique insurance.

‘Crowdmap’ experiment

NAFSO Website manager, David Etheridge, is always looking for ways in which he can share information locally, regionally and globally with other teachers/instructors/tutors. He is also interested in finding accessible (and free!) resources that might be used by school pupils to share their own view of the world. He is interested in seeing how other individuals and organisations locally, regionally and globally are using the increasing range of social networking opportunities for constructive purposes. He recently experimented with <https://nafso001.crowdmap.com> in his search for harnessing social networking, mapping software, etc., for the benefit of fieldwork. So take a look at Crowdmap and if you can see some potential in



nafso

Inspiring Field Studies Educators

this, or some similar, software please share your successful ideas with him.

Changes to Disclosure and Barring

There is a government document entitled *What you need to know*, available on: www.homeoffice.gov.uk/publications/crime/disclosure-and-barring/leaflet-england-wales?view=Binary. It is clear and easy to read and advises schools about which adults need a CRB check before they may accompany, for example, a school trip. These changes will probably affect schools more than day visit and residential centres. In general this appears to be a more reasonable approach. But do check it out for yourself.

Launch of New Forest School Association

On July 7th 2012 the Forest School movement reached a milestone in its history (see page 14) in the UK. After two years of consultation and many years of talking, the new independent Forest School Association was launched. The Association will be a voice for Forest School across the UK, support practice, ensure quality training and push forward on research. The first Directors were duly elected, there was a healthy debate about the name of the organisation and there was the usual networking and a variety of workshops. The day had a real celebratory feel to it along with a sense of 'pulling together'. Until the new website for the Forest School Association is established, information on the Forest School Association will be hosted on the IOL website. FSA can be contacted by telephone: 01228 564 407, or www.outdoor-learning.org/Default.aspx?tabid=104.

Great Bug Hunt Winners

The winners of this year's Great Bug Hunt competition have been announced. The Association for Science Education (ASE)'s learning resource site schoolscience.co.uk teamed up for a second year with The Bug Man Martin Rapley to take science learning out of the classroom and bring it to life in the outdoors. Primary school children taking part in the competition spent their time exploring habitats before recording their observations in drawings, photos and poems.

Marianne Cutler, ASE's Director of Professional and Curriculum Innovation, said: "The Great Bug Hunt competition is a brilliant way of bringing science to life for children and shows you can go on a journey of discovery in your own backyard. Schools from Wales, Walsall and Bournemouth won the first three prizes. Some pupils recounted their experience thus:

"By the end of the week, we had looked in seven different habitats, the meadow, vegetable garden, the forest schools area, the church yard, the orchard field and the village pond and stream."

"We found over 40 different types of bugs and had a fantastic time."

"They are now all thoroughly immersed in the world of bugs and are still keen to find even more bugs in our school grounds."

What a lovely way to finish the school year and to introduce youngsters to exploring the natural outdoor environment.

www.nafso.org.uk

Climate Week

4-10 March 2013

Time to prepare for a major climate change campaign in Britain next year

Climate Week is a supercharged national campaign to inspire a new wave of action on climate change. It culminates with thousands of events and activities taking place throughout the week of 4th to 10th March 2013, planned by organisations from every part of society. Showcasing real, practical ways to combat climate change, the campaign aims to renew our ambition to create a more sustainable, low-carbon future.

Climate Week is backed by every part of society, from the Prime Minister to Paul McCartney, the National Association for Environment Education to the Met Office, the TUC to the CBI, Girlguiding UK to the National Association of Primary Heads. During Climate Week 2012 over 3,000 events were attended by half-a-million people across the UK.


Registrations will soon be open for the Climate Week Challenge, Britain's biggest ever environmental competition. The Challenge is open to all ages, can be done on any day during Climate Week and it is completely free to take part. Over 130,000 people participated in 2012 in a challenge to come up with an idea to green a local space and make it more environmentally friendly. The entries were judged by a celebrity panel and the winners went on to take part in workshops organized by industry and business leaders. Winning designs included the Water Pebble – a device for the shower that flashes green when you first start washing, amber for when it's time to rinse off and red for when it's time to get out the shower. The pupils really enjoyed their workshop learning about climate change, developing their design and creating a school action plan.

The prestigious Climate Week Awards recognise the most inspirational and impressive actions taking place in every sector of society. The judging panel contains figures such as the advisor to the Prince of Wales' Sustainability Unit, Tony Juniper, the former President of Ireland, Mary Robinson, and the Bishop of London. We have a category dedicated to Best Educational Initiative, last year won by Turner's Hill C of E School.

In 2013 there will be a new feature to the campaign, the Climate Week Swap. Swapping

clothes, books toys and DVDs saves previous resources, reduces waste and carbon emissions and is completely free to run. Hosting a Swap can be done by anyone in any setting – whether at work, at home, or in the community – and those who register can win a signed celebrity item!

Nurseries, schools, colleges and teaching associations can get involved now by starting to plan an event for Climate Week, whether that be one of the events described above, or your own event. This provides a unique opportunity to profile your own initiatives and innovations to staff, students and the community, members and the media. You can also spread the word in advance, so that others find out about Climate Week in time to plan their own activities.

You can help right now by asking the organisations you know to plan an event or activity for Climate Week. You can also enter the Awards and register to take part in the Climate Week Challenge. 

To find out more about Climate Week, or to register your event, go to www.climateweek.com, email: info@climateweek.com, or telephone: 020 3397 2601

What can schools do?

Three good options are:



Take part in the Climate Week Challenge. This is the UK's biggest environmental competition, with teams of pupils across the country working to come up with solutions to climate change – in 2012 over 130,000 pupils and adults took part.



Take part in the Climate Week Swap. All you need to do is run a swap event in your school and invite parents, teachers and pupils to come along and swap their clothes, books, toys and DVDs.



Run your own event during Climate Week. This could be a talk, workshop, film-screening, energy saving project or walk-to-school scheme. Whatever works for your local school and community!

University engagement



Stuart Neyton
National Coordinator
NAEE

For decades NAEE has accentuated the need for environmental education to be included in a huge number of areas of the school curriculum and has promoted and assisted in direct, hands-on,

learning from nature. The things experienced and taught at a young age can change a person's habits and shape a person's outlook throughout their adult life, and inspire a yearning for more learning, teaching and greater awareness-raising, which is immensely important when it comes to conservation and the protection of our natural environment.

Environmental awareness among students of tertiary institutions has always been significant, but the increase in course content specifically tailored towards environmental learning and building a greener and more sustainable future has been extremely positive. Today, millions of students around the world are taking courses and modules at universities covering specific aspects of the environment and conservation in relation to law, economics, engineering, sciences, architecture, agriculture, business, psychology, almost every discipline, which has a lasting influence as students transition to the world of work.





As more and more young people have remained in full-time education right through to university, the reach of student-run campaigns and educational projects has expanded. Self-organised student groups are raising awareness of the environmental consequences of everything including what we eat, how we dress, who we vote for, by what means we travel and encourage sustainable alternatives. They offer us a huge resource of knowledge and experience and linking these groups up within a wider network to encourage discussion and teaching, especially among younger people, is an absolute must.

A small number of university students have taken up NAEE's offer of free membership for students and many hundreds of others have benefited from using our resources through their university's membership. We hope to see this grow and engage in a two-way channel: as we all know, learning doesn't stop at Key Stage 3 and we all have something to teach.

Why we need EE and ESD



Chris Loynes on why the uphill struggle to implement Environmental Education and Education for Sustainable Development just got steeper

Whilst many schools are developing their Environmental Education (EE) and Education for Sustainable Development (ESD) curricula, and, arguably, they are getting increasing degrees of freedom to do so, the central support that is necessary to ensure that all children receive this as an aspect of their education and the support to enable this to happen is, it seems to me, disappearing fast in the neo-liberal educational jungle we are in. Nevertheless, over the recent years there have been a growing number of books, articles and reports advocating the importance of EE and ESD embedded in real world experiences and as core curriculum. They range from passionate and polemical calls to action (Louv, 2009) to increasingly substantive research findings (Munoz, 2009). These publications claim that we need EE because:

-  The health and wellbeing of young people depends on experiences outdoors in nature with others: humans and other than humans (for example see NEF (2005), Bird (2007), Natural England (2009), RSPB (2009), SDC (2009));
-  If children are to care for nature they have to develop a relationship with it as well as learn to understand it (for example see Bonnett (2004), WWF (2011));
-  Nature needs to be cared for and our relationship with it transformed if we are to sustain our civilisation (see Hayward (2012) for an analysis of this);
-  The changes in our lifestyles ahead of us will be easier to make if we know why they are being made, care for the outcomes of these changes and value new less impactful ways of living our lives: recreation, work, food, homes, everything (see Orr (1994), Sterling (2001),

SDC (2010) Hayward (2012) for the unfolding assertion of this need].

There are other pedagogic contributions EE makes to school life especially for the elements that can be provided outdoors:

-  Children need concrete and real experiences and situations not just abstract concepts and facts taught didactically in a classroom (NAFSO (2010)], SDC (2010), Association for Science Education (2011));
-  Children learn in different ways, a 'one size fits all' approach is wrong. Learning by doing and experiential education are different pedagogies that involve physical experiences, feelings and values complementing the cognitive aspects of education, this is essential for a whole education [See SDC (2010), Roberts (2011)].

You might say that EE can be a cross-curricular theme. In this arrangement it can become a strong whole school activity influencing the teaching and learning of every child – or it can be watered down or vanish (Percy-Smith (2009), Scott (2009)).


I believe it needs to be a subject. This is partly for strategic reasons of ensuring it is taught to all children and partly because the teaching of the knowledge about our environmental situation is a moral imperative. I know this has to be handled carefully – teaching about the impact on other animals and on humans of our consumption and our lifestyle to children (indeed anyone) unable to act on these can be harmful and counterproductive. But I think it must be done. In some ways you can argue that teaching children about the environmental situation we are in is a wasted effort. It will be too late by the time they are in situations of power to change things. It is true that it is essential to inform key adults currently in power: politicians, corporate leaders, teachers and community leaders. The urgency

demands action by them. Then, in the mid term, the next generation that are in our schools now will have to move forward with whatever we have managed to achieve. For this they will need skills and knowledge it is hard to imagine but it will include those that EE can provide. Not all teachers are equipped with the knowledge and skills to do this. EE teachers, indeed all teachers, must update themselves to provide the facts and explore the issues that confront our world today.

There is the problem of the school as a moral and behavioural bubble. Within schools children act in accordance with the knowledge, skills and values they learn in this community. When the boundary is crossed into the wider community identities change and knowledge, skill and value sets often reorient to the outside world. How do we also educate this world so that what is learned in school becomes increasingly congruent with feelings in the wider world? Education has a challenge on its hands. Adults and parents need ESD and EE as well. There is a role here for schools and other educational bodies and we may also need some new approaches to address these needs.

So, like many teachers, when I look at the changes planned for primary education, and those already in place in secondary schools, I look for the trends that will encourage these developments. Like them what I find is a less visible and lower priority placed on the essential content, a devaluing and even a resistance to effective pedagogies of 'whole' and 'real' education and an emphasis on an education that will maintain a vision of the future that is simply unsustainable. Educators are not the threat to this unsustainable way of life. We won't bring down society as we know it. No one will. The problems are structural. The way we live will end and soon for systemic reasons largely out of anyone's control. Our challenge is to prepare young people as best we can to make something constructive for themselves and for others, those humans and other than humans, out of the changes as they come thicker and faster.

This is not the situation the Secretary of State for Education has on his mind. On the one hand teachers have, arguably, increasing degrees of freedom to teach what they want the way that they want to. This can be seen as positive for those advocating for EE, ESD and outdoor learning in schools. On the other hand, what is considered to be important curriculum is now determined by a wide range of commercial, public and voluntary sector stakeholders. This localisation has much to recommend it but, in my view, some topics, and EE/ESD is at the top of my list in this regard, need national recognition and support. There are encouraging signs in Wales and

Scotland [Scottish Government (2010)]. In England all the indications are that the government wishes to wash its hands of this kind of 'intervention' in education. As before, it is left to teachers to work round the edges, to subvert and create ways to do what they feel works and needs doing. In England at least the uphill struggle just got steeper. 

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Whither / wither primary education, and with it environmental education?

English primary education is at a crossroads. Members of NAEE need to play their part in deciding its future direction.

Professor Colin Richards

Emeritus Professor of Education
University of Cumbria

English primary education is at a crossroads. Members of NAEE need to play their part in deciding its future direction.

The primary curriculum proposals out for consultation are part of a coherent package, which, if implemented, will radically redesign state primary education in England. The elements are (i) excessively detailed prescription of content focused on three subjects only, with no explicit recognition of a field of study such as environmental education; (ii) an inspection system focused on a very narrow, impoverished view of “achievement” in the same three subjects and (iii) a yet-to-be devised set of tests focused on content knowledge in the same three subjects. This is a surprisingly coherent programme. The threat to English primary education as we’ve come to know and conceive it, both in academies and non-academies, is very real. A form of neo-elementary schooling, a defensible but very different conception, is to be imposed.

Let’s remind ourselves of five basic principles that have underlain the provision of English primary education since 1944:

- (a) the entitlement of primary-aged children to a “broad and balanced” curriculum provided in part through first-hand experience in and out of school, though its contents have never been adequately defined and agreed;
- (b) the importance of allowing teachers “degrees of freedom” both in the interpretation of curriculum requirements and in the sphere of pedagogy including flexible use of the environment. These degrees of freedom of interpretation and pedagogic flexibility

are severely compromised by the curriculum proposals;

- (c) the parallel importance of creating conditions in which teachers are encouraged to try out new approaches or introduce new ideas in a suitably careful, responsible, way so as to contribute to the further development of primary theory and practice. There is little or no governmental recognition of a creative dimension to teaching, at least in relation to the proposed programmes of study in mathematics, English and science;
- (d) the recognition that children learn in different ways, at different rates, in relation to different environmental stimuli and need different kinds of scaffolding for their learning and that flexible, reflective pedagogy needs to reflect that inescapable reality. There is little or no evidence of recognition of this view of learning in the proposals;
- (e) the need for a variety of ways of assessing children’s progress in relation to both “hard” and “soft” capabilities, including a place for testing where that is educationally appropriate, a breadth of approach put at risk by the proposal for detailed content-specific testing.

All five of these basic principles are currently at risk of being undermined at best, or set completely aside at worst.

Leaving aside reservations about the specifics of the proposed programmes of study, reservations I will leave to others to raise, I have a number of general concerns. These are not stated here in order of priority.

My first concern is the rigidity associated with specifying content by single-year-group or by double-year-group, which, especially in those schools (and there are many) fearful of the consequences of Ofsted inspection, would severely discourage the exercise of flexible judgement by individual teachers in the light of their knowledge of the children in their own classes. I don’t believe that the government’s purported ‘freedom’ to vary

the placement of content within each key stage will mean much in practice, especially in schools deemed 'in need of improvement' or 'inadequate' or even in many so-called 'good' or 'outstanding' schools.

A century ago Edmond Holmes, a former HM Chief Inspector, characterised the elements of a yearly syllabus as "absurdities" that would be "merely so much by-play in the evolution of a drama which is a grotesque blend of tragedy and farce." I suspect he would think the same of single- and double-year-group syllabuses. Adopting his words, how "tragic" would it be for our children if some of them were required to learn, presumably by rote, material that they could not understand? How "farcical" it would be if teachers felt constrained to keep higher-attaining pupils in lock step with their peers when they could move on in their understanding? How "grotesque" if all pupils of a certain age were required to spell a word like "grotesque"?!

My second concern is the inbuilt disincentive to innovation and experiment which would result from schools adhering to these highly specific prescriptions since many would fear that departing from them would be perilous given the narrow focus of the current inspection regime. Again, Edmond Holmes presciently captured the weaknesses of this government's conservative approach to curriculum design and review:

"Were the government to entrust the drafting of schemes of work in the various subjects to a committee of the wisest and most experienced educationalists in England, the resultant syllabus would be a dismal failure...What is exceptional and experimental cannot possibly find a place in a syllabus which is to bind all schools and teachers alike."

Creative teaching within and outside the school environment would be put at risk in schools subject to these requirements. "Exceptional and experimental" practice would be discouraged and, perhaps, found only in free schools or academies unfettered in detail by the new requirements... but perhaps not even there given the ubiquity of a national testing regime. That would leave the independent sector free to innovate on behalf of all of us!

Third, while all of us involved in primary education acknowledge the importance of English, mathematics and science, the proposals would massively reinforce the narrow focus on these three subjects as *the* core subjects of the primary curriculum. The other subjects and areas (including an environmental dimension) may remain a part of the official primary curriculum but are likely to be accorded very much second-class

status and marginalised through far less detailed, probably minimal, prescription. How much time would be left over for the arts, humanities and physical and environmental education once the detailed core subject specifications had been met? How would squeezing non-core subjects into tightly constrained time allocations allow for what the government calls "the maximum level of innovation at school level in the development of content in these areas"? But wouldn't that "maximum level of innovation" paradoxically leave schools free to do almost nothing, beyond token recognition of these subjects and cross-curricular dimensions? Won't some schools, especially ones fearful of Ofsted and league tables, take that option? And isn't that what Gove and, especially, Gibb have wanted all along?

Fourth, pre-eminence of the core subjects would be reinforced by new assessment arrangements which, though mercifully to be freed from highly problematic 'levels', are likely to be highly constraining on teachers, children and Ofsted inspectors alike. The details of all the new-style grading tests and of the year-groups to be tested are yet to be specified but the resultant arrangements could well be even more burdensome and pervasive than the current regime. And, very importantly, they will affect both primary academies and non-academies alike.


Last of all, these proposals are premised on a traditional view of teachers as essentially transmitters of subject content, not as agents working with pupils in the co-construction of understanding and the development of personal capability, both of which certainly involve but, equally certainly, go beyond mastery of subject content. It is vital that children learn to use knowledge in and outside the school environment, even question knowledge; not merely remember it.

All in all the proposals represent the most detailed set of prescriptions ever placed on primary schools exceeding even the demands of the Revised Code of 1862, whose 150th anniversary is perhaps being, unwittingly, celebrated with the publication of these proposals. In many respects they are regressive and demeaning. Along with the government's dogmatic prescriptions for the teaching of early reading they represent the most severe attack yet on the profession of primary teaching. They will replace our inevitably imperfect but appropriately ambitious primary education by an imperfect, limiting system of neo-elementary schooling.

Rather than being refined as a result of the informal and formal consultations the proposed curriculum needs to be rejected outright in its current form and radically reformulated as a result of a more broad-based review informed by widespread professional discussion,



research and scholarship. The future of the primary curriculum and the primary education of our children are too important to be subject to short-term political priorities informed by personal predilection.

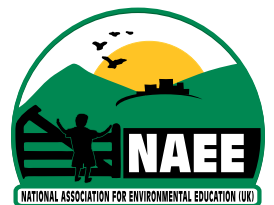
A broad coalition (if that's not a dirty word) of teachers, parents, educational associations, such as NAEE, academics, industrialists and community leaders needs to be marshalled to counter these proposals, which if implemented would damage countless children and demoralise countless teachers. Members of NAEE need to decide their stance. 

Colin Richards is a former primary school teacher. He taught in Birmingham and Warwickshire before becoming a lecturer at Worcester College of Education and later at the University of Leicester. For ten years he was the first editor of the journal *Education 3-13*. Later he worked in County Durham as a primary HMI and later became HM staff inspector with particular

responsibility, first for curriculum 5-16 and then for primary education. From 1992 to 1995 he was Ofsted's specialist adviser for primary education. Since leaving Ofsted in 1996 he has maintained a keen interest in the issues of standards, primary education, the school curriculum, teacher education and school inspection. He was a sub-editor and contributory author to the Cambridge Review of Primary Education. He is chair of governors of a Cumbrian secondary school which has voted twice not to seek academy status. As a critic of much (though not all) of past and present government education policy he is a frequent contributor to the national press (in particular to *Education Journal*, to the *Guardian* and *Observer* and to the *Times Educational Supplement*) where he has had over three hundred articles and letters published. He treasures the epithet "an old-fashioned HMI" bestowed on him by a former chief inspector of schools who meant it as a criticism!


Terry Nutkins

12th August 1946—6th September 2012



Heatha Gregory
Executive member
NAEE

NAEE was sad to learn that Terry Nutkins passed away in early September after a struggle with leukaemia. Terry was a good friend to NAEE, including being the guest speaker at our Birmingham conference back in 2004 where he exuded his complete passion and genuine concern for our natural environment.

Terry was well known for inspiring an entire generation to wonder at, and care for, our rich natural heritage using his unpatronising, enthusiastic delivery whilst presenting on *Animal Magic* and the *Really Wild Show*. He will be missed, but let's ensure that his legacy, to be kind to the Earth, lives on. 



Terry with his dog Sloopy while visiting the Scottish Highlands with Heatha

Fuming about air quality

An estimated 4,000 Londoners a year die prematurely from causes related to air pollution and numerous health problems, including asthma, heart disease and lung disease result from it. Children are particularly at risk because of their smaller lung capacity. Now a new educational initiative aims to tackle this growing problem

Jane Mulholland




Partnerships and Communications Coordinator
London Sustainability Exchange

In September 2011, London Sustainability Exchange (LSx) launched the Cleaner Air 4 Schools pilot programme. Cleaner Air 4 Schools focuses on explaining the causes and effects of poor air quality, encouraging behaviour change and teaching primary school students to measure air quality.

Funded by Transport for London, the Cleaner Air 4 Schools pilot involved three schools (St Edward's Roman Catholic Primary, Christ Church Bentinck CoE Primary and St Vincent's Primary Schools) located around the Edgware and Marylebone Roads area of Westminster, which has some of the poorest air quality in London.

The pilot aimed to improve the confidence, knowledge and skills of parents, teachers, pupils and school governors, helping them understand the importance of air quality, the main causes of pollution and actions that can be taken to tackle this problem.

Key benefits

-  Air pollution research complements lessons with a fun and engaging practical element, contributing to the curriculum and helping pupils to learn;
-  The necessary training to allow schools to continue the project;
-  The opportunity to roll the project out even

further, creating valuable links with other schools in the community;



The possibility of contributing to wider air quality studies;



An interesting and useful Air Quality Toolkit will be employed in all primary schools in London.

Our Approach

LSx delivered a focused campaign to the schools to empower parents, teachers, pupils and governors that they might better understand air pollution. We use 'citizen science' activities and peer-to-peer social marketing methods to support them and educate others in the problems. Cleaner Air 4 Schools was designed to tie in with the National Curriculum, offering an exciting opportunity for pupils to be directly involved in testing air quality.

Each of the schools organised an Air Quality Champion Team of parents, teachers, pupils and school governors. LSx trained the champion team and continuously provided support to the schools while the champions were carrying out air quality surveys and activities.

I told my dad about air quality. He was planning to buy a Nissan, but when I told to him about AP, he changed his mind and decided to buy an electric car.

Pupil from St. Edward's

LSx created learning materials related to different topics about air quality and air pollution, including:



Air quality facts, causes of air pollution, effects on health and quiz;



Instructions for citizen science activities: diffusion tubes, ghost wipes, lichen





St Vincent's pupils conduct a lichen survey to assess air quality

observation;



Instructions for social marketing activities: badge competition and peppered moth activities;



Monitoring and evaluation activities: idling survey, hands up travel survey, parent awareness and travel behaviours survey.

Each of the schools delivered a variety of activities to raise awareness of air quality and sustainable travel behaviours. The schools promoted the project and engaged pupils and parents through an air quality badge design competition, sustainable travel pledges, school newsletters, champions sharing their experience and knowledge in classes and school assemblies, parent evenings and teachers integrating different air quality activities into their lessons.

What we discovered

During the Cleaner Air 4 Schools pilot:



17 air quality champions were trained;



701 students, 130 parents and 56 staff were

reached through surveys, citizen science and social marketing activities;



3491 participants spent 1447 hours taking part in Cleaner Air for Schools Activities;







31,084 people were reached through promotion and communication.

Pupils found high nitrogen dioxide levels in the areas around their schools, which they measured using diffusion tubes and through analysing lichen species. Levels were $45\text{--}80\text{ }\mu\text{g}/\text{m}^3$ (micrograms per cubic metre of Air), which is higher than the EU recommended limit - $40\text{ }\mu\text{g}/\text{m}^3$. Participants found NO_2 levels were as high as $81\text{ }\mu\text{g}/\text{m}^3$ near busy roads, with two schools finding air quality exceeding EU limits within a 200m radius of the school. They also identified more nitrogen-loving lichens than nitrogen-sensitive lichens, showing that the air nearby was fairly poor.

Ghost wipes were used to test heavy metals in air-borne particulate matter. Pupils wiped 15 different surfaces around the school and of the three metals tested (cadmium, lead and zinc), only zinc was found but in very small quantities that

would not affect people's health.

Our surveys showed that:




-  More than 75% of the pupils and staff travel sustainably to school by walking, cycle, scooter, bus and train. Around 15%-25% pupils travel to school by car;
-  'Idling' was a big problem at two of the three schools, with over half of all drivers regularly leaving their engines on while waiting outside the school;
-  Of the 130 parents surveyed, 40% did not know about air quality in London and 60% of them worried that air pollution would affect children's health;
-  There was a high level of interest in learning more about the effects of air quality on children's health and how to combat it.

I learned new things in this project. Although I have been dealing with school travel plans for a long time, I did not know I cars/ idling is a big issue.

Teacher from St. Vincent's





Feedback from qualitative and quantitative approaches showed that the project has improved participant knowledge, caused behavioural changes, and influenced their friends and families. In the following ways:

Improved Knowledge and Influence:


-  Pupils and staff demonstrated a clear understanding of air quality issues with at least 70% selecting the correct response to five of the seven quiz questions;
-  Engaging Parents, with 41%-64% learning about air quality issues and of those asked, 100% rating their level of learning as good;
-  The project encouraged a peer-to-peer social marketing approach, which was adopted by up to 56% of parents who spread the word about air quality to their friends, family and

colleagues.

Behavioural Change:

-  Reduced car travel by 35% (of the third of parents who regularly drove);
-  Reduced car idling by 11% (of those who travel by car), this correlated to the objective measures of idling seen at the schools gates (see below);
-  Increased cycling by 58% (of those who cycle); and
-  Increased use of public transport by 5%.

Next Steps

Through this pilot project and our work with the Greater London Authority, London Sustainability Exchange has developed an Air Quality Toolkit for primary schools in London. Our toolkit is packed full of information and resources to help schools raise awareness of air quality issues in London and deliver behavioural change programmes. The toolkit will soon be available from both the GLA and LSx websites. 

More information—

LSx are keen to roll out the Cleaner Air 4 Schools programme to more schools across London. Please contact Jane Mulholland: 020 7234 9403, j.mulholland@lsx.org.uk www.lsx.org.uk/whatwedo/CleanAir4Schools_page3504.aspx



St Edward's pupil with diffusion tubes on a busy street

Low Carbon Schools Initiative

Gabrielle Back
Co-chair
NAEE

T

his initiative has been designed to help schools deliver immediate energy cost savings. It consists of a selection of methods that are appropriate to enable schools to calculate the

expected financial and carbon saving achievable through successful implementation.

This is a practical fast track programme for whole school savings, and implementing the measures in the programme will provide immediate cost savings typically in excess of 10% of utility bills. These savings can then be reinvested for the benefit of the school every year. Managing the energy use in the school also plays a vital role in contributing towards changes in our climate. The programme focuses on a few simple operational improvements which can be implemented quickly with immediate benefits. See the table, opposite, for details of these.

Communication

With each of the opportunities in the programme it is important to communicate the techniques used to ensure that the whole school works together to embed the behaviour and to achieve the results that are possible. This can be done through a communications policy, school assemblies, memos to teachers, energy information/display boards, exhibitions, competitions, energy monitors or the school



**Making business sense
of climate change**

newsletter. By adopting these activities the school will ensure that everyone has the best possible understanding of what can be achieved and how it can be done. It is important to involve all school users including cleaning, catering, visiting staff, all teachers and parents.

Action Plan

Once the communications policy is adopted, the school can identify their needs and design their own action plan. This can be used to record the opportunities identified, the savings expected, and completion dates for activities. The plan has to be kept updated as and when implementation of individual opportunities is completed and new ones are identified.

The programme has been endorsed by the Carbon Trust and is currently being piloted by several schools in Coventry. If successful, it can be rolled out nationally.

| Fast Track Opportunity | Opportunity in School | Savings Opportunity |
|---|--|--|
| Active labelling of light switches | Many schools have excessive installed lighting and multiple light switching in rooms. Mark up light switches that are not required to be on under normal daylight. | Savings are dependent on your specific school lighting and windows. As much as 30% of lights can sometimes be left off (up to 12% of your electricity bill). |
| Switch off lighting in daylight and when room is unoccupied | Many schools have the benefit of large window space enabling natural daylight to enter rooms. Switch off lighting when not required. Also check that lights are switched off at breaks, etc. | Savings are dependent on existing practices and windows (up to 10% of your electricity bill). |
| IT equipment switch-off | The active labelling of all equipment (switches and plugs) so that all school users know what they can switch off. | Savings are dependent on existing practices (up to 5% of your electricity bill). |
| Reducing your out-of-hours electrical load | Schools are often unoccupied for 5,000-6,000 hours a year. Open hours can sometimes be less than 2,000 hours per year. If electrical items are left on, out of hours, then this can be a major cause of energy waste. | Savings dependent on existing practices (up to 20% of your electricity bill). |
| Permanently sealing superfluous opening windows | Many schools have old windows, particularly metal framed windows. If the windows cause draughts then this is uncomfortable and increases heating costs. Check that all opening windows are needed in each room. In particular, inaccessible high level windows can be sealed up permanently. | Savings dependent on school window type (up to 15% of your heating bill and improved comfort). |

Pressed flower art exhibition

Organised by Pressed Flower Art Society of Pakistan & Nature Club of Pakistan, this exhibition took place at Alhamra Art Gallery, Lahore-Pakistan, from 22nd to 28th February 2012

**Alona Sheridan, NAEE, and
Muhammad Raza Khan**
Nature Club of Pakistan

Pressed Flower Art Society of Pakistan is a group of art lovers working to promote this forgotten art in Pakistan. Before the 1970s pressing and preserving flowers was a hobby among young people and art lovers across the subcontinent.

During the 1970s rapid changes in Pakistani lifestyle/values, mainly due to fast industrialization, economic growth and modern technology, meant that pressed flower art was lost.

Last year some nature lovers established a forum under the title "Pressed Flower Art Society of Pakistan" and stated their intention to revive this art.



Participants with their finished work

To promote this art form, pressed flower art lovers around the world were contacted as well as Pakistani youngsters. Marie Ann Robinson, a pressed flower artist in USA, is one of the artists who provided much support for our cause and enabled us to continue.

Last year a small presentation of this art was shown at a flower festival of Nature Club of Pakistan and proved popular among young people. This year, we had the opportunity to hold an independent pressed flower art exhibition at the Alhamra in Lahore, with the help of Nature Club of Pakistan. Lahore is the cultural hub of Pakistan and Alhamra is known as the best art forum in Pakistan.

We are very grateful to Tania Sohail, Curator of the art gallery, for providing the opportunity to hold this event. She promised to continue her support for our cause in the future.

Photo: Usman Ahmed



RATIONALE

To revive this art form in Pakistan, it was necessary to arrange an exhibition to showcase the latest trends and developments in pressed flower art around the world.

OBJECTIVES:

The objectives of this event were :

1. To promote pressed flower art in Pakistan (the primary objective);
2. To motivate people to learn art from nature;
3. To create opportunities for people to come closer and interact with nature;
4. To motivate youth to observe nature and learn from it;
5. To encourage a love for nature;
6. To make this event a part of cultural life of Lahore-Pakistan.

THE EVENT

The event was held over one week. Individuals visiting the exhibition praised the effort and initiative of Pressed Flower Art Society and Nature Club of Pakistan.

Older people (aged 50+) remembered a time when this art was used to express feelings among youngsters. They also admired modern developments in this art.

People aged 30 - 50 showed interest in promoting this art through commercial activities, including greeting cards, bookmarks and other small products. Young people expressed interest in taking up this hobby to show their creative skills. They commented that this is a very effective way of expressing themselves in the language of nature.

School groups were welcomed to the exhibition, with students from four schools in Lahore visiting.

After a TV channel report, more families came. People from every walk of life visited the exhibition and welcomed the support of Pressed Flower Art Guild-USA for promoting this art in Pakistan.

Some visitors expressed interest in buying the art pieces but the Society explained that this was a promotional event rather than commercial.

Some people were concerned that supplies of materials for this art form are not locally available and requested our help in sourcing these.



Art and nature are one in the pressed flower pieces

Students from the following schools participated in this exhibition;



Lahore Grammar School-Model Town-Lahore;
Beaconhouse School-Canal Side Campus-Lahore;



The City School-Ravi Campus-Lahore;
The City School-Jehlum;



The City School-Rahim Yar Khan;
Sadiq Public School-Bahawalpur;




The City School-Shalimar Campus-Lahore.



he society was very grateful to Marie Ann Robinson, Jackie (President of Pressed Flower Art Guild-USA), Barbara and all members of Pressed Flower Art Guild-USA who contributed to this exhibition by donating art. It is due to their support that we could hold this international exhibition in Pakistan with exhibits from other countries. We believe this was a successful event, creating links and enhancing co-operation among artists.

We achieved media coverage on City-42 TV channel, which broadcast a six-minute report every hour on 23rd February 2012. Newspapers also reported this event.

Next year we wish to make this event even better. Plans are still at an early stage and we are appealing for artists from Pakistan and the international community to support us in any way they can. 

Artists wishing to support us may e-mail: muhammadraza.khan@yahoo.com; or the Pressed Flower Art Society: pressedflowerartsociety.pak@gmail.com

Shanghai Roots & Shoots

As Dr Jane Goodall visits Shanghai, we profile the growing environmental education movement that she started in China and around the world

Kathleen Graham Kelly

International School Coordinator
Shanghai Roots & Shoots



Shanghai Roots & Shoots (R&S) is a youth development non-government organisation (NGO). One of over 120 Roots & Shoots organisations worldwide, it is based on a model created by renowned chimp expert, environmentalist and UN Peace Ambassador Dr Jane Goodall, DBE, in 1991. The worldwide mission of Roots & Shoots is to empower the youth of the world to take action and make a positive difference in the condition of the globe by protecting the environment, human communities and animals. While Jane Goodall's foundation work began in Tanzania with protecting chimpanzees, the mission of each Roots & Shoots is determined to meet the needs of each community at the local level.

Tori Zwisler, from the United States who has been living in China since 1987, met Dr Goodall in 1998 and pledged to start Roots & Shoots in China. From 1999 with three groups, no staff and no office, the Shanghai organisation now has over 280 school groups, spread over 9 provinces, and 16 dedicated staff members. In 2004, the Chinese government acknowledged the work of Roots and Shoots and granted the organisation legal Non-Profit status: a rare qualification in China.

Shanghai Roots & Shoots works to support education and environmental awareness projects throughout Shanghai. Student-led Roots & Shoots clubs are active in 138 local Chinese schools and 50 International schools. Each club identifies projects that are important to the student members and may include individually designed projects or those initiated by the Shanghai Roots & Shoots office. R&S Clubs are found at every level of education in Shanghai from pre-school through to universities. Some of the current projects include:

The Million Tree Project

In 2007 Shanghai R & S set a goal of planting one million trees in Inner Mongolia to stop desertification and offset the carbon footprint (see



Employees from distribution company Mazars plant trees in Inner Mongolia with R&S students



Dr. Jane Goodall and Roots & Shoots members plant trees at the Shanghai Zoo in China.

EE100). R & S clubs have raised funds to purchase trees, and those over 16 have attended planting trips every year since 2008. As of May 2012 900,000 trees have been planted. The Shanghai R&S forests have grown, wildlife and birds have returned and now students prune the older trees as well as plant new ones. For more information about all the exciting details visit the web site at www.mtp-china.org.

Eco Audit Program


Students learn how to calculate the energy use of a business or school and then apply the skills by actually conducting an energy audit, identifying areas for savings, motivating staff to change daily habits, and then re-audit after six months to reveal the savings made.

YES Program

Youth Environmental Sustainability: Adults and university students serve as mentors for students in younger grades, teaching lessons on green topics, energy savings, recycling and how to change behaviors.

Organic Garden Program

R & S provides educational information, seeds and tools to help R & S clubs to grow organic gardens. Students learn about growth cycles, soil enrichment, worm composting and skills of planting, harvesting and marketing of the end product.

The youth development focus of Shanghai Roots & Shoots is further supported by monthly student meetings and annual Youth Summits which provide the opportunity for students to learn about environmental issues, develop leadership and group facilitation skills and share their successes. 

For more information about Shanghai Roots & Shoots please visit our websites at:

www.jgi-shanghai.org

www.mtp-china.org and

www.eco-audit.org

Contact Kathleen Graham Kelly, at

Kathleen.Kelly@jgi-shanghai.org

Promoting Environmental, Economic and Social Sustainability

Second annual *National Greening the Further and Higher Education Sectors* conference and exhibition

Gabrielle Back
Co-Chair
NAEE

The Higher Education Academy report entitled "First year students' attitudes towards and skills in sustainable development" was published, highlighting the fact that sustainability concerns are significant in student university choices. With 4.6 million students currently in FE and 2.3 million in HE education in the UK, there is a real need to consider shifting the curriculum to meet the needs of graduate employers.

The growing field of education for sustainable development and commitment by the government as seen in skills for sustainable growth is of increasing relevance to further and higher

education institutions, and further promotes the transition to a low-carbon economy. With this new emphasis, institutions are coming under increased scrutiny with regards to their own environmental standards concerning direct and indirect carbon emissions.

Featuring a host of eminent speakers, the conference examined the FE and HE sectors' progress whilst detailing latest policy information, guidance, best practice case study examples and technologies to aid the delivery process and realisation of the government's targets for carbon emission reduction.

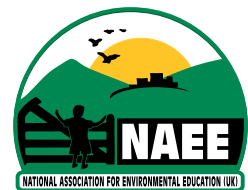
The conference detailed progress to date as how FE and HE sectors strive for excellence, whilst evaluating the pivotal role that these sectors play in providing the stable footing required to achieve sustainable economic growth. The conference and exhibitions provided a crucial forum for discussions, sharing information and expertise at this important time of growth for our low carbon economy.

FREE membership for students!

Benefits of membership include:

- + *Environmental Education* termly journal;
- + Advice and information from experienced teachers and advisors;
- + Excellent for your research needs;
- + Opportunities to volunteer with a growing network;
- + Opportunities to help write new resources

Contact Stuart Neyton, NAEE National Coordinator:
info@naee.org.uk, tel: 01922 631200
or visit the website naee.org.uk



Requires proof of student status

The Carbon Cycle

Kate Rawles

ISBN: 978-1906120634

Two Ravens Press, www.tworavenspress.com

300pp; £11.99

In June 2006, Kate Rawles set out to cycle over 4,500 miles from El Paso, Texas, to Anchorage, Alaska, and to talk to people she met along the way about climate change. Kate used to teach environmental philosophy at Lancaster University but quickly came to see the disabling irony of teaching an ethics of nature from inside a classroom. So in 2004 she set up Outdoor Philosophy, committed to combining experiences of wild places (often from the cockpit of a sea kayak—I speak from personal experience) with critical thinking about the environment (often with a glass of whisky in hand—ditto). Outdoor Philosophy is brilliant and so is Kate's story of her epic journey up the spine of North America, *The Carbon Cycle*.

From the arresting title to the thought-provoking conclusion, Kate's writing conveys the highs and lows of a punishing physical schedule (ten hours' riding a day, come what may), and her encounters with North American flora and fauna (human and non-human). Kate is a refreshingly humble raconteur.

She makes her way up the Rocky Mountains with her ears and eyes wide open, ready for anything and anybody and determined not to prejudge what she finds. So everything becomes a question and Kate does

not make haste towards an answer. As the next giant-sized Recreational Vehicle breezes past her, for example, Kate finds herself wondering whether RVs really are the ultimate sign of climate change denial, or rather the beginnings of a climate-relevant down-sizing (RVs owners sell up vast houses before taking to the road). We are obliged to take these counter-intuitive questions seriously because Kate has bought our respect through the very manner in which she has chosen to make her journey. The medium (the bike) is the message (cut your carbon footprint) and so Kate does not need to preach. This leaves her free to follow people and things wherever they take her, in her mind at least. So does she discover a burgeoning awareness of climate change among the Americans and Canadians she comes across? Well no, actually, she doesn't.

The message is as mixed as you might expect it to be, but rather than sink into despondency Kate finds a lasting truth in the people, places and other species with which she shares her journey. Her ride, she says, gave her just enough perspective to see that, "The ordinary world", our modern 'western' world, can be taken for granted no longer". We need to replace stories of expansion with stories of limits, we need to reconnect with the natural world as members of its community rather than as its lords and masters and we need a new understanding of prosperity which leads us to protect our habitat rather than trash it. In sum, says Kate, "we need a new normal". Not much, of course, could be less normal than riding 4,500 miles in three months.

If you think you're not up to that then read this book instead. It's probably the nearest you'll get to being a gold medal carbon cyclist.

And you'll get the message without the saddle sores.

Andrew Dobson



NAEE members can get a copy of the *The Carbon Cycle* at a discounted rate with free postage and packaging by visiting http://www.tworavenspress.com/TRP_The_Carbon_Cycle.html

Urban Mammals— A concise guide

David Wembridge, with a foreword by Chris Packham

ISBN: 978-978-1-873580-85-1

Whittet Books, in partnership with People's Trust for Endangered Species

300pp; £9.99

We all dream of pristine wilderness areas, but most of us, an increasing number of us, wake up daily to the realities of an urban world. Nature deficit disorder, the concept that our young people are growing up without a relationship with things wild, can paint a rather grim picture. The reality, as naturalist Chris Packham points out in his foreword to this book, is seeing a fox and roe deer down the road or a dead badger on it. Wildlife is all around us and often much closer than we might think. To become more aware, and to be ready to spot them when the chance arises, *Urban Mammals* is an excellent, clean and simple guide to help enjoy these sitings.

"Towns and cities provide habitats for wildlife and there are no neat boundaries between natural and built landscapes. Wherever you are, nature will move in unbothered by definitions. Town and cities concentrate waste, produce warmth and waste, and bring together communities of species found nowhere else."

Urban Mammals celebrates these creatures and their lives. The 'Living with Mammals' survey run by the People's Trust for Endangered Species and recording 24-plus species, has found out a range of connections between what wildlife needs and what urban spaces offer. Bats and Pine Martens, for example, have always been opportunistic in finding suitable nooks in spaces. Foxes are urban-dwellers par excellence, to the extent that urban foxes are very different from country foxes. I was surprised to see Red Squirrels and so many Shrews featured in the book (in the 'less commonly encountered' chapter), showing these are coming into town: partly because habitats are being squeezed, partly as they too are opportunists.

Twenty-two species are described in detail with key features: range map, appearance, size, reproduction, diet and threats and conservation status and the like; followed by field signs: tracks and faeces. It has useful items such as how to tell Weasels and Stoats apart, as well as special features on bats in buildings, urban habitats, possible conflicts between humans and other mammals, micro-habitats, taxonomy and a glossary.

The photographs have no scale and it would have been interesting to have had a scale with all of the animals, to compare a shrew with a rabbit or fox.

As Chris Packham says in his foreword: "I hope that this introduction to Britain's urban mammals will lead to a real appreciation of...this remarkable set of creatures...that intolerance and prejudice will be banished."

With the front cover badger and related cull controversy, we can continue to hope!

This guide, already used on adult nature identification courses, is highly recommended for older primary and secondary students and their libraries.

Henricus Peters, Managing editor and co-chair



NAEE members may purchase this and other Whittet Books at 10 per cent discount and with free delivery (in the UK). Please visit www.booksystemsplus.com and enter the code NAEE at the checkout.

Children's books about...plants and their life cycles

How Flowers Grow

Usborne Beginners series—Level 1

Emma Helbrough

ISBN: 978-0746074506

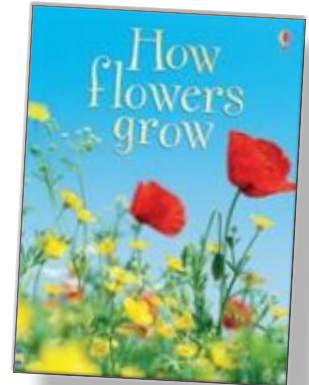
Usborne Publishing Ltd, www.usborne.com

32pp; £2.99 where available

"How do flowers grow in dry deserts? How do animals help to spread seeds? Which flower smells like rotting meat? In this book you'll find the answers and lots more about how flowers grow."

A fantastic information book, written with the help of a reading expert which covers parts of plants, stages of plant life cycles, killer plants and different types of plants (including rainforest flowers, desert plants, water plants and carnivorous plants).

Finishes with a simple glossary of flower words. Clear, colourful photographs and illustrations. It's just a shame that it's not available as a big book (despite my pleas to the publisher)!



Ten Seeds

Ruth Brown

ISBN: 978-1849392518

Andersen Press Ltd, www.andersenpress.co.uk

20pp; £6.99

"If you plant ten seeds, what do you get? Follow nature's wonderful cycle in this engaging counting book with a difference!"

A picture book that follows the trials and tribulations of seeds! Count down from 10 seeds to 1, as the seeds, and then the growing plants, are eaten, dug up and squashed. Lovely, big illustrations by the author and an educational twist at the end! Perfect for early years pupils.

Seeds

Acorn *Spot the Difference* series

ISBN: 978-0431192321

Harcourt Education Ltd, www.heinemann.co.uk/library

24pp; £6.99

Written in conjunction with a Science Education expert and two literacy consultants, this book explains what seeds are and how they become plants. It then goes on to show difference types of seeds and introduces different methods of dispersal. Simple text and large, colourful photographs.

The Tiny Seed

Eric Carle

ISBN: 978-0140557138

Puffin; New Ed edition

32pp; £6.99

A lesser-known classic by the author of *The Very Hungry Caterpillar* and *The Bad-tempered Ladybird*. A really simple way of showing that not every seed makes it to being a plant. While its fellow seeds gradually fall by the wayside – landing on an icy mountain, falling into the sea, being eaten by a bird – the tiny seed triumphs and becomes a fully grown plant. The book also covers parts of a plant, by talking about the roots growing downwards and the stem growing upwards, mentions the fact that plants need water and sunlight in order to grow well, and talks about the seasons when different stages of a plant life cycle occur.

Some great ideas for using *The Tiny Seed* in the classroom can be found at: www.eric-carle.com/bb-seed.html.



All reviewed by **Juliette Green**, NAEF Executive Member and teacher at Birmingham Botanical Gardens



WEB WATCH 21

Compiled by **Henricus Peters**, *Managing editor and co-chair, NAEE*

Scott 100

www.scott100.org



17th January 2012 marked the centenary of Captain Robert Falcon Scott's team from the British Antarctic (Terra Nova) Expedition reaching the South Pole. Links to other websites

Scott Base

www.scottbase50years.co.nz



Dedicated to 50 years of New Zealand's Antarctic base.

Discovering Antarctica

www.discoveringantarctica.org.uk

Developed by the Royal Geographical Society and British Antarctic Survey and supported by UK Foreign and Commonwealth Office, is not a scheme of work but a resource to dip into. Each section features activities, images, video clips, and factsheets. Each includes an 'Icebreaker' to introduce the topic,

'Go with the floe' which is the main learning and 'meltdown' review and extension activities. Note that multi-media clips require Quicktime and/or Flash. The site has received several accolades.



British Antarctic Survey (BAS)

www.antarctica.ac.uk



This BAS site has much information including downloadable fact sheets but lacks visual appeal. Did you know - Around 90 per cent of the fresh water on the Earth's surface is held in the ice sheet? Where the word 'penguin' came from? BAS has had artists and writers-in-residence!

EduPoles

www.educapoles.org

The International Polar Foundation dedicated to teaching young people about the importance of the Poles and climate change. Has an excellent range of factsheets on Polar and ice-related topics.



FROZEN HABITATS – THE POLAR REGIONS

As 2012 marks the centenary of Scott's team reaching the South Pole and the conclusion of the International Polar Year, and with the Arctic regularly making headlines on climate change, we here focus on these two icy places.



Classroom Antarctica

www.classroom.antarctica.gov.au



By Australian Antarctic Division, this is a good online teaching resource. It breaks down into topic: Continent, Living, Working, Nature, Climate, International, Stewardship. Notably, the 'About—Resources' has an extensive range of children's readers, reference books, DVDs, etc.

Beyond Penguins and Polar Bears

<http://beyondpenguins.ehe.osu.edu>



An online professional development magazine for elementary (lower primary) teachers to teach polar science concepts while also integrating inquiry-based science and literacy instruction including latest research and speaking and listening.

The Antarctic and Southern Ocean Coalition (ASOC)

www.asoc.org

ASOC aims to establish the world's first 'ecosystem as a whole' approach. Excellent background information about the politics of use and preservation of Antarctica.

For younger children

CBBCs polar diaries

www.bbc.co.uk/cbbc/diaries/helen-skeltons-polar-challenge-for-sport-relief



www.nationalgeographic.com/polarexploration/explore-poles.html

Responds to misconceptions about Arctic versus Antarctica.

Enchanted Learning: Antartica

www.enchantedlearning.com/school/Antarctica
Has icy facts and fun such as jokes.

Have we missed your favourite polar website?

If you have favourite sites about this or any related topic, for *Webwatch*, please let us know via henricus.peters@gmail.com

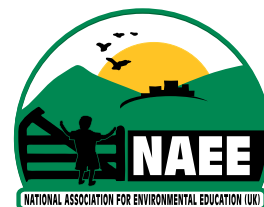
Call for Websites

2013 is International Year of Water Cooperation. If readers know of websites on this theme, please send them in. We are also looking to compile a list of top websites on habitats/biomes: mountains, rivers, forests, deserts, grasslands; for these pages and our relaunched NAEE website www.naee.org.uk/resources

National Association for Environmental Education (UK)

University of Wolverhampton, Walsall Campus, Gorway Road, Walsall, WS1 3BD
Tel/Fax: 01922 631200 • e-mail: info@naee.org.uk • Website: www.naee.org.uk

FREE membership for students!



Benefits of membership include:

- + 'Environmental Education' termly journal;
- + Advice and information from experienced teachers and advisors;
- + Excellent for your research needs;
- + Opportunities to volunteer with a growing network;
- + Opportunities to help write new resources

Contact Stuart Neyton, NAEE Coordinator:
info@naee.org.uk, tel: 01922 631200
or visit the website naee.org.uk

Requires proof of student status

Contributions to *Environmental Education*

We welcome articles and items from members, supporters and readers. These may occasionally be reprinted either on their own or with other articles in NAEE publications.

Please ensure you have permission to use any photographs and send them a separate jpeg files.

Please contact editor@naeeuk.plus.com with your submission.

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