

# Environmental Education

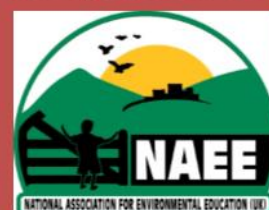
Vol 110 Autumn 2015

## CRUMBLING HERITAGE

Our buildings  
under threat



THE JOURNAL OF



Involving young people  
in interpretation

Our NEW LOOK website  
[www.naee.org.uk](http://www.naee.org.uk)

Kenrick Days schools:  
learning from nature



# National Association for Environmental Education (UK)

*An organisation for anyone who has an involvement in Environmental Education and Sustainable Development. An educational charity for teachers of Environmental Education everywhere!*

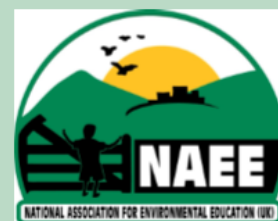
## ALL MEMBERS RECEIVE THESE BENEFITS:

- Environmental Education journal 3 times a year
- Resources and information for teachers and educators
- Network with outdoor and environmental education specialists
- Share your ideas with NAEF online, twitter, facebook, LinkedIn, pinterest
- NAEF works with key related groups in the UK and worldwide

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*NAEF: Helping re-connect young people with their environment, in and out of school*



**Write for Environmental Education:** We welcome articles, book reviews and website suggestions from NAEF members, supporters and readers. We are especially interested in case studies, including environmental education, outdoor classrooms, forest schools etc. — in primary or secondary schools and colleges. Articles may occasionally be reprinted either on their own or with other articles in NAEF publications or on the website. Photos should be as high resolution as possible and sent as separate jpeg files. You must have the permission of the picture taker. For more information, please contact [editor@naee.org.uk](mailto:editor@naee.org.uk).

**Executive Committee:** If you want to find out more about the roles of the NAEF Executive Committee, and consider becoming nominated to this governing body, contact the National Coordinator at [info@naee.org.uk](mailto:info@naee.org.uk).

## National Association for Environmental Education

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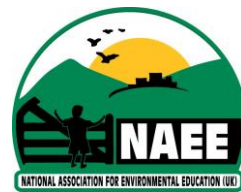
**Environmental Education Volume 110, Autumn 2015**

**Editor** Henricus Peters **Deputy Editor** Juliette Green

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**On the Cover:** The Great Wall of China, here in a less visited part of GuiBeiKou, is a classic World Heritage Site which is unwittingly threatened by human interference. Some sites, including in Syria, are being destroyed by wanton destruction. Photo by Henricus Peters.

All photos within articles by the author, unless otherwise stated.

## From the Chair      Nina Hatch

At the time of writing I am heartened to say that NAEE is starting to see a revival in interest in environmental education both within, and despite, the UK National Curriculum changes. This is partly due to our new website which has received many compliments and 'hits'. It has also led to a renewed interest in membership. I must thank both our President Bill and our Online Managing Editor Henricus for spearheading these changes. New members mean new interests and outlooks which the Association welcomes – particularly from the secondary and informal sectors of education.



Juliette Green's handbook on how to use the National Curriculum to develop children's environmental awareness has also received a favourable response. I have been asked when a secondary school version is to be published! We would welcome any secondary-based colleagues who would like to try their hand at contributing to such a handbook. It is certainly needed.

Finally I am also delighted to report that Charline Mosseray who spent 15 weeks with us as an intern this spring and early summer from her Belgian university achieved 85% for her internship reports. We wish her well and hope that she keeps us in touch with environmental and sustainability education from her home country.

## From the Editor      Henricus Peters

We are, many of us, city dwellers, so – whilst climate change hits the headlines, including Obama's recent trip to Alaska – our built environment is under threat from a variety of sources. So we decided to put this very real threat on the cover. To begin a new series, we look at our World Heritage Sites and how our children's inheritance is under pressure (page 15).



As this goes out late 2015 and it's still United Nations International Year of Soil – as a follow up to our 'Soil Special' print journal – we feature two case studies about the importance of soils and earth education from the United States (pages 16 and 21), Borneo nature part 2 (page 18) and a number of books about gardening with children (page 27).

How do you promote SMSC (Social, Moral, Spiritual and Cultural themes) and British values through Early Years? Find out on page 23.

We are particularly excited about our refreshed and much easier-to-use website at [www.naee.org.uk](http://www.naee.org.uk) (page 30). On the website, we proudly highlight our Curriculum Guide; as Eco-Schools put it: "A great resource ... very accessible". Alongside the website, we have given this journal a facelift which we hope will make it even more appealing for you and encourage you to sign up new members.

From our website, our social media reach grows daily - remember to follow or like us on facebook, twitter, LinkedIn, pinterest! Keep your comments coming: [editor@naee.org.uk](mailto:editor@naee.org.uk).

# How does being in 'quality nature' contribute to human wellbeing?

**Professor William Scott** *NAEE President*



It is hard to pick up a newspaper or watch TV without coming across somebody official telling us to take more exercise. The NHS, for example, recommends that someone my age has a mix of "moderate and vigorous-intensity aerobic activity every week (for example two 30-minute runs plus 30 minutes of fast walking), and muscle-strengthening activities on 2 or more days a week that work all major muscle groups". This is often coupled with concerns about what we eat and drink, and moral panic about obesity and binge-drinking, particularly in the young. Meanwhile, environmental NGOs remind us of the benefits of being outside spending time 'in nature'. This is good for us in terms of both body and mind – holistic, no less.

Alongside this, we find a renewed focus on learning 'in natural environments', on outdoor learning through emphases such as Forest Schools, and the idea of the 'outdoor classroom' more generally. It's important to stress that such ideas have been around for a long while, of course, and although more than 50 years separate the nature walks I did at primary school with the 2005 launch of the government's Sustainable Schools initiative with its 8 doorways, and NAEE's publication of *Positive Action*, there has been a golden thread of environmental and health education linking these. This has stressed being in the environment, learning from it, and achieving wellbeing because of these. These days, I seem to spend considerable amounts of time sitting reading (and writing) about all this when I really should be up and about, preferably outside. I'm sure it's not just the pedagogical opportunities that being outdoors offers that makes it attractive to teachers, it's also the fact of being outside.

Whilst the basic message is clear – get outside and exercise because it's good for you and will make you feel better – the detail isn't. For example, how do different forms of exercise compare in their contribution to wellbeing, and where should we do it? Is being in the gym really not as good as being 'outside'? And does it matter where that 'outside' is? Is an urban park as good as a wildflower meadow, for example? To help thinking about all this, the University of Essex has produced an (internal circulation only) report for the Wildlife Trusts on the contribution that 'being in nature' makes to human wellbeing – particularly our being in natural environments rich in wildlife. There is considerable richness in the report and I am sympathetic to its broad conclusions. I take it as read, for example, that we'd all likely be much healthier (in the way that the World Health Organisation [WHO] thinks about these things) if we all spent much more time taking more physical exercise (and more regularly) in the open air.

That said, I was also rather disappointed by the report as I had hoped for greater clarity around what is particularly effective, although I probably expected too much, given the conceptual confusion that besets this subject where words like nature, natural, wild and environment are all used very loosely, even by people who know they should do better. In particular, I regret that the research review was not written in a way that allows readers to see how much confidence they can place in the outcomes of particular studies. I thought section #3.2 on the health and wellbeing benefits to be found in natural environments rich in wildlife much the best in this sense of setting out where there was clarity and uncertainty. This section, and the New Economics Foundation's [nef] framing of five

evidenced-based actions to improve wellbeing (connect; be active; take notice; keep learning; give) was particularly valuable. Here, nef suggests that if each of these were built into daily routines, health and wellbeing would be enhanced.

The key findings of the report are that:

- contact with a wide range of natural environments can provide multiple benefits for health and wellbeing
- these benefits include improvements to physical health and to psychological and social wellbeing; for example: reductions in stress and anxiety, increased positive mood, self-esteem and resilience, improvements in social functioning and in social inclusion
- although environments rich in wildlife are associated with improved wellbeing, through emotional, social and psychological benefits, the evidence about whether high biodiversity levels actually contribute to wellbeing is limited

Overall, I thought that the report added to the confusions. For example, I struggled with the idea of 'green exercise', which is defined as activity 'in the presence of nature'. What does this mean, given that when we are outdoors, we are inevitably 'in nature' to some extent? As noted above, what is being claimed is that exercise is better for us when nature is more pronounced or of higher quality. Running through 'improved' grassland (or an urban park) clearly counts as 'in nature', even though the species diversity might be low, but the argument is that the same amount and degree of exercise is better for us when done in a wildlife-rich meadow, even though the evidence for this is not (yet) compelling. Thus, the argument goes, being indoors on an exercise bike is not as good for us as being in high quality nature, even if we spend the time on the bike gazing out of the window at birds in the garden – despite the physical element of the exercise being the same. There is clearly considerable confusion here.

In the end, you have to ask yourself, assuming that the air is clean, which is better for you:

*a session in the gym? a gentle stroll in a wildflower meadow in the company of birds and insects? an hour's gardening at home or on the allotment? a brisk walk along suburban streets? an indoor exercise bike routine at home? walking or cycling to work? a round of golf? a game of squash? sitting quietly in a wildlife-rich garden? playing football in an urban park? an hour in the pub talking and laughing with your friends?*

All these sound positive to me, and, happily the last can always be added to any of the others, but herein lies the problem for public policy. Given that the government recommends that, in order to stay healthy, adults should take part in moderate and vigorous-intensity aerobic activity, this implies that this needs to be reasonably local to where we are, irrespective of how nature-poor this is. Thus, is it better to drive to a nature reserve in order to be nature-rich than to compromise on nature quality a bit, and do more exercise nearer home? No one can say.

There is a considerable tension here: the government wants to promote exercise because it is good for us, and for the economics of the NHS. Meanwhile, NGOs want to promote contact with quality-nature, because this is also good for us (and them), and they think, on balance and in general terms, that this will lead to nature being more valued, which will be very good for us all in the end. Given that these objectives do not coincide, we can expect the tensions to continue. As for me, the last thing I want, on those rare occasions I manage to get to a wildflower meadow in order to walk very slowly through it, is hordes of joggers elbowing me out of the way.

### **More information**

The Wildlife Trusts & the University of Essex (2015) *Wellbeing benefits from natural environments rich in wildlife: a literature review*.

NAEE (2009) *Positive Action: greening the local community; the school as a role model of sustainable living*.



# Marlborough School report

**Sue Fenoughty** *Kenrick Working Group and NAEE Vice Chair*



Our summer print journal, EE109, gave a resume of NAEE's Kenrick Days project for Birmingham schools, which started 3 years ago. The project has now provided around 2000 city children with the opportunity to visit environmental centres and a farm, thanks to generous funding from the Kenrick family. As the autumn visits have not yet got under way, we have chosen the report below about a visit to the Birmingham Botanical Gardens which is a popular venue for schools wanting to learn more about the rainforests.

## **Marlborough Infants School visit to Birmingham Botanical Gardens, Spring 2015**

**Victoria Thurkettle** *Class teacher*

On the morning of 13th March, Year 2 from Marlborough Infants School visited the Botanical Gardens. They were learning about rainforests and habitats. Murtaza showed us where the Amazon rainforest was on the map.

The children then looked at different animals and how they were adapted to live in the rainforest. Hamza knew what an anaconda was and said that its habitat is in the grass. Nazifa added to this saying: "anacondas can swim and live in muddy, wet habitats". The children found out that many snakes can dislocate their jaw to eat large meals. Abbas explained that elephants eat plants and was then disgusted to find out that elephants eat their own poo twice to properly digest all of the nutrients from the plants!

The class looked at the different types of leaves, where they can be found in the rainforest and how they have adapted to the survival of their tree. The children especially liked the drip-tip leaf which is adapted to collect water on its surface and drip it down to its own roots. The children became very aware that different foods and everyday materials such as cotton and rubber come from the rainforest and one child was excited to find out about

medicinal plants such as the ones that cure cancer. She wanted to know: "where can I get those to help my aunt?" They realised that they need to care for their environment or these things wouldn't exist anymore.



***Birmingham Botanical Gardens sub-tropical house: looking at the different leaves in the rainforest***

The lady showed the children Hugh, the bearded dragon, and told them he liked to be stroked under his chin. Bilal stroked him confidently from nose to tail. Farhan Syed held Hugh on his lap and commented that "he felt wet under his chin". Danyal noticed that Hugh had got sharp claws and Fatima asked: "does he blink?" after noticing he hadn't blinked yet.

It was a full, exciting and busy day, and what did the children think?

*"I loved it" – Halima*

*"I found it really interesting" – Nazifa*

*"I learnt lots of new things" – Farhan Mohammed*

After the visit, the children went to the Eco Park in Small Heath to compare the rainforest habitats with local ones. They also used photos of the leaves they saw at the Botanic Gardens to make large chicken-wire and papier-maché versions, looking carefully at the shapes. They followed it up with lots of work on food chains, both in the rainforest and their locality. There were links with science, art and English in particular.

The staff were really enthusiastic about the trip, Miss Geerlings expressed how it "really brought the topic to life and gave the children a real life experience". Miss Shameala said that it "put everything into context" and Miss Roberts explained how the children "absorbed so much because they found it fun and exciting."

### **Follow up after the visit**

The school as a whole has been doing a lot of work on saving energy by switching off lights and electrical equipment. We are also looking at developing our very limited outdoor space to squeeze in areas for insects, plants and water and looking to develop this topic further for next year with an even greater global sustainability focus. Since the visit, the children have been writing letters voicing their concerns about deforestation which they have sent to 10 Downing Street. We also have two class representatives in every class across the school who have taken the role of 'Eco Warrior'. They are in charge of making sure all paper is recycled, lights and computers are turned off, school resources aren't wasted etc.

### **More information**

Visit <http://naee.org.uk/apply-for-a-school-bursary>.

Note: Kenrick bursaries are currently only available to schools in Birmingham.

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## **Charity reaches out to the next generation**

**David Fellows** *NAEE Executive, Ex-primary school teacher and headteacher*

If you thought that the National Trust (NT) is just stately homes, gardens and tea rooms, read on.

Some years ago we heard that the former naval communications training base at Wray Castle on the shores of Windermere had been vacated and that the National Trust, who owned the building, was unsure of what to do with it. It's not a genuine castle but a very impressive mock edifice. We had one of our New Zealand teacher friends over at the time of an open day at the castle. The NT was keen to hear opinions and ideas. As soon as our friend heard that Beatrix Potter's family had used it as a holiday home, that was it! She saw it as another 'shrine' that the world-wide Beatrix Potter fan club would clamour to visit. However, such a large building would be very expensive to maintain and run. An up-market hotel seemed to offer the most sustainable future.



***Getting ready to tour the property – in style!***



It must have been three years later when we were taking our first granddaughter, who loves castles, on a stroll from the nearby Hawkshead Youth Hostel to pass Wray Castle that we found it was unexpectedly open. A board outside invited us in to explore. Immediately inside the massive entrance was a large room with lots of empty cardboard boxes and an invitation to construct your own castle! There was a small rack of suitable regal clothes and a few toy swords too. Imagination ruled! What a crowning way to enhance a country stroll. Still, Wray's future was uncertain and this was possibly just a gap-filling initiative.



***At the Master's Desk! Wordsworth's House  
Cockermouth, Cumbria***

Two years on there were notices in the local press to come and enjoy the castle as Beatrix Potter had done. This time Lily's younger sister Katie came along too. The castle 'building room' was filled with large, soft, foam bricks and the upstairs rooms were equipped for lots of interesting activities with a wide range of dressing up clothing for kings, queens and knights along with a full-length mirror to check that everything was correct. Another room had plenty of drawing and painting materials, tents and mini forts to crawl in and out of. A third room had a large black wall and chinks for you to express your ideas, feelings and thoughts on the castle. The highlight for Lily this time was way over in a separate room to be 'discovered'. There was a range of hands-on activities linked to Beatrix Potter's Mrs Tiggly-Winkle stories. An old-fashioned tub, board and washing line to hang the clothes out was the first of several activities to be used.

Outside, the well-camouflaged adventure area was waiting to be discovered and challenged. This too has been developed and extended further each time we've been there.

There are probably several of our readers who are aware of the National Trust's initiative to combat the indoor 'couch potato' generation with its free booklet *50 Things to do before you are 11½*. Wray Castle has been where we've noticed this initiative develop and we've been fortunate to see similar initiatives grow at several of their other sites. We've played croquet on a Tudor Rufford Hall's sunny front lawn, and seen a wide range of games being played at Merseyside's magnificent Speke Hall, the first place my class visited at the start of my teaching career. In North Cumbria, the rather austere Wordsworth's House in Cockermouth retains its 'look but don't touch' policy in the front rooms but at the back all the rooms are there for children to investigate and use. This includes dressing up in fashionable clothes of the era and freedom to roam around feeling that you owned the property, tackling writing with a quill pen, going downstairs to help the volunteer kitchen staff in making the local 'clap bread' over a coal fire range and even spending half an hour in the riverside room joining a group composing poems. Sitting next to our oldest granddaughter was a surviving descendant of Wordsworth. Such are the opportunities that learning outside the classroom in the environment can bring.

### **Footnote**

As a family we were fortunate to have bought a life membership many years ago that has paid for itself several times over. When teaching, the North West NT area had many good offers for schools and for several years a free minibus and the service of the local warden was available for local schools to some very important coastal sites. Also I have not touched on English Heritage whose education services provided free visits and invaluable support. Furness Abbey, Hadrian's Wall and the Stott Park Bobbin Mill were firmly embedded in my schools' curricula.

### **More information**

Visit [www.nationaltrust.org.uk](http://www.nationaltrust.org.uk).

# Hardwick Dene interpreted

**Steve Ashton** *People and Wildlife Manager, Tees Valley Wildlife Trust*

Encouraging teenagers to get involved in environmental projects can be difficult but the Tees Valley Wildlife Trust received a grant from the Heritage Lottery Fund's (HLF) 'Young Roots' scheme for an innovative project, based in Hardwick Dene Nature Reserve in Stockton on Tees, that is trying to do this. The project involved pupils from 3 local schools visiting the Dene to learn about the wealth of wildlife that can be found in this urban reserve. They then worked with a project officer on a series of environmental improvements including improving disabled access, litter picking, painting sculptures and planting reeds. They were tasked to produce an interpretative piece specifically aimed at their age group. At the same time, the pupils were working towards a recognised qualification: the John Muir Award.



**Rachel O'Sullivan, Tees Valley Wildlife Trust**  
**Education Assistant, with students from Abbey Hill**

As part of the award pupils had to "Discover a Wild Place, Conserve and Take Responsibility", "Explore its Wildness" and "Share the Experiences". For some it was the first time on the nature reserve and they began to appreciate how special it was; for others who knew the site, it meant they could take some responsibility for it. As part of communicating what they did, the pupils produced a scrap-book

with lots of pictures, as well as a log-book to record their progress.

To communicate their work to members of the community, the pupils were given a series of options. Abbey Hill Special School used their visits and learning about the reserve to produce a young person's guide in leaflet form. 1000 leaflets have been produced and distributed to school pupils and the local community. North Shore Academy produced their own web pages which can be found at [www.teeswildlife.org/what-we-do/inspiring-people-to-take-action-for-nature/young-persons-guide-hardwick-dene/](http://www.teeswildlife.org/what-we-do/inspiring-people-to-take-action-for-nature/young-persons-guide-hardwick-dene/).

They also produced a QR code nature trail around the site. The final school, Bishopsgarth School, produced an interpretation board for one of the entrances to the reserve.



**QR code nature trail**

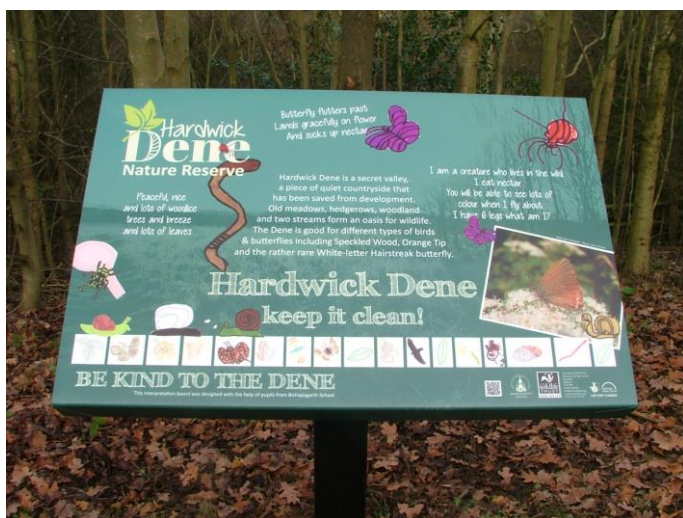
Celebration events

were held including Abbey Hill School, who had a slide-show of the work they had done, whilst Bishopsgarth had a full year assembly with a presentation by the pupils including photographs and video footage. North Shore had a special afternoon assembly with invited guests including the head teacher.

An evaluation took place on site and at each of the schools, some of the findings are outlined below and the full report can be found at [www.teeswildlife.org/wp-content/uploads/2014/07/Young-Roots-Evaluation-Report-Final.pdf](http://www.teeswildlife.org/wp-content/uploads/2014/07/Young-Roots-Evaluation-Report-Final.pdf).

Qualitative and quantitative surveys and interviews were conducted with 29 pupils over 3 days. In terms of the data collected from pupils and teachers, the results were incredibly positive, demonstrating through surveys and interviews the significant differences this project has had on participants, their natural environments and their communities – differences that would be highly unlikely to have occurred without this project. The survey's main findings included:

- 25 pupils (86%) reported on a scale of 1-5 that the project had helped them to be kinder to the environment either 'a bit' or 'a lot'.
- Several pupils commented that they enjoyed litter picking but found it very upsetting and frustrating to see that people would throw litter in green places. They said they thought that a larger part of the John Muir Award should be about solving this problem in particular through more litter picking and raising awareness.



***Bishopgarth School's interpretation board in-situ at Hardwick Dene Nature Reserve***

Cristal from Bishopgarth School said, "I want to go back to Hardwick Dene, and use it as inspiration for my art work," and Jordon said, "I want to volunteer for the Wildlife Trust when I am 18", showing that the project may have a longer-lasting influence on the pupils.

Kathryn Lindop, a teacher from Abbey Hill School said, "the project enabled quieter students to get involved in more group work, helping them gain social skills, communication and confidence ... one student in particular had never got so engaged and communicative with anyone before". Andrew Clough from Bishopgarth School said, "Opportunities for both practical learning and learning outdoors are limited in school, this project gave the pupils a chance to do this and it was good for the students to get out more and learn by other methods. The Wildlife Trust's help and support was invaluable in enabling the activity and provided exactly the right level of structure and freedom for maximum achievement."

Amy Carrick, the Trust's officer who delivered the project, said: "This project has worked really well. I noticed behavioural and attitude changes as young people became more connected to their local wild space, and taking part in the John Muir Award allowed the pupils to gain a sense of achievement, which really made the project feel like a success. Seeing young people getting excited about the activities they were doing and the things they were learning was extremely rewarding and taking part in these activities has had a positive impact on the pupils, the school as a whole and the local community."



***The QR code for Hardwick Dene Nature Reserve***

### **More information**

Contact Steve Ashton via [sashton@teeswildlife.org](mailto:sashton@teeswildlife.org) or visit [www.teeswildlife.org](http://www.teeswildlife.org).



# Connecting young people to wetlands

**Rachel Carless** *Project Manager, Arun & Rother Connections, RSPB*

The Arun & Rother Connections (ARC) project is a landscape scale project being delivered by a partnership of seven organisations in West Sussex. The aims of the project are to:

- Promote a rich and thriving river system
- Protect, restore and reconnect wildlife habitats
- Improve water quality and eliminate non-native invasive species
- Better connect the community to the catchment, through access improvements, engagement opportunities and interpretation

The project's education programme aims to engage many of the 64 primary schools in the 77,000 hectare project area and help them to connect with the unique rivers, wetlands, habitats and species of West Sussex.

The first two of ten river field trips were delivered in July to two primary schools at the Coultershaw heritage site in the heart of the South Downs near Petworth. The site on the River Rother includes a waterwheel, an 18th century water pump and historic buildings set around a mill pond.

The children from years 4 and 6 explored the site's history, environment and the river. RSPB field teachers, accompanied by Coultershaw Trust volunteers, led the sessions. The Coultershaw Trust now hopes to offer a similar programme to other local schools to meet the needs of the new national curriculum for geography.

A Horsham school sent two classes to participate in our otter and water vole outreach sessions. Led by the Sussex Wildlife Trust's Education Development Manager, the children investigated bird and mammal skulls and discovered the amazing adaptations which help otters and water voles live in the water. Pupils learned to hand saw and produce 'mammal tracker discs' to aid field sign

identification.

They also observed river features and measured river velocity at Chesworth Farm Nature Reserve.

Preparations are also underway to deliver 'Eels in schools', a scheme which is

proving very popular nationally. Each school is provided with a tank of elvers (baby glass eels) which the pupils look after until they are ready to be released into the river. They are also provided with the resources to learn about these fascinating creatures, their environment, and the challenges they face. Karen Wallace, the author of the children's book 'Think of an Eel', will come and speak to participating schools. This awareness-raising is happening alongside the installation of eel passes to assist their movement within the river system.

A resource pack about these rivers, linked to the curriculum, is available free on the project website.

We are also embracing technology! We have two motion-sensor cameras available for schools to use to film wildlife on their school grounds or in their local area. Our project app and mobile website 'ARC Explorer' (<http://arcexplorer.org.uk/>) is designed to encourage families and young people to explore and record wildlife, directly contributing to conservation efforts in the region.

## More information

Contact Rachel Carless via [rachel.carless@rspb.org.uk](mailto:rachel.carless@rspb.org.uk) or visit [arunwesternstreams.org.uk/projects/arc](http://arunwesternstreams.org.uk/projects/arc).



**Pond dipping © Andy Hay**

# Engaging children with nature through drama & storytelling

**Sara Marshall** *Eco Drama Schools Officer*

Founded in 2007, Eco Drama engage, entertain & inspire people of all ages to value and care for our natural world through inventive theatre, music, storytelling and creative learning workshops. Eco Drama's latest project 'Out to Play' was designed to explore the unique role of drama and storytelling within outdoor learning.

Over 14 weeks, drama artist Ben Mali Macfadyen worked with 4 Glasgow primary schools, running 150 outdoor sessions, and connecting with 283 pupils aged 5-12 years old. A gifted storyteller, theatre-maker and performer, Ben was integral in making Eco Drama's vision spring to life in weekly creative voyages; physically accessed through the school grounds, but leading to the imagined landscapes of the natural world.

*"I love exploring diverse mediums such as puppetry, storytelling, mime, treasure hunts, masks, forum theatre, ritual, physical theatre and music. This is an amazing opportunity and I can't wait to have many wonderful playground adventures with the children involved whilst also developing qualities of wonder, creativity, physicality and knowledge about the natural world and our place in it."*

Drama artist, Ben Mali Macfadyen

Come rain or shine, the 'Out to Play' pupils and class teachers ventured outdoors every week, celebrating the diversity and beauty of our living planet under the encouraging eye and guidance of Ben.

*"Much of the journeying through mythical landscapes was about bringing natural places back to life using the imagination, one example being in 'The Meadow of Memories', where they gently took imaginary insects, worms and spiders from my pockets to a new home. I'm hoping that we will*

*return to these environments in the coming weeks and see them continue to flourish."*

(From Ben's week 1 blog: 'To Neverland')

Their paths crossed water-worlds and treasure maps, story trees and animal tales, magic beans and living plants, mythical narrative and cherished songs. Fresh connections to the outdoors were grown and nurtured through imaginative play, drama and storytelling. Each week Ben would blog and re-tell his experiences, the games played and the stories told:

*"I sat down the classes and read them the tale of 'How the Camel Got its Hump' from my great-grandfather's tattered copy of 'Just So Stories' by Rudyard Kipling. In it are a wonderful collection of tales that explain the origin of animals with moral tales of transformation... After this I asked them how they thought their own favourite animals came to be the way they are, and this led to the creation of amazing performances of stories such as 'How the Wolf Got its Howl', 'How the Chicken Got its Wobbly Bit', 'How the Baboon Got its Red Bum', and the genius suggestion: 'How the Pug Got its Squashed Face'." (From Ben's week 5 blog: 'Becoming Animal')*

By using creative play and adventurous learning, the children built upon emotional connections to nature that are subtle yet resilient, perhaps even primal. The simplicity of touching a tree, the act of "becoming animal", of planting seeds and patting soil, imagining whale sounds, singing tribal songs, recounting tales of wilderness near and far; these experiences helped to instill in them an affinity with nature. They awakened a curiosity about the world they inhabit and enabled them to spot it more readily upon their own doorsteps.

*"I loved it because nature is what is inside me. Thank you for everything. It has been a delight."*  
P4 Pupil, Balornock Primary

The pupils' obvious enjoyment of their sessions with Ben, their awakened sense of wonder and delight for the world they live in is celebrated in their feedback, as growing confidence allowed them to express their own individual relationship with the environment.

*"It's a fun positive way to explore nature and life."*  
Pupil, St Vincent's Primary

*"Thank you for teaching us. This program has made me aware of nature and more confident and happy."*  
Pupil, St Vincent's Primary

*"Nature is important because we are nature. If we didn't have nature we wouldn't be able to live."*  
Pupil, Balornock Primary

The 'Out to Play' residencies serve as an essential platform for teachers to experiment with and gain confidence in outdoor learning, whilst providing them with a holistic program of learning. This is achieved through collaboration, co-leading, post-residency CPD sessions and resource packs to be shared amongst fellow-teachers and local schools, leaving behind a creative learning legacy.

*"Ben has inspired me with lots of activities and stories - he has planted a seed and I look forward to implementing projects next season... I have loved being a part of 'Out to Play' and the children have absolutely loved it also!"*  
Jilly Moffat, Teacher, Aultmore Park Primary

*"It made me realise that a lot of what I do inside I can take outside."*  
Fiona Harris, Teacher, Balornock Primary

It is Eco Drama's confident hope that the impact of 'Out to Play' will echo in the minds of pupils and teachers for years to come; that it will even leave behind its own trail; a lifelong love for nature.

*"I wish nature will never end... I wish nature can*

*have a good life... I wish people wouldn't cut down trees and pollute rivers... I wish people could understand nature... I adore nature... I wish flowers could talk..."*

A pupil's 'wishes for nature'

For more information on 'Out to Play' and access to Ben's blogs visit:  
[www.ecodrama.co.uk/training/out-to-play/](http://www.ecodrama.co.uk/training/out-to-play/).

### **Other Eco Drama productions and workshops**

As well as running residencies like 'Out to Play', Eco Drama also tours theatrical productions and workshops to engage and inspire people of all ages to care for our amazing living planet.

One of the most popular shows is 'The Worm – An Underground Adventure', an exciting musical tale for 3-7 year olds, guaranteed to make everyone giggle, wiggle and love the squirmy wonders beneath our feet.



### **The Worm – an Underground Adventure**

After the performance, the audience are invited to see some real worms in a specially designed wormery. Schools who book the show are given a Classroom Activity Pack & Wormery, with lots of useful pre- and post-show activities. All participants are encouraged to use their own wormery to produce compost and dispose responsibly of food waste.

### **More information**

Visit [www.ecodrama.co.uk](http://www.ecodrama.co.uk).



## Our heritage is at risk

Henricus Peters *Editor of Environmental Education; teacher*



*The educational value of world heritage is huge; any destruction, especially through war, is completely tragic.*

The Great Wall of China, constructed in the 14th Century, is getting smaller! Several crumbling sections of the man-made wonder are all but obliterated. Chinese government figures show that about 1,961 km, or 30%, of the Great Wall has disappeared in total. Another 1,185 km of the fortification are in poor condition. What's causing this? Human activity, like local residents stealing bricks to build their houses, is the primary cause of destruction. This shows conflicting pressures: preservation of the past versus current maintenance and future development. These are made all the more poignant when it's a World Heritage Site.

What is world heritage? World Heritage Sites are listed by the United Nations Educational, Scientific and Cultural Organization (UNESCO) as being of special cultural or physical significance. Places as unique and diverse as East Africa's Serengeti, the Pyramids of Egypt, the Great Barrier Reef in Australia, and the Baroque cathedrals of Latin America are all encompassed in this 'outstanding'

series of sites of the built or natural world. What makes the concept of world heritage exceptional is its universal application.



*Scouts, including the author, visit a lesser-known part of the Great Wall of China.*

The Great Wall reflects collision and exchanges between agricultural civilizations and nomadic civilizations in ancient China. It provides significant physical evidence of the far-sighted political strategic thinking and mighty military and national defence forces of central empires in ancient China, and is an outstanding example of the superb military architecture, technology and art of ancient China. It embodies unparalleled significance as the national symbol for safeguarding the security of the country and its people. The tourism and educational value of world heritage is huge, and contributes towards the cost of upkeep. But then, what is more important: educating the people about the past, or securing their future?

### More information

Visit <http://whc.unesco.org/en/about/>; [www.great-britain.co.uk/world-heritage.htm](http://www.great-britain.co.uk/world-heritage.htm). <http://naee.org.uk/blog>; Twitter: follow discussions #United4Heritage.

## A garden in every school: setting up school gardens in Brooklyn, New York

**Julia Parker-Dickerson M.Ed** *Director of Education Programs, KidsGardening.org*

Housed together in a four-story brown brick structure surrounded by brownstones and apartment buildings in Brooklyn, New York are two schools: Brooklyn Arts & Science Elementary School (PS 705) and the Explore Exceed Charter School (Exceed). These combined schools in the Crown Heights neighborhood have dedicated 1,000 square feet of their courtyard to an important cause: growing healthy food. A diverse edible landscape, the new school garden includes multiple fruit trees, vegetables, herbs and flowers – all planted for the purpose of giving children, teachers and parent volunteers an opportunity to engage in the process of growing, preparing and eating fresh and healthy foods. In 2014, the schools enjoyed their first harvest: a large variety of leafy greens, tomatoes, squash, potatoes and much more.

The school garden installation was led by KidsGardening.org in collaboration with NBC's 'Today Show', as part of their 'Shine a Light' series, a campaign to support worthy causes throughout 2014. Together with KidsGardening.org, 'Today Show' host Carson Daly took the lead in bringing the garden to the school as part of the effort to improve the health and nutrition of children in underprivileged communities.

KidsGardening.org is a division of the National Gardening Association, a non-profit that has been working with schools to educate the next generation of gardeners for over 40 years. The mission of KidsGardening.org is to get children and their communities into the garden, growing and eating healthy vegetables and fruits while also providing opportunities for educators to enhance

the teaching of academic concepts through hands-on garden experience.

PS 705 and Exceed are home to over 400 students, grades Pre-K to 5. The schools are new to the neighborhood and their presence brings a youthful energy that has rallied the community and parent volunteers. With the installation of the school garden, the school has seen a dramatic increase in parent participation and interest in programming and garden maintenance.



***Raised beds were assigned to classrooms from both schools participating in the programme. Beds were labelled with numbers to help classrooms identify which was theirs. © KidsGardening.org***

Before the garden was put in, Sandra Beauvoir Soto, principal of PS 705, said: "It's all concrete. It's asphalt. It's rubber. It's hard. And to have something living, breathing, growing, alive – like the children that we serve – I think, is going to be really

powerful for them." Now that part of the playground has been transformed into a living schoolyard, she exclaims, "I see green, which is something that's hard to find here in Brooklyn!"

Now in their second planting season, the school and the community are working together to ensure another season of success. As is the case in so many areas these days, technology has come in handy. Both schools invited parents, teachers, administration and supporting organisations to take part in a conversation about garden planning using Google Groups, a free service that allows for sharing of images, documents, and emails. This let all the participants keep a running record of conversations and ideas. An electronic calendar service and email reminders have also helped the school invite interested volunteers to dates for garden clean-up and plantings. Electronic calendars also provide reminders for times to plant and harvest and help gardeners keep on top of watering schedules.

Effective planning and organizing has helped the schools share responsibilities among classrooms. Labeling the raised beds with spray painted numbers makes it easy for classrooms to know which beds they are responsible for maintaining. The beds are also assigned by type of planting. Some beds will serve as perennial flower gardens while others are reserved for vegetables. PS 705 and Exceed now work closely together to take full advantage of the garden space. Not only are they growing together, they are sharing resources and engaging students and parents from both schools in the "Trailblazers' Garden Club".

School gardens grow much more than plants. Youth gardening grows healthy, engaged learners who benefit from improved nutrition, enhanced academic achievement, and better awareness of the world around them. In terms of health, the

garden promotes physical activity and helps improve students' knowledge of good nutrition, broadening their tastes in terms of food choices, and increasing their consumption of vegetables and fruits. As an academic experience, hands-on lessons and activities in the garden engage students in the learning process in ways that increase knowledge retention in key subject areas. Youth gardens are also effective in creating a vital connection to the natural world by instilling an appreciation for nature and a sense of environmental stewardship. A sense of responsibility and ownership for the school and community develops as students contribute to the growth and beautification of their garden as well as being able to share the harvest with neighbours and families in need.



***Students, parents and teachers prepare over 50 garden beds for their second growing season.  
© KidsGardening.org***

Garden installations conducted by KidsGardening.org are made possible by the combined efforts of volunteers from the school and surrounding community, support from non-profit partners, as well as material and monetary donations, and benefit from the expertise and guidance of the dedicated staff from KidsGardening.org.

### **More information**

Visit [KidsGardening.org](https://www.kidsgardening.org).



## Sabah Ecology: learning in the rainforest

**Henricus Peters** *Editor of Environmental Education; teacher*

Whilst Borneo's tropical environment is a magnet for palm oil industries but with devastating impacts – as featured in the last 'Soils Special' edition of this journal – the wildlife is truly unique. I had an opportunity to see some of these first-hand on a recent trip.

### Forests of Borneo: summary of biodiversity

**Plants:** 15,000 species; and over 60% of these are endemic to the island. Over 360 new species to science have been discovered in recent times.

**Mammals:** 222 species, including: Bornean Orang-utan (*Pongo pygmaeus*) (endangered by IUCN). Nine other species of primate: Proboscis Monkey (*Nasalis lavatus*), Western Tarsier (*Tarsius bancanus*), Long-tailed Macaque (*Macaca fascicularis*), Pig-tailed Macaque (*Macaca nemestrina*), Hose's Langur (*Presbytis hosei*), Silvered Langur (*Trachypithecus cristatus*), Maroon Langur (*Presbytis rubicunda*), Bornean Gibbon (*Hylobates muelleri*) and Slow Loris (*Nycticebus menagensis*). Also Bornean Pygmy Elephant (*Elephas maximus borneensis*) (endangered).

**Birds:** 622 species; 434 of these breed on the island and 39 are endemic. In Sabah about 526 species have been documented of which four are only found in this state. Borneo has eight species of hornbill including the Rhinoceros Hornbill (*Buceros rhinoceros*) and Helmeted Hornbill (*Rhinoplax vigil*). Also Storm's Stork (*Ciconia stormi*) (endangered)

**Reptiles and Amphibians:** More than 250 species. Leaping their way through Borneo's dense vegetation, frogs are the 'forest's barometers'. Abundant and easy to observe (if you know where to look), their sensitivity to ecological and climate changes makes them excellent indicators for assessing forest condition, according to WWF. Interestingly, around two thirds of all known Borneo's amphibian species are found in Gunung Mulu National Park, in Sarawak, Malaysia.

### Sepilok: vital forest sanctuary for a species in trouble!

The orangutan is arguably Borneo's best known species, despite the fact that its habitat shrinks annually. The little hamlet of Sepilok, with its Orangutan Rehabilitation Centre (SORC), is the world's first sanctuary and one of the most reliable places to see these unique creatures – and where we took my two-year-old son.



*Sepilok Reserve viewing platform*

The SORC was set up by an Englishwoman some 50 years ago and was the first centre in the world to dedicate itself to the rehabilitation of orphaned orang-utans. Sepilok is situated in 43 sq. km. of virgin lowland equatorial rainforest. The centre cares for young orang-utans orphaned as a result of illegal logging and deforestation and those who have been illegally caught and kept as pets. The new arrivals are given a complete health check before starting on the long road to rehabilitating them back into the wild. This essential process takes up to seven years and requires dedication and commitment for all those involved. Baby orang-utans are cared for twenty-four hours a day, just

like a human baby, and as they grow older they join their peers in the nursery and are housed indoors at night for their safety. As they will spend their lives high in the rainforest canopy, the youngsters learn the key skills of climbing – note that these orphans have no mothers (their mothers have often been killed in the plantation) they need to ‘learn how to be an orang-utan’. Sepilok replaces their natural mothers’ teaching by joining the youngsters with older orphans.

The centre is now run by the Sabah Wildlife Department, from which it receives some funds. It is also supported by the charity Orangutan Appeal. In adjacent buildings, there is a Wildlife Rescue Unit (WRU) of the same Department, whose aim is to rescue and care for wild animals that have been found in non-wildlife settings, especially the plantations. The SORC is funded from the entrance fees charged to visitors who are allowed to witness the feeding times and learn about these creatures. Note there is no guarantee what you ‘see’, and touching is not permitted, however at our viewings at Sepilok, we witnessed many animals! There are sponsorship opportunities, a small visitor centre including a museum and very good signage along the SORC boardwalk to the main feeding area.

Near the SORC is the Rainforests Discovery Centre [www.forest.sabah.gov.my/rdc](http://www.forest.sabah.gov.my/rdc). Opened in 1996, it's one of Sabah's most popular environmental education centres for students and teachers; since August 2007, the Rainforest Centre has been open to the public.

Aside from the well-known Orang-utan, the Sun Bear is another mammal species which human activities have decimated. Once found throughout Asia, from India to Vietnam and China to Borneo, their numbers have decreased dramatically. Their main threats are deforestation, commercial hunting and the pet trade. They are often found in appalling conditions; without a home, a mother, or left to rot in tiny cages. The Sunbear Conservation Centre

recently opened and undertakes educational activities.

### More Information

[www.worldlandtrust.org/projects/malaysia](http://www.worldlandtrust.org/projects/malaysia)

Birds: <http://borneobirds.com>;  
[www.borneobirdfestival.com](http://www.borneobirdfestival.com)

Amphibians: [www.frogsofborneo.org](http://www.frogsofborneo.org)

Sponsorships: [www.orangutan-appeal.org.uk/about-us/sepilok-rehabilitation-centre](http://www.orangutan-appeal.org.uk/about-us/sepilok-rehabilitation-centre) and

SORC: [www.sabahtourism.com/destination/sepilok-orangutan-rehabilitation-centre](http://www.sabahtourism.com/destination/sepilok-orangutan-rehabilitation-centre)

Rainforests Discovery Centre:  
[www.forest.sabah.gov.my/rdc/](http://www.forest.sabah.gov.my/rdc/)

The Sunbear Conservation Centre  
[www.bsbcc.org.my](http://www.bsbcc.org.my)

### Experiencing rainforests in the UK

After learning about Borneo's rainforests and why they should be protected, pupils can visit a Botanic Garden to see the plants (and sometimes animals) in real life. These visits will provide further understanding about the importance of protecting rainforests globally. The Botanic Gardens Education Network website has a list of their member organisations on its website:

<http://bgen.org.uk/category/members/bgs/>.

One such venue is Birmingham Botanical Gardens and Glasshouses. Here, children have hands-on experience – through classroom sessions, tours and challenges – of tropical rainforests. They learn about the adaptations of plants and animals to this environment, have opportunities to handle artefacts and plant products, and can also choose to study the animal collection, including snakes, a chameleon and a Madagascan tenrec.

[www.birminghambotanicalgardens.org.uk/education](http://www.birminghambotanicalgardens.org.uk/education)

## National Curriculum links for rainforest studies

### Compiled by Juliette Green *NAEE Executive*

#### Geography

- Key Stage 1: Identify seasonal and daily weather patterns and the location of hot and cold areas of the world in relation to the Equator and Poles.
- Key Stage 2: Identify the position and significance of latitude, longitude, Equator, Northern and Southern Hemispheres, the Tropics of Cancer and Capricorn. Understand geographical similarities and differences through the study of human and physical geography of a region within North or South America. Physical geography: climate zones, biomes and vegetation belts, rivers. Human geography: types of settlement and land use, economic activity and trade links, the distribution of natural resources. Use maps and globes to locate countries and describe features.
- Key Stage 3: Extend their locational knowledge and deepen their spatial awareness of the world's countries using maps of the world, focusing on environmental regions (e.g. tropical rainforests and hot deserts). Understand the key processes in physical geography relating to weather and climate. Understand how human and physical processes interact to influence and change landscapes, environments and the climate; study how human activity relies on effective functioning of natural systems.

#### Science

- Year 2: Identify that most things live in habitats to which they are suited. Describe how habitats provide for the basic needs of plants and animals. Compare animals in familiar habitats with animals found in the rainforest. Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.
- Year 3: Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, room to grow) and how they vary from plant to plant.
- Year 4: Recognise that environments can change and that this can pose dangers to living things. Explore examples of human impact (both positive and negative) on environments, for example the negative effects of population and development, or deforestation.

- Year 6: Identify how animals and plants are adapted to suit their environment in different ways and that adaptation can lead to evolution. Research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.

#### Key Stage 3 biology

- Plants making carbohydrates in their leaves by photosynthesis and gaining mineral nutrients and water from the soil via their roots. The dependence of almost all life on Earth on the ability of photosynthetic organisms, such as plants and algae, to use sunlight in photosynthesis to build organic molecules that are an essential energy store and to maintain levels of oxygen and carbon dioxide in the atmosphere. The adaptations of leaves for photosynthesis.
- Interdependence of organisms in an ecosystem. Variation between species and between individuals within a species means some organisms compete more successfully, which can drive natural selection. Changes in the environment may leave individuals within a species, and some entire species, less well adapted to compete successfully and reproduce, which in turn may lead to extinction.

#### Design and technology

- Key Stage 1: Understand where food comes from.
- Key Stage 2: Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.
- Key Stage 3: Understand the source, seasonality and characteristics of a broad range of foods.

#### English (speaking and listening)

- Key Stages 1 & 2: Listening and responding appropriately to their adults and peers; asking relevant questions to extend their understanding and knowledge; developing understanding through speculating, hypothesizing, imagining and exploring ideas.
- Key Stage 3: Using Standard English confidently in a range of formal and informal contexts; giving short speeches and presentations, expressing their own ideas.



## Outdoor earth, water and weather studies in Texas, USA

**Tom Arsuffi** *Director, Llano River Field Station, Texas Tech University-Junction*

A 'sense of place' in nature is fundamental to learning, understanding and an informed citizenry. Texas Tech University's Llano River Field Station (LRFS) is the place that brings diverse stakeholders together to address and provide solutions to critical natural resource and water issues. LRFS is the largest inland field station in Texas; bisected by the headwaters of the South Llano River and located in a vast (25+counties) and biologically diverse area called the Texas Hill Country. One component of LRFS is our Outdoor School (OS), recognised as a Texas Exemplar Program for K-12 students, using best learning practices, NASA's lesson plans on air quality, and GLOBE (Global Learning and Observations to Benefit the Environment) protocols. Our Outdoor School illustrates, incorporates and addresses multiple exemplar categories, but is especially strong in teacher professional development, and is highly effective with transdisciplinary STEM instruction and improving success of traditionally underrepresented students. Effectiveness is attributable to 1) standards-based STEM curriculum and lesson plans, 2) auditory, visual and kinesthetic instruction and learning, 3) inquiry based learning, 4) teacher training, professional development, observation of OS teachers and instruction, and 5) transdisciplinary, multi-experiential learning, instruction and activity that includes team building, manners and self-confidence across the OS STEM curriculum and a 3 day/2 night stay. GLOBE (<http://globe.gov>) training and capabilities enhances the effectiveness of our already successful program and provides added dimensions in areas of problem-based learning associated with the scientific method, technology and equipment to acquire, process and interpret environmental data associated with earth, water and weather.

The mission of the Texas Tech University Outdoor School is to inspire students and teachers to develop passion, a sense of ownership and identity towards nature and the watershed in which they live, while building better classroom environments



***Authentic Learning in the Texas Hill Country: students observing the small world of soil and insects close up.***

and generating higher state assessment scores. To do this, we have implemented a program designed to provide unique opportunities to use the environment as an integrating context for interdisciplinary, collaborative, student-centered, hands-on and engaged learning, with a focus on the sciences and mathematics. The OS has had remarkable quantitative success and impacts demonstrated by student performance on state-wide standardized tests, national awards and publications. Since inception, the OS has provided professional development and science/nature education to nearly 20,000 students, parents, and hundreds of teachers. About 50% of participating students are of low socio-economic status and educationally disadvantaged.

A 5th Grade Teacher said of OS, *"Yes, the children saw, experienced, touched, and learned more than a week in a classroom could provide. More importantly, we saw learning and teaching going on the way we know it should... They got to get down and dirty. They explored, caught, measured, encouraged, questioned, hypothesized, corrected, ran, whispered, walked, dreamed and laughed all day long."*



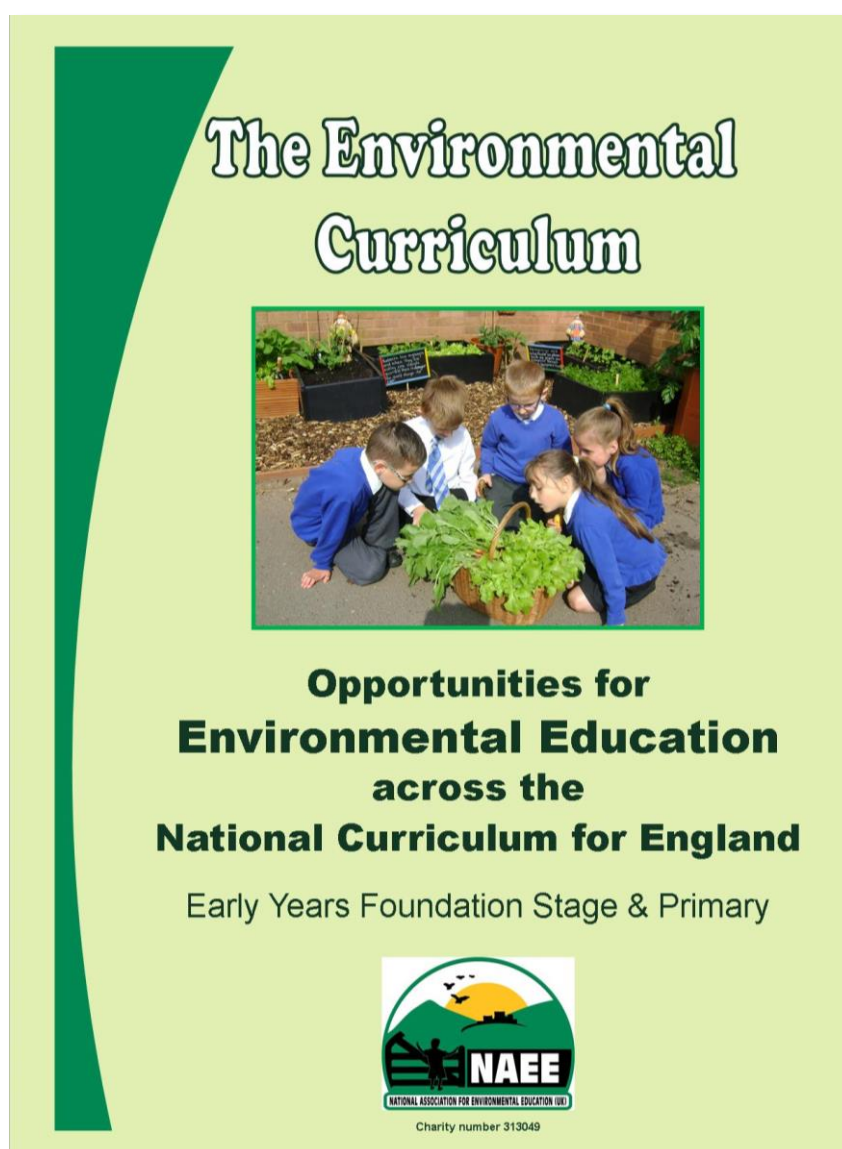
***Learning is fun – the wonders of water!***

The OS is a priceless experience that delivers curriculum through hands-on, real-world application devoted to creating innovative

educational experiences that immerse learners into authentic activities that stimulate imagination and understanding of challenging STEM concepts. OS instructors create an individualized stay filled with science, mathematics, social studies, reading and writing. The students become scientists, gaining curiosity and using ideas of their own to accomplish required tasks. Places like OS and LRFS are tools in the arsenal to combat the outbreak of Nature Deficit Disorder, as highlighted by Richard Louv in his book 'Last Child in the Woods'.

### **More information**

Contact Tom Arsuffi via [tom.arsuffi@ttu.edu](mailto:tom.arsuffi@ttu.edu).



*The Environmental Curriculum* is a new resource from NAEE that highlights the opportunities for education IN, ABOUT and FOR the environment in the 2014 Early Years and Primary curricula. Available as a downloadable PDF from the NAEE website or by contacting [info@naee.org.uk](mailto:info@naee.org.uk). (See page 30)



## Workshop: Early Years skill share, The Oaks Day Nursery, May 2015

**Juliette Green** *NAEE Executive*

This was one of a regular series of skill share sessions organised by Birmingham Forest OAKS. The focus of this skill share was outdoor education in the Early Years Foundation Stage, and took place at The Oaks Day Nursery, University of Birmingham.



*The Oaks' mud kitchen*

The day began with an introduction to the nursery and their approach to outdoor learning, specifically Forest School activities. The nursery has a real outdoor ethos and they have dedicated Forest School leaders for each of the three age ranges: under 2s, 2-3 years and Pre-School. They also run parent workshops, family events and 'Forest School Sundays' where parents (particularly fathers) go along to help with maintenance of the site; preparing planting beds, conserving pathways etc. Attendees were then taken on a tour of the nursery buildings and the Forest School site, which has an outdoor classroom, fruit trees, an allotment area, fire circle, mud kitchen, a bridge over a swamp and much more.

After a short break, I gave a presentation about how environmental education can be embedded across the Early Years Foundation Stage, with suggested activities to cover each of the Prime and Specific Areas of Learning. There were also links to **Environmental Education** Volume 110

SMSC (Spiritual, Moral, Social and Cultural Development) and promoting British values through outdoor learning.

The final part of the day took place outside in the Forest School area. The Forest School leaders demonstrated tool talks, which show how tools are introduced to children so that they can use them safely and effectively. We then all worked together to build a new 'bug hotel' for the nursery, which we located near the trees to enable invertebrates to access it. This collaborative activity enabled the attendees, who were a mix of early years and outdoor learning practitioners, to share skills, ideas and information. A great morning!



*Proud of the new bug hotel!*

### More information

Birmingham Forest OAKS (Outdoor Activities and Knowledge Sharing): contact Jan Tomlinson via [jan.tomlinson@birmingham.gov.uk](mailto:jan.tomlinson@birmingham.gov.uk).

The Oaks Day Nursery: contact Rebecca Slater via [r.j.slater@bham.ac.uk](mailto:r.j.slater@bham.ac.uk) or visit [www.birminghamdaynursery.co.uk](http://www.birminghamdaynursery.co.uk).

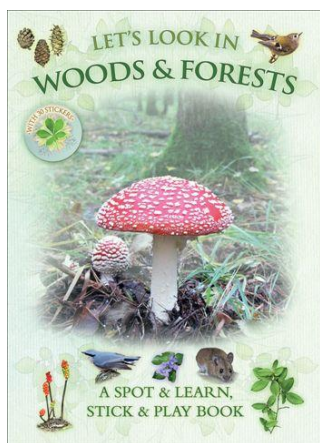
Contact Juliette Green via [j.green@naee.org.uk](mailto:j.green@naee.org.uk).



## Book Reviews

**‘Let’s Look’ Series** Caz Buckingham & Andrea Pinnington; Fine Feather Press, 2015; pp 18; £4.99 each; available from: [sales@bouncemarketing.co.uk](mailto:sales@bouncemarketing.co.uk)

**Let’s Look on the Seashore** (ISBN 978-1-908489-11-1); **Let’s Look on the Farm** (ISBN 978-1-908489-12-8); **Let’s Look in Woods and Forests** (ISBN 978-1-908489-14-2)



These visually delightful books are designed to be an individual’s ‘spot and learn, stick and play’ book. The pages are of thick glossy wipe clean card, so would be suitable for taking out and about, however the beautiful illustrations give these

publications a sense of being special and something to look after – I for one wouldn’t want to get them muddy or wet ! There are a total of 12 separate books in this set. Here we visit just three.

Each book follows a similar format; the initial information pages describe a little about the habitat being discovered and introduce facts about the flora and fauna. The following ‘easy to spot’ pages feature clear photographic images of natural things one would expect to find in that habitat, ready to be ticked off once spied. The ‘harder to spot’ pages include some that would certainly be a challenge including some things I have never seen as a naturalist of over 40 years!

Each book within this series features a double fold-out page revealing a blank related landscape. It also hosts 30 very attractive photographic stickers for the owner to re-create their own habitat, encouraging them to think about where each individual would naturally be found.

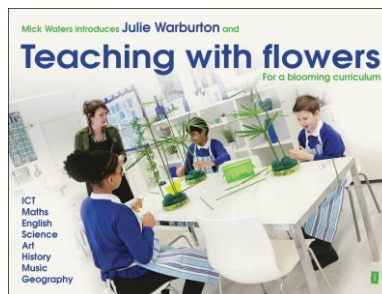
Whilst these books are intended for single use and designed for an individual, I can see how they could

be used within a classroom to prompt discussion, with any great points raised being rewarded by being given a sticker to place on the habitat landscape. Alternatively, these books would make a lovely prize/present for anyone between the ages of 5 – 10 who has an enthusiastic adult that could work with them in each environment.

**Heatha Gregory**

### **Mick Waters Introduces: Teaching with Flowers for a Blooming Curriculum**

Julie Warburton; ISBN: 978-178135126-0; Crown House Publishing, 2014; pp 200; £20.00; available from: [www.independentthinkingpress.com](http://www.independentthinkingpress.com)



This is a colourful, chunky handbook full of practical and innovative ideas for using flowers across the curriculum. Julie Warburton is a

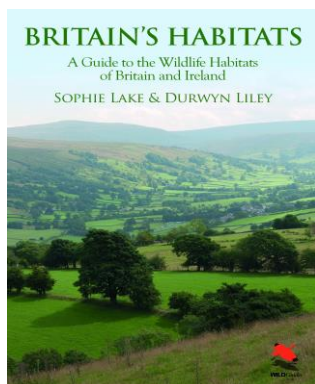
former teacher and educational consultant and this comes across through the strong curriculum links and the easy-to-follow teaching ideas. She subsequently retrained as a florist and the book represents ‘the cross-pollination of her two passions: education and flowers’. The book is aimed at teachers of 9 to 12 year olds, but I would say that many of the ideas could be adapted for younger or older pupils.

The book is part of a series ‘introduced’ by Mick Waters, former director of the Qualifications and Curriculum Authority (QCA) and one of NAEE’s Vice Presidents. In his introduction, he recalls a series of assemblies which used an amaryllis as an analogy for potential, nurturing and development of children. This gives a clear example of how flowers can be used to teach a range of subjects, topics and concepts.

As a teacher, I would probably adapt some of the activities (e.g. 'Mask Your Feelings' on page 70, 'Nature's Colour Wheel' on page 44 and 'Peace Wreath' page 74) to make them relevant to the local environment. Also, I would like to have seen mention of how we should explain to children the importance of not picking wildflowers (as it's illegal) or garden flowers (without permission) in order to make their own arrangements. All in all, I found this book to be an interesting and novel approach to teaching and learning.

**Juliette Green**

**Britain's Habitats – A guide to the wildlife habitats of Britain and Ireland** Sophie Lake, Durwyn Liley, Robert Still & Andy Swash; ISBN: 978-0-691-15855-6; Princeton University Press, 2014; pp 272; £22; available from Amazon.



This 276 page hardback isn't something you'd be throwing in your rucksack before setting out into the great unknown. However, leafing through its pages of beautiful photos and useful diagrams would mean that a few pages captured in a photo or photocopy to take with you as a visual aid would be well worth the effort.

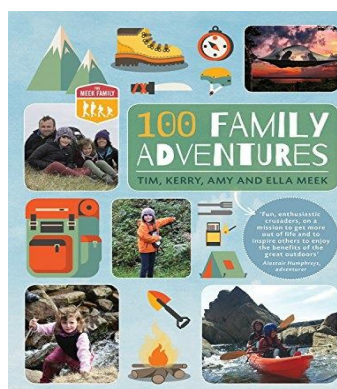
This is a well-structured, well supported read. Using diagrams, photos and well laid-out text, the book takes you through the 64 recognised habitats of the British Landscape. Each is set out in the same format focusing on origins and development, conservation, key species to look for, how to recognise, best months to visit and similar habitats. A brief introduction also introduces us to the history of each habitat, soil content where relevant and common human interactions and effects of these spaces. Well-chosen photos and a geographical distribution map ensure that these pages are easy and attractive to digest. The descriptions are easy to follow and written in a way that both informs

and tempts you out in search of ditches, raised bogs and upland acid grassland. I particularly liked the landscape photos which show the merging habitats from a distance, clearly putting into context the stew pot of ecology in an effective visual format. I also enjoyed the addition to some habitat pages that takes a closer look at aspects such as adaptations found in scrub, focusing on heather in heathland habitats and the cultural importance of mountains. These occasional additions provide a real texture and create a really cross curricular book of interest.

This is a vibrant, well produced reference book. As a result I think it could merit some use in the classroom. The photos of landscapes which pick out various habitats across a mountain side or valley floor are particularly useful and could be used as a nice comparative to the often used rainforest vegetation levels to galvanise those discussions on geographical characteristics in KS2. Picking out the odd page or diagram could also prove a useful reference during field-trips at any stage of education as their clarity and simplicity means that they are easily accessible and useful to all.

**Hannah Jones McVey**

**100 Family Adventures** Tim, Kerry, Amy and Ella Meek; ISBN: 978-0711236615; Frances Lincoln Ltd., 2015; pp 219; £14.99



The Meeks took 2014-2015 as a family year out of formal education and work to travel round Britain in search of adventure. This book of 100 ideas and activities to get you venturing outside and

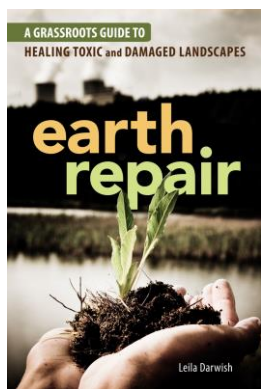
beyond your comfort zone with your nearest and dearest is the result. Fun and motivating, each double page spread boasts contributions from each member of the Meek family, from the parents' summary of the proposed adventure, through

Amy's suggestions of songs and games to play, to Ella's very witty topical jokes. For a family already keen on time outdoors some adventures (cooking on a fire, building a den) might seem fairly obvious choices, but more creative ideas abound as well: travelling the length of a river from source to mouth; going without electricity for 24 hours; having a 'green' day; tracking and casting animal footprints; and letting the children plan an adventure themselves. The book is aimed at inspiring and furnishing ideas rather than providing detailed how-tos, and inevitably in a book full of so many ideas there is some repetition and overlap, but as a gift for a family wanting to have more 'green time' and less 'screen time', this book is ideal.

**Philippa Riste**

### **Earth Repair: A Grassroots Guide to Healing Toxic and Damaged Landscapes**

Leila Darwish; ISBN 978-0-86571-729-9; New Society Publishers, 2013. Available from the publisher or Amazon.

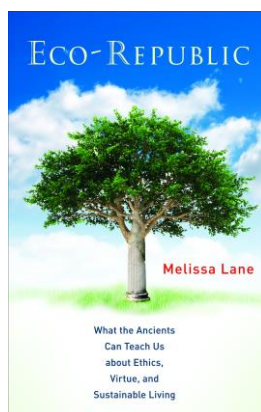


The lands on which we construct and expand our growing cities, alongside our farms that we push to be ever more productive, have been devastated by pollution and erosion – contamination in lots of different vocabularies. This guide is an answer to 'how we can make amends': it is both a practical reparations toolkit 'and' – as the author seeks to background the attitudes that cause the need for repair – deeper insights into environmental justice. However, it is the (my) 'and' here which can be daunting – in an otherwise powerful treatise on a very important subject, the author risks being verbose and overly complex (why does 'indigenous' need a capital 'I'; why call water a 'plant-friendly liquid'?). Also, some chapters have been penned by other writers, but this seems to be lost. The book covers remediation in various forms, healing water,

oil spills, nuclear etc. Regardless, a very solid text for any community leader or group undertaking restoration of lands and water we have made toxic – a necessary kit which we should not need at all, but one I recommend.

**Henricus Peters**

**Eco Republic** Melissa Lane; ISBN 978-0-691-15124-3; Princeton University Press, Princeton and Oxford, 2012; pp 243. Available from [www.peterlang.com](http://www.peterlang.com)



"Crazy! Lunatic! What is he talking about? How dare he challenge our way of life?"

When a character in Plato's original Republic sees that things might change - even though it's for the better long term - he calls out for the status quo, for things to be as he is used to! Anyone with a

message that is different from the commonly held view – including scientists – are seen as a messenger of evil. Basically, Lane infers: don't shoot the messenger!

The book focuses on the International Panel for Climate Change (IPCC) position – IPCC represents international governmental and scientific consensus, and sits alongside a wave of criticism from climate deniers – that climate change represents a very real and present threat to earth's ecosystems.

Climate change is a modern problem caused by technology - the ancients could not have fathomed it! Lane draws on Corey Brettschneider when she states: "Plato's dialogues help us to rethink the politics and social ethos that have endangered our natural world".

This book is certainly powerful, provocative, especially timely – anything that highlights the consequences of human impact and helps us towards action, is good – yet without an understanding of classical literature, it's a very heavy read indeed.

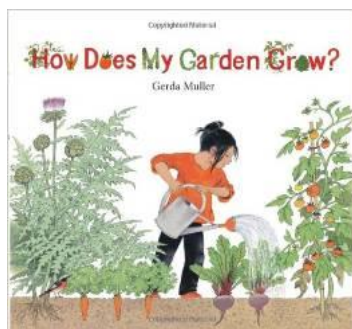
**Henricus Peters**



# Children's books about... gardening

Philippa Riste *NAEE Executive*

**How Does my Garden Grow?** Gerda Muller; ISBN: 978-178250-037-7; Floris Books, 2014; pp 32; £10.99



A beautifully illustrated storybook about a little girl called Sophie who lives in the city but goes to stay with her Grandad John, who teaches her all about

how to grow vegetables. The narrative is interwoven with factual information interesting to children and adults alike. The text is complex in places and so as a story is probably aimed at children older than 5, but the pictures are so full of detail that a younger child would be happily absorbed in spotting animals, vegetables and garden tools, and in counting the vegetables featured on each page. A lovely book for use in preparing children for a session in a school vegetable garden, or in a module on where food comes from, as well as in teaching on ecosystems as the narrative encompasses not only the plants and vegetables Sophie is growing, but the small animals and insects which support and are supported by plantlife, as well as the impact of the weather on what she is trying to grow.

**Gardening Projects for Kids** Jenny Hendy; ISBN: 978-1-78019-019-8; Southwater, 2011; pp 128; £8.99



A book full of planting and gardening ideas to suit children aged between 5 and 12. The layout and font size as well as the plentiful photographs are designed to capture the attention of children themselves. The

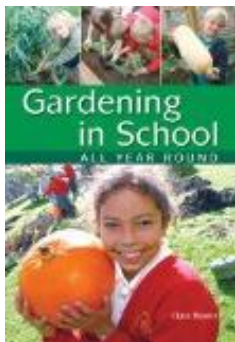
short introduction includes information on soil, tools and safety in the garden, and the remainder of the book comprises over 60 fun and innovative projects, from planting a chocolate scented garden and growing tomatoes or strawberries in hanging baskets – ideal for a school with limited space – to craft ideas like making a bird hide from a cardboard box or a feeder with red ribbons to attract butterflies. A useful book for parents or early years teachers to use with younger children, or for older children to experiment with on their own.

**Kids in the Garden** Elizabeth McCorquodale; ISBN: 978-1906155926; Black Dog Publishing, 2010; pp 95; £9.95



A lovely gift for children or a useful addition for a teacher in charge of a school garden; this is a fantastic book for kids aged 6 and above, from which even experienced adult gardeners can learn a thing or two! The ratio of photos and illustrations to clear and simple text makes the book accessible and appealing, and the section at the beginning of the book on how plants work is perfectly pitched for a young reader. The introduction also contains some brilliant eco-friendly suggestions for natural fertilisers – including your own hair and stinky nettle soup – and types of mulch, and is followed by step-by-step fun guides on how to grow and care for different vegetables and fruit, and then by child friendly recipes using what has been grown. The book is punctuated with jokes, quiz questions, and interesting facts and is, overall, a brilliant introduction to food production and plant science. A brilliant find!

**Gardening in School All Year Round** Clare Revera; ISBN: 978-1857411720; Southgate, 2010; pp 31; £15.95



An excellent teaching resource to equip schools in the creation and maintenance of a functioning school garden, with associated gardening club. Each month has a dedicated double page spread full of practical information, suggested tasks, and teaching activities

appropriate to that time of the year, and the book also covers health and safety essentials and even fundraising ideas! The pack includes a CD with additional risk assessments, weed identification photographs for use with a class, and sample seed packet templates, among many other helpful extras. Clare Revera is a primary teacher with 15 years of experience developing school grounds to help pupils and teachers be more green-fingered, and her experience certainly shows in this indispensable handbook.

## Webwatch

**Henricus Peters** *Editor*

In this edition, we highlight our new-look NAEF website, the plants and animals of Christmas, the end of the Year of Soils and the beginning of the Year of Fieldwork, plus updates.

### The plants and animals of Christmas

**A Field Guide To Christmas Plants and Animals**  
by Scott Brink at 8:38 am on December 24, 2012

Facebook Twitter LinkedIn StumbleUpon RSS

**Christmas Field Guide**  
birdlandmoon.com



★ Happy holidays to those of you who overwinter as adults! ★

Have you ever wondered about the various characters of the Christmas season and why they are used? Did you know, for example, that mistletoe is poisonous, so make sure you do

not touch it when you kiss! Turtle doves are very loving but also noisy. The partridge is a ground-dwelling bird, so “a partridge in a pear tree” is actually unrealistic. Reindeer are otherwise known as caribou with some sub-species being critically endangered due to climate change affecting their habitat and food supply. They are well-known for their ability to use tree growing (arboreal) lichens as a major food source, with the last US herd reduced

to approximately forty individuals that tend to stay mostly in the Canadian part of its range. (See more at: [www.defenders.org/woodland-caribou/basic-facts](http://www.defenders.org/woodland-caribou/basic-facts).)

For general information:

<http://laughingsquid.com/a-field-guide-to-christmas-plants-and-animals/>

Find out about animals in the Bible Christmas story: [www.christiananswers.net/dictionary/animals.html](http://www.christiananswers.net/dictionary/animals.html)

**Planet Earth magazine**

[www.nerc.ac.uk/latest/publications/planetearth/](http://www.nerc.ac.uk/latest/publications/planetearth/)

The latest copy of Planet Earth magazine focuses on 'science and the environment' between 1965 and 2015.



**World Heritage**

<http://whc.unesco.org/en/newproperties/>

In July, the World Heritage Committee approved the inscription of four cultural sites on the World Heritage List: sites of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining in Japan; Ephesus in Turkey; Aqueduct of Padre Tembleque Hydraulic System in Mexico; and

Fray Bentos Cultural-Industrial Landscape in Uruguay.



## International Year of Soils

At the end of 2015, we are still focusing on soils and the vital part they play in our world. [www.fao.org/soils-2015/en/](http://www.fao.org/soils-2015/en/)



2015  
International  
Year of Soils

## Year of Pulses [www.fao.org/pulses-2016/en/](http://www.fao.org/pulses-2016/en/)



2016 is the Year of Pulses – those very valuable crops used for food and feed.

## Year of Fieldwork

[www.field-studies-council.org/outdoorclassroom/yearoffieldwork.aspx](http://www.field-studies-council.org/outdoorclassroom/yearoffieldwork.aspx)



The Field Studies Council, with Esri UK, the Geographical Association, Ordnance Survey and the Royal Geographical Society are having a 'Year of Fieldwork'. The groups will be working collaboratively to promote the value of geographical fieldwork and the wide range of resources, training and other support that is

available to schools and colleges across the UK.

The 'Year of Fieldwork', runs throughout the academic year September 2015-16. It aims to bring together a range of partners to celebrate out-of-classroom learning opportunities and to offer support for those that wish to develop these

further. The hope is that schools and colleges across the country join to celebrate fieldwork and the opportunities it provides not just during the 'year' but on an ongoing basis.

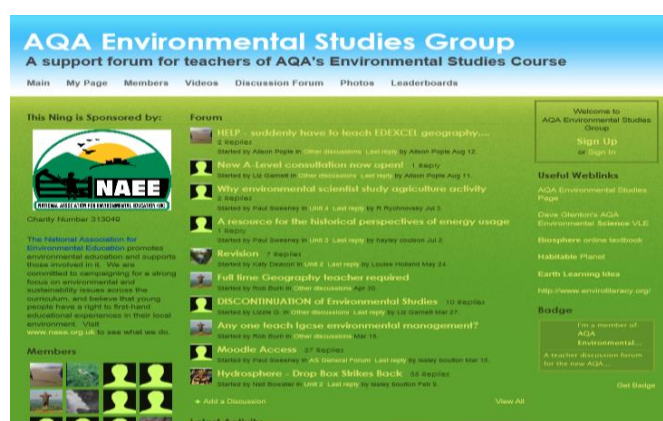
A wide range of fieldwork resources are available on the Geographical Association website:

[www.geography.org.uk/resources/fieldwork/](http://www.geography.org.uk/resources/fieldwork/)

## AQA Environmental Studies Group

<http://environmentalstudies.ning.com>

NAEE is the sponsor and supporting partner of this website group – a virtual support forum for teachers of AQA's Environmental Studies Course.



## UPDATES

### Nepal Earthquake

The earthquake that hit Nepal in April this year was the most powerful quake to hit the country in over 80 years.

[www.geography.org.uk/resources/nepalearthquake2015](http://www.geography.org.uk/resources/nepalearthquake2015)

[www.geography.org.uk/resources/earthquakes/resources](http://www.geography.org.uk/resources/earthquakes/resources)

### Investigating climate change

[www.geography.org.uk/resources/investigatingclimatechange](http://www.geography.org.uk/resources/investigatingclimatechange) is useful for teachers of key stage 2 to post 16.

### Barnaby Bear

Barnaby has been busy and recently visited Spain:

[www.geography.org.uk/resources/barnabybeargoestospain](http://www.geography.org.uk/resources/barnabybeargoestospain)



## Google Earth

An extension to the Google Earth web browser displays a random image of earth along with a globe and the location.



<https://chrome.google.com/webstore/detail/earth-view-from-google-ea/bhloflhklmhfpedakmangadcdfhnnoh?hl=en>

## NAEE's transformed website

<http://naee.org.uk>

Our NAEE website has had a complete facelift. All key information – membership, Kenrick school bursaries, our journal, latest news and blogs – now all appear on the front page or one 'click' away.

The website has book reviews and feature articles, some of which are simply too long for this journal.

In future, we'll be adding links, fact sheets, and have guest blogs with fact sheets from our partner groups, as well as making closer connections between this journal and our new-look website.

Available to download from the website is our very successful and well-received Curriculum Guide.

**Morgan Phillips**, Keep Britain Tidy's Education Manager, says: *"Thank you for the Environmental Curriculum Guide. This dovetails nicely with how Eco-Schools sees ESD in the National Curriculum, and we have been publicising it at our Roadshow events".*

**Sue Shanks**, chair of the Kingswood Trust, says, *"The Environmental Curriculum is a great summary document to inspire teachers to work outdoors with their classes and groups. Such well written material that can support teachers to work outside is to be welcomed."*

This publication can be downloaded totally free.

For the very latest updates, remember to follow us on social media: [www.facebook.com/NAEEUK](http://www.facebook.com/NAEEUK), [https://twitter.com/naee\\_uk](https://twitter.com/naee_uk), [www.linkedin.com/company/3666656](http://www.linkedin.com/company/3666656)

