

# Environmental Education

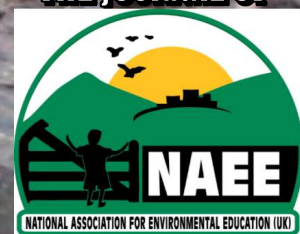
Vol 116 Autumn 2017

**Natural encounters  
for young people**

**Sustainable Shanghai?**

**Dead Sea Sparrow  
eco-lessons**

THE JOURNAL OF





## National Association for Environmental Education (UK)

*NAEE supports a wide range of professional educators to help them improve the quality of their teaching and their students' learning, in relation to environmental and sustainability issues.*

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NAEE is a Charitable Incorporated Organisation [Charity No. 1166502] that is run by its members and volunteers who care passionately about environmental education and education for sustainable development. Our charitable object is to provide a public benefit by advancing environmental education within early years settings, primary and secondary schools, and institutions responsible for teacher education within the UK and elsewhere. Teachers are encouraged into the Executive; for more details contact [info@naee.org.uk](mailto:info@naee.org.uk).

**GROUP COLLABORATIONS:** NAEE is very much interested in doing things alongside others with the same or very similar missions/goals. Some of these groups include:

*United Kingdom:* Association for Science Education; Birmingham Botanical Gardens; Council for Learning Outside the Classroom; Geographical Association; London Environmental Educators' Forum; Martineau Gardens; Mount Pleasant School Farm; National Savers; Rotary International (Britain & Ireland); Think Global; TIDE~global learning; Youth Hostel Association.

*Overseas:* Australian Association for Environmental Education; Children and Nature Network USA; Green Teacher; New Zealand Association for Environmental Education; Nature Club of Pakistan; North American Association for Environmental Education; Roots & Shoots Shanghai.

**GET INVOLVED:** If you are a teacher with experience in any outdoor education, forest schools, especially in pre-school or secondary school, we would be thrilled to have you either write an article for our termly *Environmental Education* journal — contact [henricus.p@yahoo.com](mailto:henricus.p@yahoo.com).

**BURSARIES:** Thanks to the generosity of the late Hugh Kenrick, NAEE offers bursaries of up to £400 for schools in the West Midlands to take their pupils to visit an environmental education centre. Visit [naee.org.uk/apply-for-a-school-bursary](http://naee.org.uk/apply-for-a-school-bursary) for more information.

## National Association for Environmental Education (NAEE UK)

Registered Charity No. 1166502



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**NAEE Consultant National Coordinator** Heatha Gregory

**NAEE Office** University of Wolverhampton, Walsall Campus, Gorway Road, Walsall, WS1 3BD **Tel** 0747 928 7183

**Email** [info@naee.org.uk](mailto:info@naee.org.uk) **Web** [www.naee.org.uk](http://www.naee.org.uk)

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**Editors** Henricus Peters, Juliette Green

**Proof Reader** Alona Sheridan

**Publications Coordinator** Elsa Lee

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**Cover photos:** Pupils from Cheswick Green Primary School hunt for invertebrates on a Kenrick Days visit to the Birmingham Botanical Gardens. All photos within articles by the author, unless otherwise stated.

*Environmental Education* is the termly journal of the NAEE. Views expressed in the articles of this journal are those of the authors and do not necessarily represent those of NAEE.

## From the Editor Henricus Peters



A look over the contents of this edition reveals our focus on younger people. Findlay Wilde pens his thoughts as this issue's young writer (page 9); Kashmir Flint, new to the Executive, explains what attracted her to NAEE and why social media is now so important, and she reports on her experiences as an educator on the magical Monkton nature reserve (page 15). Our Kenrick Report (page 10), a 'staple' of

each edition, is about Year 1 and nursery class visits to environmental education centres; Tim Baker, one of our NAEE Fellows, explores outdoor learning (page 13); and we learn about the benefits of farm education for young people with autism (page 16). On the world stage, we report on reconnecting people to nature in South Africa (page 18); sustainability in Shanghai (page 21); and interactive lessons about birds in Jordan (page 22). As always, please tell us what you think about the journal or any topic: [henricus.p@yahoo.com](mailto:henricus.p@yahoo.com) or twitter @NAEE\_UK.

## From the Chair Nina Hatch




For the majority of my 40-plus year career I have been fortunate to be in situations where I can teach children, young people and students outside the confines of a conventional classroom. This could have been in a wood, beside a river or stream, in a city street or most recently around a working farm. Always curriculum focussed learning with an environmental bias extending into a local/global emphasis. As practical as a location allowed the pupils to be, designed to be fun, thought provoking and to stimulate the learners to look outwards from their own experiences. Now I get young teachers asking me how I got these sorts of jobs. They are feeling restrained by the constricting demands of the English school curriculum with frequent observations and analysis of everything they teach and present to their pupils.

From my view as both Chair of the NAEE Executive, and the teacher/manager of an educational farm, I am heartened to see that environmental enlightenment and stimulation still continues and expands. But I can see it's getting harder to do this within the time and constrictions of a statutory curriculum and the requirements that places upon class teachers. NAEE/Kenrick funded grants available to teachers in the Birmingham area are a marvellous incentive to get teachers out of the mould and give children experiences which further their understanding of the world. It is a stipulation of a Kenrick grant that an education session at a centre must

be led by an experienced practitioner/tutor based there. That is to ensure that the children's activities are extending environmental awareness and questioning within the parameters of the school's topic focus. Sadly, NAEE doesn't have the funds or person power to extend Kenrick funds around the country. I just wish that we could. In any case, a large number of field study centres have either closed or become private operations with higher cost implications.

I am now finding that some schools are sending their newly qualified teachers on visits to my farm because it is deemed that both the pupils and the teacher are in a safe pair of hands with me there as an experienced teacher. Few initial or post graduate teacher training courses appear to equip new teachers to plan school trips, utilise the environment on their school doorstep, or give them the confidence to go and teach in different environments like a wood, garden or farm.

This is just one of the reasons why NAEE finds it difficult to recruit truly active members of the association. I acknowledge that the Council for Learning Outside the Classroom (CLOTC) have run some courses, but to use an environmental metaphor — that is just touching the tip of the iceberg. If we are to carry on making the curriculum exciting and meaningful for future generations we need to equip teachers **while they are training** with these personal tools. Then they may have the confidence to see how to plan and bring environmental awareness into their classroom sessions, and also go out and utilise whatever is nearby, or slightly further afield, to improve the depth and quality of understanding. 

# From the President Professor Justin Dillon



I spend a lot of time in museums, science centres, botanic gardens, galleries and zoos. That's partly because much of my research involves public engagement with

these institutions, but also because they can be mind-opening, challenging, uplifting, inspiring and absorbing. We have, in the UK, some of the world's finest, staffed by astonishingly experienced and dedicated people, many who come from around the world.

Museums are faced with two key educational challenges. Firstly, how do you show that they provide value for money, particularly those that are funded primarily from the public purse? And secondly, how do you ensure that your home visitors represent all sections of society?

The London Natural History Museum (NHM), with whom I have worked a number of times, is one of the greatest places for environmental education in the world. It is amazingly popular with 4.62 million visitors last year making it the fourth most popular attraction in the UK. The museum's purpose is to challenge the way people think about the natural world – its past, present and future. The museum aims to stimulate public debate about humanity's future and equip its huge audiences, from youngest to oldest, with an understanding of science.

However, turning this vision into actuality can sometimes cause the museum problems. In 2015 the NHM announced that its very recognisable dinosaur, Dippy the Diplodocus, was going to be removed from the central hall and be replaced by the skeleton of a whale. There was uproar – a petition was launched – 'Save Dippy' – which garnered more than 30,000 signatures. The museum went into a damage limitation exercise announcing that Dippy would be going on tour once it had been dismantled and then put back together.

A closer look at the story exposes a number of issues relevant to environmental educators. The petition stated that Dippy had *"been the centre piece in the Natural History Museum for 109 years"*. Some vociferous older adult supporters claimed that they had seen Dippy in the central hall when they were children.

Twitter comments are well worth reading to get an insight into the feelings that the announcement brought to the surface. One that caught my eye said:

*"Replacing #Dippy the dinosaur with a blue whale is the equivalent of replacing the Eiffel Tower with a stack of toilet rolls"*.

However, Dippy was only put there in 1979. And it's not a real dinosaur – it's not even a real fossil. It is a plaster cast of a fossilised dinosaur discovered in Wyoming, USA in 1898 and bought by a millionaire to put in his new museum in Pittsburgh. The NHM has its plaster cast because King Edward VII saw a sketch of the Diplodocus while visiting the millionaire at his Scottish castle and expressed a desire to have a copy in London.

The petition also claimed that Dippy *"is a monument of British heritage"*. That certainly seems to stretch the truth a little. There are replicas of it in museums around the world, including Paris, Berlin, Vienna and Moscow.



## ***'Dippy the Diplodocus' at the Natural History Museum***


From an environmental education point of view, the decision to remove a plaster cast of an animal that died out millions of years ago with an authentic skeleton of a blue whale – a species that humans almost drove to extinction – is a no-brainer. The director of the NHM, Sir Michael Dixon explains their position in a compelling manner:

*"As the largest known animal to have ever lived on Earth, the story of the blue whale reminds us of the scale of our responsibility to the planet. This makes it*



*the perfect choice of specimen to welcome and capture the imagination of our visitors, as well as marking a major transformation of the Museum. This is an important and necessary change. As guardians of one of the world's greatest scientific resources, our purpose is to challenge the way people think about the natural world, and that goal has never been more urgent."* (1)

I love how he says: "our purpose is to challenge the way people think about the natural world, and that goal has never been more urgent" – that resonates so well with the vision of NAEF.

So, going back to the two challenges facing museum educators, showing impact and increasing inclusivity, it seems as though the Natural History Museum has conclusive proof that Dippy, at least, has a place in many people's hearts and heads even though they might only have seen him once and not realized that he's not real. And his UK wide tour will mean that he is seen by people, young and old, who might never have got to see him in the flesh. So to speak. 

## Reference

(1) Natural History Museum dinosaur 'Dippy' switched for blue whale skeleton. Daily Telegraph. Available at [ow.ly/rJth30fMBwh](http://ow.ly/rJth30fMBwh) (accessed on September 20, 2015).

## Research

# Global education, environmental education and sustainability

Bill Scott University of Bath

*If you're an environmental educator, are you necessarily interested in sustainability?*

*If you're a global educator, are you necessarily interested in the environment?*

Whilst these seem quite different questions, they are not completely distinct. It's rather like looking at the problems the world faces from different perspectives.

Back in 2013, Steve Gough and I wrote in *Environmental Education* about nine categories of interest which capture the range of focuses and objectives of those who espouse and promote what we called environmental learning; that is: "learning which accrues or is derived from an engagement with the environment or environmental ideas". Environmental learning is, of course, what environmental educators promote.

Here are the categories:

1. those interested in sharing the joy and fulfilment derived from nature, in order to bring about significant life-enhancing and life-changing experience for learners
2. those interested in the study of the processes of nature in order to understand, or to teach about them
3. those using nature as an heuristic to foster the development of knowledge, understanding, skills and character which, although situated, are transferable to other contexts and through time

4. those using the natural and/or built environments as heuristics to achieve conservation and/or sustainability goals
5. those advocating/promoting individual behaviour changes in order to achieve conservation/sustainability goals
6. those advocating/promoting particular modes of social change in order to achieve environmental/conservation/sustainability goals
7. those using environmental, conservation and/or sustainability issues as contexts for the development of skills and knowledge related to the exercise of democratic social change
8. those promoting nature as a metaphor for a preferred social order – which may be 'co-operative' or 'competitive', according to worldview
9. those interested in the study of environmental learning (and environmental education) itself

Such categories are not necessarily fully discrete, and an individual might be involved in two or more of them. Looking at them, however, the answer to my first question [*If you're an environmental educator, are you necessarily interested in sustainability?*] has to be "No" as disposition towards sustainability varies markedly across the categories. While many environmental educators welcome a focus on sustainability because it provides the opportunity to raise issues of social and environmental justice, and others use it strategically to

promote particular social change, not everyone does this, as categories 1 to 3 show.

Further, as you go from category 1 to category 8, interest in the environment, in its own right, clearly decreases, and there is a shift from a realistic view of nature to a metaphorical one. There is also a shift from interest in the individual learner to the social context. From category 3 to category 7, the environment (natural and otherwise) is viewed mainly as a means of exploring issues and achieving particular goals. Category 8 sees the natural world as providing a coherent and liveable philosophy that explains our social and ecological obligations. As Steve and I noted, some of those in this category may have very little else in common.

What about the second question: *If you're a global educator, are you necessarily interested in the environment?*

Again, it would seem that the answer has to be "No". Although, as far as I am aware, there is no equivalent categorisation of interest like the one set out above; if there were one, there would be some overlap. The following would likely be part of it:

5. those advocating/promoting individual behaviour changes in order to achieve ~~conservation/~~ sustainability/global goals
6. those advocating/promoting particular modes of social change in order to achieve ~~environmental/~~ ~~conservation/~~ sustainability/global goals
7. those using ~~environmental, conservation and/or~~ sustainability/global issues as contexts for the development of skills and knowledge related to the exercise of democratic social change

The global goals in question mostly relate to development issues and to social and environmental justice issues and are some of the key features of the UN's sustainable development goals. In the UK, the most prominent example of such global education is the Global Learning Programme (GLP) whose aims are to:

- help young people understand their role in a globally interdependent world and explore strategies by which they can make it more just and sustainable
- familiarise pupils with the concepts of interdependence, development, globalisation and sustainability
- enable teachers to move pupils from a charity mentality to a social justice mentality
- stimulate critical thinking about global issues, both at a whole school and pupil level

- help schools promote greater awareness of poverty and sustainability
- enable schools to explore alternative models of development and sustainability in the classroom

Whilst it's obvious that there's not much about the environment here, that does not prevent schools from offering an integrated programme whereby all the aspects of sustainability are fully represented.

It could be, of course, that I've asked the wrong questions. Perhaps they ought to be:

*If you're an environmental educator, should you be interested in sustainability?*

*If you're a global educator, should you be interested in the environment?*

Some people put it another way and dispense with the question:

*If you're an environmental educator, you have to be interested in sustainability.*

*If you're a global educator, you have to be interested in the environment.*

Would you go that far? There's an argument that, schools at any rate, should take that step because the learner needs to be helped to make sense of the idea of sustainability in an holistic sense and having one set of teachers doing the global (development, social justice, poverty, discrimination etc.) and another set focusing on the environmental (biodiversity, climate change, resource depletion, global warming etc.) – often in different rooms at different times – is not helpful to anyone.

Mind you, we've been saying this since the 1970s. 

## Notes

The Global Learning Programme (GLP)  
[glp.globaldimension.org.uk](http://glp.globaldimension.org.uk)

Scott W & Gough S (2003) Using the environment as a stimulus to learning: exploring categories of interest; *Environmental Communicator* 33(1) 8.

Scott W & Gough S (2013) Why are you an environmental educator? *Environmental Education*.

## Thoughts from an NAEF volunteer

Kashmir Flint *NAEE's social media creator*



Fresh faced and out of university with a degree in Wildlife Conservation a couple of years ago, I landed myself my first environmental job last year at a small nature


reserve in Kent: Monkton Nature Reserve. I was surprised, given the competitiveness of environmental jobs that I managed to find something within a close distance of my home and so quickly (after all I *only* got 26 rejection letters beforehand...). I got my environmental education job through my voluntary work at Dane Valley Woods, a small community woodland in Margate. After six years and an impressive 700+ hours, I finally got noticed by the right people.

Now I will always be honest and admit that I do not have a background in environmental education, or teaching, therefore it was important for me to keep up to date with environmental education news, and that's what attracted me to NAEF in the first place. Environmental education is our way of attracting the younger generations to the environment. As modern-day adults, nature does not always play a great role in our lives, and therefore it plays less of a role for each generation coming after us. Children are not playing outside as they used to, the Guardian has reported that three-quarters of children are spending less time outside than prison inmates, and that only one in ten children regularly plays outside, compared to five in ten just one generation ago. Therefore we need to make more of an effort to get them engaging with the outside world, which is why environmental education is so important. We are having to work harder to stimulate a connection and a love for the natural environment. Pond dipping is my favourite activity at Monkton Nature Reserve, because ponds have an extraordinary capacity to produce pure joy in children (and adults alike). There is nothing better than giving a child a net and watching the excitement spread as they catch damselfly larvae, baby newts and pond snails.

I am naturally a busy person, I currently have two jobs, including a weekend retail job, as well as three

voluntary jobs: woodland maintenance at Dane Valley Woods, animal care with RSPCA and social media creator with NAEF. When I have time to myself, I dedicate it to my five pet rats, or trying to hone my wildlife identification skills. I also live about ten metres from the beach, so I spend a good deal of time walking up and down the coastline.

NAEF is always up to date with its news and is a great place for environmental educators to go to for professional development. I volunteer with NAEF as a social media creator on Facebook, meaning I run the new Facebook page, posting NAEF news, updates and anything environmental education related. I probably don't need to point out the role that social media plays in our lives, therefore NAEF having a Facebook page is essential to keep our followers up to date with NAEF's work and environmental education as a whole.

In terms of what NAEF could do better, I think in the future, it could develop a database of all environmental education facilities by location, thus making it easier for time-stretched teachers to engage their children in outdoor learning. Similarly, NAEF could lead the way in environmental education by running short courses, specifically training adults to be environmental educators, with tips and tricks and networking opportunities. As far as I'm aware, nothing like this exists, so could have great potential. Regardless of these, NAEF does a fantastic job in promoting its aims across the country, inspiring teachers to teach outside and to embark on environmental learning experiences for their classes. 

### More information

[facebook.com/UKNAEE](https://facebook.com/UKNAEE)

## Join NAEF's Executive Committee

We always welcome new members of our Executive Committee, particularly teachers and environmental educators.

For more information, contact our Consultant National Coordinator:  
***info@naee.org.uk***



## Our natural inheritance

Findlay Wilde *Wildlife blogger*



Findlay Wilde is a young conservationist who is fascinated by all wildlife, but especially birds. He wants to do everything he can to protect nature now and in the future. Currently he is trying to raise awareness about hen harrier persecution in particular, but he is also trying hard to move the natural world higher up the political agenda.

*#Think500YearsAhead*

Here are two very simple facts to keep in mind throughout this article:

- The human race cannot survive without the natural world.
- The human race is responsible for devastating the environment/natural world.

It seems like madness when you see it written down like that, doesn't it? Why would anyone destroy something that they depend on? This isn't something that has happened overnight, though, this has been years in the making.

It seems like every generation is so eager to advance in terms of technology, infrastructure etc., but all this comes at a massive cost; and I am not talking financial. I am talking about the cost to the planet, our planet, our home. I am 15 years old and live in a technology driven generation, but I 100% believe we are on a journey to self-destruction if we don't change our path.


Politicians and those with the power to change things have a massive balancing act to do; they have to prioritise where time and money get spent, and sadly the environment and natural world always seem to be the areas pushed further down the list. Plans are made for a political term of five years in the UK, but what the natural world needs is long-term planning, long-term protection and, most importantly, to be at the heart of every decision made.

A huge problem is that people can choose to turn a blind eye to the full extent of the damage being done to our planet. We have to educate people so that they can make the right choices, and for me this education has to start at school. Imagine how brilliant it would be if environmental science/natural history was incorporated

into all subjects within the curriculum in both primary and secondary schools. It could connect the younger generation with the environment and make them realise why the environment should be protected. Of course it wouldn't inspire a passion within everyone, but it may well teach a respect for what many people take for granted.

It's not enough to think, "oh that's a shame," as another species disappears, never to be seen again. We should feel angry, we should feel disappointed with ourselves that we allowed it to happen. We all have a right to a natural inheritance, but the thing is, this right is being taken from us and from future generations. So if you want it, you are going to have to stand up and fight for it.

The question is, though, are you willing to do something, are you willing to fight? You don't have to do something huge of course, some of the biggest changes come about through all the small things done. For example, if you plant just one flower in your garden that helps to encourage a pollinator, you have done something positive. However, if you encourage your whole street to plant flowers for pollinators, you have started to build a natural corridor.

Something else you can do is to challenge things. Speak out about environmental issues, report wildlife crime, raise awareness through social media channels. If you feel strongly about something, then do something and encourage someone else to do something too. Be part of the big positive changes that can happen when all the small changes build together. 

### More information

[wildeaboutbirds.blogspot.co.uk](http://wildeaboutbirds.blogspot.co.uk)

## Spring visits to environmental centres in Birmingham

Compiled by Sue Fenoughty NAEE



NAEE's Kenrick Days project was set up in the autumn of 2012 thanks to the vision and benevolence of the late Hugh Kenrick, who had a great passion for birds and wildlife. During this 5-year period, over 60 schools in the Birmingham area have received bursaries, totalling more than £20,000, which have enabled over 3,000 children to take part in a day's hands-on activities at an environmental centre, which includes a dairy farm.

### **Nelson Mandela Primary School Year 1 Kenrick Day visit to Birmingham Wildlife Conservation Park, 17th May 2017**

*Ollie Kovacevic, Year 1 teacher*

This visit was valuable as we were able to enhance the learning from the following science topics covered in our Year 1 curriculum:

#### **Materials and their properties**

There were various natural and synthetic artefacts in both the teaching session at the centre and in the walk around the animal enclosures. The children had hands-on experience of using, observing and investigating the materials, leading to discussion which showed an excellent application of science knowledge in relation to materials. Words such as waterproof, opaque, transparent, hard, soft, natural, synthetic...were used scientifically by all pupils, allowing them the opportunity to share their level of learning and understanding. This presented a very useful assessment opportunity for staff.

#### **Light and Dark**

The children visited enclosures including ones which were in darkness. This provided us with an excellent opportunity for discussion and observation of the characteristics of nocturnal animals in comparison to diurnal variations. Children used the key scientific vocabulary and were able to give sound reason for their ideas. This demonstrated the children's ability to think reflectively and scientifically (evidence based thinking and ideas).

#### **Living things including humans**

By far the biggest related area of interest for the educational visit: there were a multitude of exceptional opportunities for the children to have hands-on experience of touching, holding and observing artefacts which included animal skeletons, skins and taxidermy

specimens. The discussion further enhanced their good knowledge of vocabulary relating to classification. The children demonstrated appropriate and scientific use of words including: mammal, fish, bird, amphibian, reptile, carnivore, herbivore, omnivore, vertebrates, invertebrates, insects, dinosaurs, extinction, conservation...The children had the opportunity for sorting and classifying according to a range of criteria, further deepening their previous learning.



*Julie, the centre teacher, showed the children some animal skulls*

#### **Plant life cycles**

A further essential part of the learning was related to 'healthy eating' when we visited the 'garden' where planting beds were filled with potatoes, carrots, rhubarb, beans and a wide range of vegetables. This linked directly back to our potato planting at school. There were also fruit-bearing trees and we discussed blossom, apples, pears, citrus fruit and the conditions needed for them to grow (e.g. Mediterranean fruit such as

pomegranate, lemon, lime, figs, dates: some linkage to religious foods for Ramadan). We saw a beehive and discussed pollination and the way in which this is related to the life cycle of plants. We were able to identify and use the relevant scientific language relating to trees, such as evergreen and deciduous varieties, recognising characteristics, common and familiar leaf shapes and even referred back to our work earlier in the year when the RSPB visited year 1 to teach them about the conservation of birds in our local environment (part of the Big Schools' Birdwatch initiative).

### **Jakeman Nursery School Kenrick Day visit to Martineau Gardens, 4th July 2017**

*Lucy Collinge-Hill, Nursery teacher*

On 4th July, Jakeman Nursery school took 12 children aged 2-4 years old and their parents/grandparents to visit Martineau Gardens. On arrival, we were welcomed by Juliette and Caroline, who would lead the activities, and split into two groups. In the morning one group went on a bug hunt in the woods and went pond dipping, while the other group looked around the gardens and learnt about the plants, trees, vegetables and herbs that were growing. Then at lunch time the children had a lovely play in the pirate ship and sand pit area and had a picnic. In the afternoon, the groups swapped over.



***Looking for minibeasts underneath logs in the wood***


The children really enjoyed it and it was wonderful to see them engrossed for a long time in looking for insects and creatures under the logs and sticks and in the pond. For some this helped them develop an interest that had not yet been observed at Nursery. It was also lovely to see the parents engaging with the children and, for some, hiding their fear of the insects. The parents and grandparents also really enjoyed being shown around

the grounds and hearing about the orchards and different plants and vegetables growing, as many are keen gardeners themselves.

I found that the sessions were really well planned for the age group, and both group leaders were very knowledgeable about the gardens and the wildlife and plants in them. Both leaders were very adaptable and tuned into the needs of the children, allowing the children plenty of time to explore when they were engrossed but also sensing when the children were ready to move on and play, and also finding extra appropriate resources such as toy insects to hide in the sand.



***The children found lots of minibeasts in the pond!***

It was a really wonderful day, enjoyed by children, parents, grandparents and staff, and the Gardens proved to be a hidden paradise! 

### **More information**

[naee.org.uk/apply-for-a-school-bursary](http://naee.org.uk/apply-for-a-school-bursary)



## Air: magic or the greatest of all war games?

David Fellows *NAEE Executive*

Studying weather has always been a favourite pastime of mine. It's something that humans can't control, only learn to live with. On retiring, I offered my services as a weather ambassador. At last a Cumbria school, Kingmoor Infants, applied. Doubts crept in when I discovered that it would be three classes of new entrants aged four and five. Fortunately some of my 'light bulb' ideas soon kicked in and I began to construct a magic show around air. I'd also got plenty of weather measuring 'toys' and the backup of three teachers and teaching assistants.

The afternoon opened with getting each child to blow on their own hands, demonstrating that we all have air and need it.

**AIR EXISTS.**

Next came some balloon activities, including blowing a balloon up and letting it zip wildly round the room, several times!

**AIR HAS FORCE.**

Thirdly, to show that not only does it move but that it takes up more space when it's warmed, we slipped a balloon on the top of a glass bottle in a large mixing bowl and poured hot water around it. The limp balloon popped up. The air had expanded.

**WARM AIR TAKES UP MORE SPACE.**

Next, some more magic. Using a full glass of coloured liquid (cold tea), I slid a piece of card across the top and slowly and carefully held the glass upside down. Amazingly, the air below kept the card in place!


**AIR PRESSES IN ALL DIRECTIONS.**

Finally, with equal care, I delicately balanced an old-style glass milk bottle on top of another one. One bottle had warm coloured water in it and the other had cold clear water. I slid out the card separating the two. When the coloured water was on top, it stayed there; when it was below, it steadily rose up and the liquids mixed. True, water was used rather than air but it demonstrated one more scientific fact:

**WARM AIR, AND WARM WATER, RISE.**

A little touch of magic for the young. If I'd been demonstrating to Y4, 5 or 6 I'd have used the title at the top.

Kingmoor Schools are on the northern edge of Carlisle, safely on higher ground but two weeks later many of the staff living south of the river Eden were cut off and some were flooded out of their homes by an even greater flood than the 'once in a lifetime' flood of 2005. Some own homes they will be unable to sell and may never wish to return to.

Appleby and some other towns were flooded three times in the month because the warm air from further south over the Atlantic Ocean was battling the cooler drier land air. Unusually the battle line was almost static from late October until the end of December. 



*Checking the home-made rain gauges*

# Lessons learned in Cornwall

**Tim Baker** *Headteacher, Charlton Manor School Greenwich, and NAEF Fellow*

### On the farm

Recently I organised a trip for 6 pupils to stay on a farm in Cornwall for 4 days. During this time, they practised and learned skills such as fire lighting, shelter building and raft building, and got insights into life on the farm. Also, we went to Padstow and Truro, where they were given various tasks as they explored these urban areas. It was an exciting few days. An unusual aspect of this trip was that each child had one of their parents with them. The idea was for parents and children to work together, get experiences and write creatively, developing their vocabulary so that they could express themselves more effectively. The parents were also able to support language development, as part of the task was for pupils to write creatively either a poem, diary entry, report or story about their day's experience, with support from their parent. These were then shared in the evening and discussed by the whole group. We also wanted parents and children to understand food growing on an agricultural scale.

The camp tasks were carried out in the morning and parents worked with their own child to support them. The parent group was made up of five fathers and one mother. They did not know each other before the trip but soon they were talking together and supporting occasionally each other's children. In the afternoon, they went off in family groups to complete the tasks in Padstow on the first day, and Truro on the second.

An interesting observation was that the discussions when completing the camp activities were not always about the task. Children would often talk about their relationships with peers at school or with certain members of staff, or their siblings. I felt that the children were testing their parents' reactions and feelings to certain situations by talking it through with them to gain approval or to be guided as to how they could or should react. Realising that this is an essential part of childhood development, I then thought about the limited opportunities that children get for this necessary experience during a typical day. Parents' and carers' lives have become very crowded and little time may be given to listen to children. In some homes, children can often feel isolated as parents may 'push' them away as

they have little time to get necessary things done. Socialising for parents is also a lot easier with social media and many parents may be busy 'talking' with friends on Facebook or some other platform. Add to this the TV, computers, tablets and phones that children use, and you're left with little or no meaningful adult interaction. Although meal times have traditionally been the place where children can get this necessary interaction, even sitting round a table talking has been lost to many families. This interaction is crucial for children as they need the guidance of their significant adults in order to understand their value and place in society.


### What about schools?

The worrying thing about school is that we believe children can get this sort of interaction there. However, when we look closely at this, there is little or no time in an already crowded day for this. In class I note that when children speak about subjects other than the lesson they are gently reminded to keep their mind on their work, and focus. We talk about how good it is to have male role models in primary schools, but again these 'role models' have very little time to model their beliefs, values, attitudes, etc. as they are usually focusing on the lessons.

Meaningful time spent with children comes when the children can choose a subject for discussion that's close to their hearts, or on their mind. These times happen during school trips, or when outdoors gardening or investigating. During such times, a much richer learning experience is possible because of the practical nature of what's being done, but they also provide opportunities to discuss other issues such as pupils being able to verbalise their concerns about the behaviour of an older sibling, a parent's behaviour, or how they behaved in a certain situation. It allows them to gain an understanding of a respected adult's opinion and whether they think what the pupil did was right, or if they could have dealt with it differently. These opinions expressed by the adults help the child develop their own core values and beliefs. It is only by creating these opportunities in school for some children that they are able to learn how to conduct themselves in a more appropriate way. Outdoor education allows this to happen while at the

same time creating a rich learning experience. For example, observing bees pollinating a flower, searching for different types of seed and their design in terms of dispersal outdoors, not only enables the child to understand in a wider way, but also provides those in between times where children can gain that 'guidance' from adults in a non-threatening, non-labelling way. By limiting these opportunities, not only do we remove rich learning experiences in terms of curriculum areas, we also take away the opportunities for children to gain that much needed sense of identity, inner guidance and confidence.

In many schools, we have children that, through emotional need, have mental health problems. What we do is give them time with counsellors. What is this?

It's meaningful time with an adult where the child can choose the subject of discussion and receive some guidance as to how they can better deal with issues they face. This is an indication of how different society has become. For some children, home presents no opportunity for them to talk and find guidance and identity. However, the way many schools focus so heavily on classroom teaching, in the mistaken belief that this is better than a practical approach, staying focused on the subject produces tired teachers who can't give time during breaks for a decent talk with their pupils, which is why we end up with children needing counselling. This needs to change for the future generations so that all pupils will see the possibility of a brighter future. Meanwhile, thank goodness for outdoor learning. 

## Curriculum | Geography

# The Geography Quality Mark: making an impact on teaching and learning


**Rebecca Kitchen** *Secondary Curriculum Leader, Geographical Association*

As Head of Geography at Aylesbury High School, I found this incredibly powerful: my geography department improvement plan was informed by the Quality Mark, and vice versa. It also enabled the whole department to be involved in and take ownership of improvement, which allowed us to move forward more effectively in developing teaching and learning.

The awarding of Quality Mark raises the profile of the geography department within the school and the local area. There were discussions with the Senior Leadership Team before, during and after submission, and celebration with staff and students following the award. The geography department used the Centre of Excellence logo on all of its teaching materials, which gave a strong identity and demonstrated pride in the quality geographical experience that had been created.

A specific aspect that was developed over the course of the three awards was renewed focus on fieldwork at Key Stage 3. In 2008, when the school first achieved the award, fieldwork was built into all year groups, moving from a local to a national focus. Year 7 visited Aylesbury town centre to investigate shopping patterns; Year 8 visited Coombe Hill, which is managed by the National Trust; and Year 9 visited the London Docklands, to discover how the area had changed over time.

By 2011, the focus of these field trips had become more cross-curricular whilst keeping geography at the heart. For example, at Coombe Hill, workshops were introduced on environmental poetry and species sampling which were run by the school's English and Biology departments respectively. The school's most recent submission, in 2014, developed fieldwork to give the students more independence. Year 7 were designing their own fieldwork, around the school site; Year 8 students were still engaged in cross-curricular workshops but they were more innovative and included missions from 'Mission:Explore' [a set of activities and challenges from the Geography Collective, since renamed as 'Explorer HQ']. It was the Year 9 field trip to London Docklands which had developed most, as the girls were given completely free rein to plan their own field trip; a risky scenario but one which was incredibly successful.

The Secondary Geography Quality Mark has certainly had a massive impact on me as a teacher, head of department – on teaching and learning in school and beyond – then as moderator and co-ordinator at the Geography Association. 

### More information

[geography.org.uk/cpdevents/qualitymarks](http://geography.org.uk/cpdevents/qualitymarks)





# Monkton Nature Reserve — ‘a hidden gem’

**Kashmir Flint** *Environmental Education Officer, Monkton Nature Reserve*

Monkton Nature Reserve is a 16-acre former chalk quarry based in Thanet, Kent, run by a small independent charity. Thanet is one of the most deprived areas in Kent with tree coverage on a similar level to Greater London, with around 80% less canopy cover than the UK average. Children have very little access to green spaces and even less to environmental education, therefore the reserve serves as a very important asset to the wider community. Our vision is to be a champion of environmental conservation and education in East Kent.

We are a small reserve with just three members of staff and I am the sole Environmental Education Officer; yet, last year we held over 35 education sessions with a range of groups, including schools, youth groups (Scouts, Beavers, Brownies), adult groups, and adults with learning difficulties. The severe lack of environmental education in the wider area means that we have attracted schools from up to 35 miles away!



*The newly-refurbished museum*

The reserve holds a variety of educational activities, from touching extinct dinosaur bones in our newly refurbished museum, to stroking real birds of prey belonging to our ‘Bird Man’ volunteer. Children can learn about the tiny creatures in a pond, and discover the mind-boggling size of the universe at the observatories. Walks are held around the quarry, and children can learn about the rich history of the reserve (which was first mined in 1799 and had the UK’s first artificial bat cave built in 1986), as well as identifying its diverse flora and fauna with several species of orchids and rare species such as turtle doves and great crested newts.



*Monkton Nature Reserve's bat cave*


Many schools are returning visitors, having visited for years beforehand and they have rated us highly on our educational activities.

One teacher said: “[the children] learned a great deal and were talking about their experiences on the way back to school very enthusiastically”. She asked one child what his favourite part of the day had been and he replied: “I loved every bit of it!”. Teachers have stated that they have been impressed with the quality of the experiences, the level of knowledge and passion of the staff and the activities overall, with each school saying that they would recommend the reserve to friends and family.

However, we believe that education should be inclusive and open to all, not just primary schools, and environmental education sessions are held with adults with learning difficulties, who visit each week. One group leader with a Kent County Council group from Walmer said: “all the adults benefit from just being at the reserve in terms of their interest in nature, their mobility and wellbeing”. Educational activities are held as often as possible, as well as sessions such as tree and bulb planting, bird watching and making bird boxes. When I went to talk to the group about their experiences at the reserve, they were busy reading books on butterflies and excited to tell me about new birds of prey or plants they had learnt about. The reserve acts as a safe, but also stimulating environment for them and “it makes [them] smile”, as they have developed genuine enjoyment of nature since coming here. We also have weekly

visits from individual adults with mental health issues, who have similarly said that the reserve makes them happy and improves their mental states. These adults are more physically capable and volunteer at the reserve, carrying out tasks such as habitat maintenance and growth clearance.

Monkton Nature Reserve believes that conservation and education are inextricably linked, and considering

the social and environmental deprivation in Thanet, this becomes even more important. Planning for the future, we are hoping to start conservation courses for adults on-site, with a special focus on local universities to train and inspire a new generation of conservationists. 

#### More information

[monkton-reserve.org/the-reserve](http://monkton-reserve.org/the-reserve)

## South East | Farm education

# Using farming activities to improve the wellbeing of young people and adults

Mary Sellers *FarmBuddies*



Social Farming, also known as Care Farming, is the practice of offering Family Farms and other similar farming holdings as a form of social service. Some farms can be a specialized treatment farm but more often they remain a typical working farm where people in need of support can benefit from participation in the farm's activities in a non-clinical environment. Visits are usually one day a week and participants do a variety of regular farm jobs under farmer supervision, including animal care, according to age, choice and ability.



**FarmBuddies**

FarmBuddies, a Social Enterprise established in 2008, arranges for accompanied individuals or small groups with individual needs, from ages 9-90, to visit farms in their local area in the South East.

Over 2000 funded Individual Day Places have been commissioned

through FarmBuddies by Local Authorities, charities, schools and parents.

For Daniel [name changed], a 19 year old with ASD (Autism Spectrum Disorder) who has a wide range of interests including love of the outdoors, what better way of adding to his wellbeing than spending time on a farm helping with the animals and being able to set up his easel and paint (another of his great loves) to his heart's content in a peaceful, natural and secure place.

FarmBuddies managed to find the perfect setting for Daniel on a 40-acre conservation project in East Sussex where the head steward successfully combines education, agriculture, conservation and ecotherapy to produce a stunning outdoor learning experience.

This farm stands out not just because of its ultra calm setting, lake and yurt but also because of the variety of rural activities and the community inclusiveness prioritised by the team involved.

The success of a programme of visits depends on the careful matching of the person and their particular interests and needs with the right farm; most farms are pre-visited by FarmBuddies. Considering the varied aspects of conditions such as autism and other related issues, or the potentially difficult legacy weighing on the family of an excluded school child, it often comes as a surprise how low-tech farming can produce so many changes in a person, which delight all involved.

Research documents abound in relation to these multi-beneficial outcomes from time spent in nature and in doing meaningful work in the natural environment, with animal care being near the top of the list most times. Dr Rachel Bragg and her colleagues at Essex University can be congratulated on collating some compelling findings (see notes at the end for the latest publications) over the last ten years to disarm even the most hardened sceptic.






**Artist in residence!**

Daniel's Mum is very sure it's just what he needed: *"Daniel loves Farm Buddies! It has been brilliant for his self-esteem, concentration levels and general enjoyment of the great outdoors. He has been put to work on a number of tasks — from planting trees, to building fences and dams, to feeding livestock and clearing overgrown areas. Each task has been meaningful, and Pete the facilitator has shown a real passion in his explanation and education around 'farm procedures and the natural world'. He is also very in tune with the children who have accompanied our son and never demanded too much — and yet has pushed them to achieve and stick at a task. He tailors each task to the individual's need and is extremely kind and supportive. He also has a great sense of fun! We always leave the sessions tired but very happy — with rosy cheeks and a real sense of wellbeing at having connected to and communed with nature. And with greater understanding of how a land project is run and how the changing seasons bring about new challenges. I thoroughly recommend it."*



**"Pudding, anybody?" Feeding the pigs**

Successful farm placements need the enthusiasm of the family/carer of the participant and the generosity of the farmers involved taking time to share their land and what's happening on it. Changing priorities are making it clear that these precious spaces should be more accessible, as it is a win-win situation for all parties involved. 



**Young people feeding a lamb**

## Notes

Care Farming in the UK & Ireland: Annual Survey 2016/17. (Accessible from [carefarminguk.org](http://carefarminguk.org))

Natural England Commissioned report NECR194: Expanding delivery of Care farming services to health and social care commissioners. [ow.ly/tl8l30gk8Ve](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/618130/NECR194.pdf)

## More information

Contact Mary or Stephen Sellers 01420 538793 or [mary@farmbuddies.org.uk](mailto:mary@farmbuddies.org.uk)

[farmbuddies.org.uk](http://farmbuddies.org.uk); Twitter: @farmbuddies

## Write for *Environmental Education journal*

We welcome articles, book reviews and website suggestions from NAEE members, supporters and readers. We are especially interested in case studies — environmental education, outdoor classrooms, forest schools etc. — from early years, primary or secondary schools and colleges.

Articles may occasionally be reprinted either on their own or with other articles in NAEE publications or on the website.

For more information, please contact [henricus.p@yahoo.com](mailto:henricus.p@yahoo.com).



## Reconnecting people to nature: from crèche to career

**Louise Matschke** *Education & Training Manager, Cape Town Environmental Education Trust (CTEET)*

The metropolitan city of Cape Town, in South Africa, is known for its two UNESCO World Heritage Sites: Table Mountain and Robben Island; the only two sites in the world that are in view of each other. It is probably less known for its third and largest heritage site, the Cape Floristic Region, which is one of the most richly diverse floral areas in the world, with over 70% of its 9000 floral species occurring nowhere else on the planet.

People living in and visiting this unique city are blessed with outdoor opportunities in the mountains or the many beaches on the Atlantic seaboard, as well as a mosaic of nature reserves scattered around the city. Despite all the natural beauty and outdoor areas, there is a noted increase in the disconnection with the natural environment amongst the urbanised youth.



*Interns in the field researching and compiling plant lists*

This disconnection and the problems that arise from it are referred to as 'Nature Deficit Disorder' (NDD), a term coined by Richard Louv (2005) in his book *Last Child in the Woods*. Some of the causes of NDD are the increased use of electronics leading to inactivity in children, decreased time spent on unstructured, creative outdoor play and restricted access to outdoor spaces.

There are many consequences of NDD, from physical and emotional ailments to destructive behaviours towards others and the natural environment. In South Africa, over 50% of the youth live in poverty, with children in Cape Town's informal settlements experiencing eight or more traumatic incidents per year related to poverty, substance abuse and violence; relative to the

five events in a lifetime experienced by their western counterparts.

So, what is the solution? According to Richard Louv, a good dose of 'Vitamin N' (nature) is the answer; in other words, to reconnect with nature. The Cape Town Environmental Education Trust (CTEET) seeks to reconnect the youth of Cape Town with the natural environment at various stages of their development, in what we call the 'Crèche-to-Career' model constituting our three main focus areas:

- 1) environmental education
- 2) training and development
- 3) the Nature Care Fund

CTEET provides safe and easy access to the natural environment and opportunities to reconnect with the fauna and flora by providing a variety of immersive outdoor experiences for young people. Through this reconnection, not only does a love for the natural environment develop, but Environmental Champions are created.

CTEET was established in 2001 to provide environmental education outdoor camps but on realising that our reach was limited, we expanded and our programmes now include:

- **Day programmes:** offering programmes for children from as young as four years old but also addressing the need to run curriculum-linked programmes to



*Getting over fears!  
Learning to love snakes*

support their formal school education. This also includes doing outreach programmes at the schools, assisting with environmental topics within the curriculum and celebrations of environmental days e.g. Harbour Day or the International Day of Biodiversity.

- **Overnight camps:** offered at three sites across Cape Town, these programmes are tailor-made for the groups but focus heavily on reconnecting children with nature and helping them to develop a passion for and understanding of the natural environment. We also align these programmes, when required, to the national curriculum as well as having strong teamwork elements. The camps enable the children to get close to nature and sometimes we get feedback that makes us realise exactly how the experience can impact on a person:

*"Thank you that I could experience nature with you. I learned new things. I really learned a lot about plants and animals and enjoyed being with you. Where I live when you come outside you smell copper wire burning and you see people being shot. It is peaceful and quiet here and it's not like this at home"* (Grade 10 learner)



**Taking action: the EE camp programme includes a small rehabilitation project at Rondevlei Nature Reserve**

- **Eco-Schools programme:** CTEET supports over 50 schools on the International Eco-Schools programme, assisting with lesson plan development, whole-school environmental planning, the implementation of environmental projects and the development of eco-clubs. Many of our Eco-Schools are based in low income communities.
- **Conservation Leadership Programme:** This programme was born out of a desire to have a prolonged impact on youth who are passionate about the natural environment and who would like to play a role in effecting change in their homes and communities. Children are brought onto the programme

when in Grade 6 (11-12 years of age) and through regular interactions are nurtured over the remaining 7 years of their schooling career. This 'nurturing' is achieved through a variety of interventions such as community action, hiking and camping in wilderness areas and camping trips to conservation areas throughout South Africa. The intention is to mould a select group of young people who will be more environmentally conscious. This, coupled with career guidance and knowledge sharing, will help us grow the conservation leaders of the future. Our first intake of youth is currently in Grade 10, and they are taking an active role in mentoring the newest recruits on the programme. One of the participants, Rivaldo de Stories, was a quiet young boy when he joined us in 2013 but he is now confidently writing and performing rap songs with environmental content and taking a stand against bullying that has affected him for years.

*"CLP made me a better person and leader. It taught me how to appreciate and love nature and also other people."* (Rivaldo de Stories)

The next step in the process is where we engage with out-of-school youth who are unemployed and considered to be at risk. Since 2007, CTEET has provided skills development and training programmes that have enabled participants to gain a year of workplace experience as well as receive formal training in nature conservation and environmental management. This holistic approach has been hugely successful with 88% of participants completing the programmes and an astounding 86% finding post-programme employment.

*"CTEET made a huge impact on my life. CTEET gave me a second chance at life, they believed in me."* (Kashiefa Anthony)

Despite not completing her schooling, Kashiefa successfully completed two training programmes and is now permanently employed in nature conservation with the municipality.

*"It was a great stepping stone. Just what I needed to guide me in my journey as a conservationist"* (Thurlo Marco)

Having joined us straight after High school, Thurlo successfully completed two training years with us and is now employed on a CTEET conservation project and is mentoring the newest participants of the training programme.

There are many success stories from the work we have done but there is one person's story that we would like to share.

Melvin Booysen was born and raised in Cassablanca, a low income suburb in Cape Town. His first contact with CTEET was an overnight camp with us after which he became the president of the school's eco-club, at one of the Eco-Schools supported by CTEET. On completion of his schooling, Melvin joined our Nature Conservation training programme, going on to complete his Environmental Management programme in year two. Melvin is now permanently employed by one of CTEET's partners. This is what he has to say of the experience:

*"This training changed my life because all the experience helped me to get a permanent job. They [CTEET] gave me the opportunity and I took it open handed and I am still studying hard to go where I want to be. I see myself as a manager – or higher than a manager – one day.*

*I am really glad that I am doing Nature Conservation and also to give back to the community doing Environmental Education with our future generations where we can change their minds, so that they can help with nature conservation."*




**Melvin Booysen connecting with one of the inhabitants of his site, Harmony Flats Nature Reserve**

The Nature Care Fund supports conservation activities in Cape Town and is the final piece in the Crèche-to-Career model. The fund is structured to invest and disburse monies from private individuals, corporate companies, friends groups and other bodies towards

nature conservation projects and works to uphold the Cape Town Biodiversity Network — a network of conservation areas focusing on the conservation of biodiversity and ecological processes and maintenance of ecosystem functioning. Since the inception of the Nature Care Fund in 2007, over 30 projects have been run, directing R35million to conservation, conserving 400ha of endangered vegetation, protecting 75 threatened species and providing jobs for over 240 people.



**Coming off the fire-line: fantastic fire-fighting experience for our learners and interns**

CTEET continues to conserve Cape Town's endemic and endangered fauna and flora whilst reconnecting the city's youth to nature, in essence – Changing Lives Through Nature. 

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## More information

[louisem@cteet.co.za](mailto:louisem@cteet.co.za)

[cteet.co.za](http://cteet.co.za) [changinglivesthroughnature.co.za](http://changinglivesthroughnature.co.za)



POWERED BY





## Shanghai, model of sustainability?

Henricus Peters *NAEE e-journal Editor and teacher*

Sustainability, the key concept interwoven with this year's 2016-17 UN Year of Sustainable Tourism, is seen in many facets of daily life. Since the United States stepped aside from its role as a world leader regarding the environment, via its withdrawal from the Paris agreement and UNESCO, China is now arguably stepping up to be one of the front-runners of countries that are at least trying to 'live within its means' and leading by word and example. Two examples, amongst many, are illustrated here.



**Shanghai Tower** is the second tallest tower in the world — and my 4-and-a-half year old son William is thrilled to be close enough to connect to this amazing construction! Whilst the tower is sleek and beautiful, its design features are actually extremely eco-friendly. For example, the 'sleek design' was specifically designed to enable wind to travel around and past it; the inner shell houses a multitude of green spaces, so people who are in its offices, shops and hotels are actually benefiting from the **natural**, clean, green air produced by the many trees. The whole construction is, quite

literally, a 'city within a city', shifted to the upright rather than lying horizontal. Why is this important? As China and the world grows, we need to consider ways to solve traditional problems in increasingly unconventional ways.



**Shared bikes** are everywhere in Shanghai. The concept of 'scan to unlock, ride anywhere, set down, lock, go about your business' is booming. This has its good points, as well as its problems. On the positive side, more people making use of shared bikes means fewer pollution-generating cars on the road, and cycling is good for health and exercise! I am a cyclist with my own bike, and it's certainly pleasant to see Chinese and foreigners out and about on two wheels, some of them children. However, safety is always on my mind, as cars still dominate and cycle lanes are only 'so-so'. The downsides are a few, unfortunately. The shared bikes sector is, or has been, unregulated, there's been little 'policing' of them, until very recently, as they are run by private companies. There are now upwards of a dozen such operators, with two major players. The sheer numbers of these bikes parked on the footpaths actually creates big problems — to the extent that I need to walk....you guessed it....on the road, to get past them! 🚲

## Interactive community and school-based programme: the locally threatened Dead Sea Sparrow

**Mervat Batarseh** *Head of Environmental Education Section, Royal Society for the Conservation of Nature, Amman, Jordan*

Talking about birds is always an interesting issue for both students and elders. As a professional in the field of environmental education. I have been monitoring and evaluating the programs we conduct with our students in Jordan, and I will never ever forget one of the most amazing evaluation sessions I have conducted for one of our educational programs. School students have told me that *“it’s our first time to realize that birds are different from each other”*. Others said that *“we have never thought those birds have these different elements before we engaged in the program”*.



*Illustration of the Dead Sea Sparrow (Passer moabiticus)*

The Dead Sea Sparrow is a restricted-range species and becoming a flagship species for the conservation program in the Suweimeh Important Bird Area (IBA).

### Suweimeh

Suweimeh is considered of particular importance for breeding birds and as a stop-over site for migrant passerines. It is part of an Important Bird Area (IBA, RSCN 2000), designated according to the criteria of BirdLife international. It hosts a large number of breeding birds such as the Spur-winged Plover, Namaqua Dove, and the restricted distribution of the Dead Sea Sparrow. The area is suffering from a general deterioration of water sources.

One of the distinguished sites in the area is the northern shores of the Dead Sea harbor. The area used to be dense with Tamarix trees: essential habitat for the Dead Sea Sparrow.

In relation to social economic conditions, Suweimeh has a high poverty rate, with low levels of education.

### Teachers’ and students’ involvement in the program

We have started with awareness sessions covering the importance of the Suweimeh area, and the Dead Sea Sparrow and its habitat in the Tamarix forest. We have involved the students in several activities, such as cleaning up the place, which suffers from the accumulated solid waste by the picnickers that affect the appearance of the tourism area. They have also participated in activities planting native trees.

We have distributed awareness brochures about the project, about the Dead Sea Sparrow and the threats against it, and the suggested solutions that contribute to protect it. We have also run eco-games sessions as an interactive method to achieve learning outcomes.



*Students playing one of the eco-games*

### Teachers’ capacity building program

We conducted a teacher training program covering the different components of the educational program in relation to the Dead Sea Sparrow. The teachers then transferred their knowledge to the students through interactive methods including experiential learning focusing on the use of eco-games, which we have developed specifically for this project.



We have also discussed with the teachers several ways to use the games according to the level of the students' knowledge and in an interactive way taking into consideration the curricula and the learning objectives. We have received positive feedback from the teachers for using the eco-games to transfer knowledge and enhance the attitudes and behaviors towards the environment as they keep the students engaged and motivated in the learning process.

The games were developed to increase the level of knowledge, and change attitudes towards the biodiversity of the Suweimeh area, as well as encouraging students to follow environmental practices, and solutions to protect the habitat of the Dead Sea Sparrow.




**Teachers trying out the eco-games: magnetic birds game (at the back) and the Dead Sea Sparrow puzzle**

Topics of the training program covered the following: Suweimeh Eco-park and its environmental importance; the ecosystem and the biodiversity in Suweimeh; the birds and their importance, and the biodiversity of birds in Suweimeh; local and migratory birds; IBAs; the ecosystem services; threats to the environment and suggested solutions; and the current status of the Dead Sea Sparrow.

### **The students' session**

Students of all ages were involved in different educational activities about the Dead Sea Sparrow and its habitat.

Several games were developed to introduce the most important issues for discussion with the students. These games covered the habitat of the Dead Sea Sparrow, the problems and the solutions that could contribute to the conservation efforts. The games also covered the biodiversity of the area including the different birds available and their status, migratory

birds and species adaptation to the ecosystem, as well as the water problem which works against sustainable behaviours. 



**Students playing the eco-games: species footprints game (top) and adapted snakes and ladders**

### **Acknowledgment**

We would like to thank the Hima Fund Small Grant for the financial support to develop and implement the program.

### **References**

"Toward a viable Population of the locally Threatened Dead Sea Sparrow; *Passer moabiticus* in Suweimeh Eco-park; Jordan" project, Mervat Batarseh, RSCN, 2016

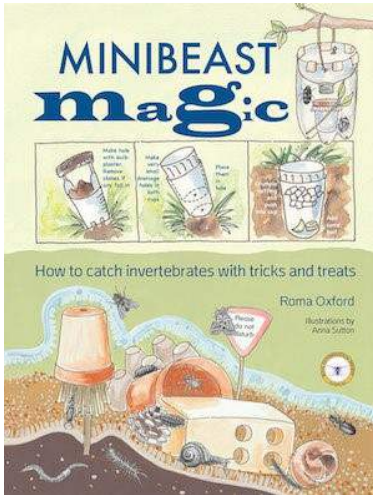
Socio Economic Survey at Sweimeh Site Northern Of Dead Sea, "Toward a viable Population of the locally Threatened Dead Sea Sparrow; *Passer moabiticus* in Suweimeh Eco-park , Omar A. Abed, RSCN, 2016.

Toward a viable Population of the locally Threatened Dead Sea Sparrow; *Passer moabiticus*, in Suweimeh Eco-park; Jordan, Project Proposal, RSCN, 2016



## Minibeast Magic: how to catch invertebrates with tricks and treats

Roma Oxford, illustrations Anna Sutton



Children love minibeasts – and so do I! As an environmental education teacher, I spend a lot of time rummaging around in leaf litter, lifting up old logs and sweeping about in ponds. While pond dipping is not covered in this book, there are loads of ideas for attracting, catching and observing land invertebrates.

It shows that you don't need expensive equipment, as all of the ideas in this book use household objects or rubbish items that would otherwise be thrown away. I even learnt some tips and techniques myself! It is clear that the ideas in this book have been tried and tested, and the involvement with the Royal Entomological Society (and also the Field Studies Council) lends an additional air of authority to the book.

The first section gives 'top tips from an expert' which are useful to consider and discuss before going on a minibeast/invertebrate hunt – dress appropriately for the outdoors, walk and work quietly, clear up after yourself etc. – and lots of notes about caring for the animals that you find. (With young children, I often summarise this as having 'sharp eyes and kind hands'.) There follows a short introduction to the main types of invertebrates, which contains some complex vocabulary (e.g. cephalothorax) in contrast to some of the other pages, but there is a simpler 'Who's Who?' guide at the back, and a glossary.

The book goes on to outline equipment for catching invertebrates – starting with "eyes, ears and fingers" and going on to making spy pots, sweep nets and pooters. To be honest, I'm not really a fan of 'pooting' – equipment is awkward to keep clean and hygienic, especially if they are being used by different children every day – but there are two relatively simple sets of instructions for making a pooter, followed by a page of handy "points on pooting" (e.g. suck up gently rather than "blasting with breath", don't collect ants, as the

formic acid they produce will taste nasty). I would suggest that children make their own pooters that they can keep and use themselves.

The second section is all about making humane traps for different kinds of invertebrates. Innovative ideas that caught my eye included: hanging out old clothes and material to provide warm, dry shelters (I always find earwigs hiding in folds when I leave washing out overnight!); the "thigma trap", which is essentially a bunch of hollow stems tied together that can be dismantled after a few weeks to view the occupants; an earwig shelter; and "moth punch".

The final section – "The Zoo Zone" – focuses on longer-term study of particular invertebrates (snails, spiders, earwigs, worms, caterpillars, ladybirds, woodlice), including a great idea for making a mini nature reserve in a plastic plant propagator.

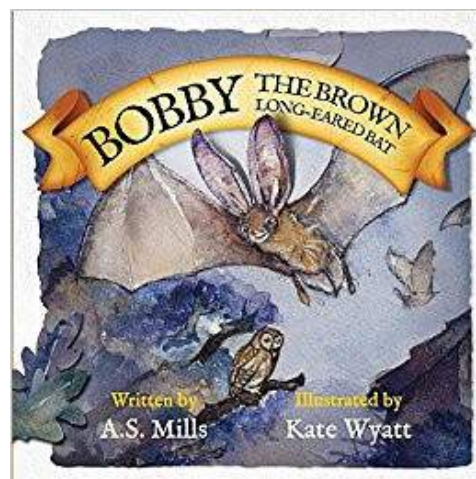
I would suggest that the activities should be carried out in small, supervised groups, as there is potential for easy squashing or suffocation of the invertebrates, as well as some safety issues for children. The layout is engaging, with captions and speech bubbles accompanying the clear, colourful illustrations. A super book for use by teachers and pupils in their school grounds, by families in the garden at home, or by environmental educators in outdoor settings (perhaps with a few practical adaptations).

Juliette Green

**Minibeast Magic.** Roma Oxford, illustrated by Anna Sutton (2015). Royal Entomological Society. Paperback, pp61. ISBN 978-1-910159-00-2. £15.00. Available from [royensoc.co.uk](http://royensoc.co.uk)

## Bobby the Brown long-eared bat

A.S. Mills, illustrations Kate Wyatt



This beautifully illustrated story book gives an insight into the life and habits of one of the UK's 18 bat species – the Brown long-eared bat.

It begins with a foreword by Chris Packham, who explains in simple terms the importance of bats and the threats that they face. He also mentions a very important point—that it is ‘effectiveness’, rather than ‘cuteness’, which is the reason for size of these bats’ massive ears.

The story follows Bobby from his birth in the attic of the old farmhouse on midsummer’s day, to his first tentative (and not entirely successful) attempts at flight, to his adventures hunting outside with his mum.

Within the story, young readers are introduced to facts about bats, for example: bats sleep upside down, baby bats are called pups, they live in communal groups in a maternity roost, they forage for insects outside. These facts, and more, are then explained in a section at the back of the book: “*A few Brown long-eared bat facts—courtesy of the Bat Conservation Trust*”.

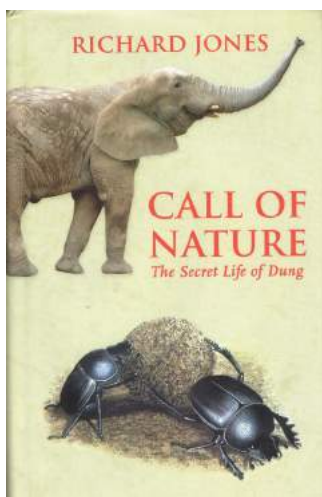
All in all, this is an engaging and informative story book about a little-known and often misunderstood type of mammal.

#### Juliette Green

***Bobby the Brown long-eared bat* (2016). A.S. Mills, Paperback, pp28. ISBN 978-0-9954777-0-4. Available from the Bat Conservation Trust, bats.org.uk**

## Call of Nature: the secret life of dung

Richard Jones



I was fortunate, back in the late 1990s, to visit the East African savannah and witness some of the most amazing wildlife there. With wildlife comes life and death – and with the life comes ‘poo’... but, now that I come to think of it, I was *not* ‘wading through the brown stuff’!

So, yes... why isn't the world covered in an immensely

thick layer of poo? With billions of creatures on Planet Earth spending their lives eating and producing dung, what happens to it all? Acclaimed entomologist Richard Jones answers this and other questions in this brilliant book.

*Call Of Nature* is a “journey through the digestive systems of humans, farm and wild animals, to meet some of nature’s ultimate recyclers as they eat, breed in and

*compete for dung. The fall of bodily waste onto the ground is the start of a race against the clock as a multitude of dung-feeders and scavengers consume this rich food source.”*

Far from being a boring or even dirty/repellent subject, once I’d begun reading and looking at accompanying videos on YouTube, I found myself ever-intrigued and wanting to know more about this fascinating, yet so easily-missed, range of beetles. Did you know, for example, that a dung beetle can bury dung 250 times heavier than itself in one night?

Dung beetles play a remarkable role in agriculture. By burying and consuming dung, they improve nutrient recycling and soil structure. They also protect livestock, such as cattle, by removing the dung which, if left, could provide an easy home for flies and other pests. Some countries, especially in the developing world, have actually introduced beetles for the benefit of animal husbandry.

Call Of Nature is nicely illustrated and well structured.

The book covers three topics of dung. The first third is historical which explains all things dung, from its usage in the world to how it's made in your body. The second part is an in-depth look at the dung beetles — the masters of the dung world. The third part is very detailed information of dungs and dung harvesters, with descriptions and pictures. There are some very clear ID guides but all are in black and white — and all aimed at the mature reader / upper primary and secondary student, not a ‘kids book’. The tone is mostly quite high-brow, though I did laugh aloud every so often at Jones’s expert descriptions of the ‘pooey’ subject matter — nothing here is off limits!

In the age of our search for looking after our planet – and for the earth’s top recyclers – you need to look no further! *Call Of Nature* is not just a ‘bodily waste’ book, but a resource that’s calling you to learn more about nature/ourselves.

#### Henricus Peters

***Call of Nature—the secret life of dung. Richard Jones (2017). Pelagic Publishing, pelagicpublishing.com. Hardback, pp292. ISBN 978-1784271053. £16.99.***

NAEE members are invited to become part of the team who review books, especially latest releases.

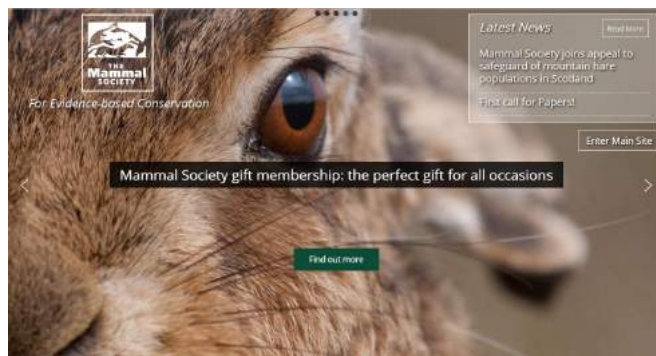
Contact [info@naee.org.uk](mailto:info@naee.org.uk)

## Compiled by Henricus Peters Editor

This edition the focus is on top children's and recent stormy weather.

### UPDATES

**The Mammal Society** has really cleaned up its website – now really visual and much easier to use.



[mammal.org.uk](http://mammal.org.uk)

**The Natural History Museum** has revamped its entrance hall. Pride of place is 'Hope' a blue whale, part of a new 'evolution' themed gallery to highlight the natural world and especially humans' place in it! Alongside this is a brand new exhibition – until February – all about whales.

[nhm.ac.uk](http://nhm.ac.uk)

### SOME TOP SITES FOR CHILDREN

**Barnaby Bear** first appeared in a unit of work entitled 'Where in the world is Barnaby Bear?' in 'Geography: A scheme of work for key stages 1 and 2'. This was written to help teachers prepare interesting materials in response to the geography national curriculum objective: 'develop children's knowledge of places and environments throughout the world'.



According to the website: *"Young children love Barnaby, and his appearance in unfamiliar places and environments helps children to relate to them. Seeing their own Barnaby in the classroom, and then seeing pictures of his adventures in faraway places helps children bridge the gap between the immediate, familiar environment and abstract, unfamiliar environments. Barnaby also enables practical first-hand experience — the best way to cover the early years requirement to encourage exploration, observation, problem solving, prediction, thinking and discussion."*

Barnaby recently had these exciting adventures: visiting Spain to learn about its language and culture; Ontario, Canada; Sheffield in England (home of the Geographical Association); Tanzania in east Africa. New resources include Wild Waterways and a transition unit from Reception to KS1.

[barnabybear.co.uk](http://barnabybear.co.uk)

**Brain POP** covers science, maths, arts, engineering – and more besides, this is a GREAT factual resource with mainly videos of exceptional quality. A favourite of my son William – who is 'science-mad'! The only downside is that payment is required to get to the best content, but schools usually subscribe.

[brainpop.com](http://brainpop.com)

**National Geographic Kids UK** helps children to discover animals, science, history, geography. As you'd expect, a very clean visual site with lots of resource goodies. For example: 'raining rhymes' (poems about the water cycle), and primary resources about World War I. Free, but you need to log on.

[natgeokids.com/uk](http://natgeokids.com/uk)

**Science Kids** covers topics such as food chains, animals, plants and recycling, with videos, facts, experiments and quizzes.

[sciencekids.co.nz](http://sciencekids.co.nz)

### WILDLIFE SURVEYS / CITIZEN SCIENCE

**Bioblitz.** The Bristol Natural History Consortium is a major leader in biological surveys.



[bnhc.org.uk/bioblitz](http://bnhc.org.uk/bioblitz)



The Natural History Museum has produced a downloadable guide to running a BioBlitz.

[nhm.ac.uk/content/dam/nhmwww/take-part/citizenscience/bioblitz-guide.pdf](http://nhm.ac.uk/content/dam/nhmwww/take-part/citizenscience/bioblitz-guide.pdf)

The National Trust runs similar surveys on its own properties, which are naturally extensive.

[nationaltrust.org.uk/features/interactive-coastal-wildlife-surveys](http://nationaltrust.org.uk/features/interactive-coastal-wildlife-surveys)

Have seen your first butterfly or swallow of the season? Is it a good year for autumn fruits? This website invites you to help scientists to monitor the effects of climate change on wildlife.

[naturescalendar.woodlandtrust.org.uk](http://naturescalendar.woodlandtrust.org.uk)

The Mammal Society undertakes a whole 'raft' of surveys of many of the UK's mammal species.

[mammal.org.uk/science-research/surveys](http://mammal.org.uk/science-research/surveys)

## CLIMATE AND WEATHER

With the daily discussions of climate change, this website is a good one for world and British weather and climate.

[bbc.com/weather](http://bbc.com/weather)

**What is the difference between a hurricane and a typhoon?**



According to this website: *"nothing except geography. Tropical storms occur in several of the world's oceans, and except for their names, they are essentially the same type of storm. In the Atlantic Ocean, Gulf of Mexico, and the Eastern Pacific Ocean, they are called hurricanes. In the Western Pacific Ocean, they are called typhoons. In the Indian Ocean, the Bay of Bengal, and Australia, these types of storms are called cyclones."*

[weatherwizkids.com/weather-hurricane.htm](http://weatherwizkids.com/weather-hurricane.htm)

## CHILDREN AND THE COUNTRYSIDE



Children and young people are becoming more disconnected than ever from the countryside and where their food comes from. FACE works with partners to turn that around.

[face-online.org.uk](http://face-online.org.uk)

FACE carried out a survey, inviting individuals with a vested interest in food, farming and the countryside to describe their ideal 'curriculum' for schools – a 'wishlist' for the next generation.

Supposing that anything were possible (and a great deal is, given the breadth of subjects and teaching that takes place in our schools), the survey wanted to know what the farming and food production community believed were the critical knowledge, experiences and skills for each young person to acquire, given the need for: Improved connectedness with nature; consumers who can make informed choices; greater empathy between the public and UK farming; motivated and skilled entrants to careers in food and farming.

It recognises that curriculum is a broad term, not necessarily applying to one or more National Curriculum specifications, but encompassing the totality of what children learn in their time at school. Sitting in the nexus between agriculture and education, Farming and Countryside Education has led or participated in research to identify such things as \*Children's actual knowledge or experiences relating to food, farming and the countryside \*Mapping curriculum frameworks (e.g. GCSE specifications) to food and farming \*Identifying gaps in support for teachers and resources for teaching \*Labour market, careers and talent supply and demand \*Teachers' awareness, motivation and ability, in respect of teaching about/through farming and the countryside.

[face-online.org.uk/documents/a-curriculum-for-food-farming-and-the-countryside.pdf](http://face-online.org.uk/documents/a-curriculum-for-food-farming-and-the-countryside.pdf)

Note that Farming and Countryside Education merged with LEAF at the end of June 2017.

[leafuk.org](http://leafuk.org)

**Countryside Classroom** is a partnership that helps teachers and schools' leaders access great content, relevant training and tailored advice so that they are able to create powerful learning experiences about food and farming, in both the classroom and the countryside.

[countrysideclassroom.org.uk/partners/farming-and-countryside-education-face/resources](http://countrysideclassroom.org.uk/partners/farming-and-countryside-education-face/resources)

## NAEE on social media

NAEE latest news: [naee.org.uk](http://naee.org.uk)

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NAEE Facebook: [www.facebook.com/NAEEUK](http://www.facebook.com/NAEEUK)