

# Connecting Schools to Nature in North-East England

## Project report 2023



## Green Recovery Challenge Fund



Department  
for Environment  
Food & Rural Affairs

Heritage  
Fund



Environment  
Agency

NATURAL  
ENGLAND

# Project overview

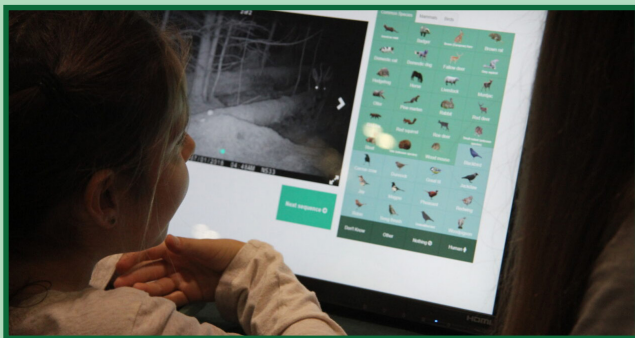
The 'Connecting schools to nature in North-East England' project engaged with 72 schools and 65 environmental educator volunteers across the North-East, to help inspire both teachers and pupils to engage with the natural world while transforming their school grounds into wildlife-friendly havens. We actively engaged with over 5,000 pupils, through a combination of outdoor workshops, teacher training events, and the delivery of our digital platform "BES Encounters". Furthermore, over 10,000 pupils benefited from the project through green transformations of their school grounds. There are lasting resources and plans to ensure the legacy of the project continues into our future work.

## Meet the partners

The project was delivered as a partnership between the British Ecological Society, MammalWeb and Smash\_UK.

### ***The British Ecological Society:***

We were established in 1913 and we have been fostering the science of ecology ever since. We have 6,000 members around the world and bring people together across regional, national, and global scales to advance ecological science. Membership is open to anyone, anywhere. Our vision is for nature and people to thrive in a world inspired by ecology.



### ***Smash\_UK:***

Smash\_UK is a research, production, and consulting organisation that works in exploring new modes and methods for public engagement, co-design and collaborative creativity with communities underserved by STEM and Arts informal education and underrepresented in STEM and Arts education and careers.

### ***MammalWeb:***

MammalWeb was set up in collaboration between Durham University and Durham Wildlife Trust, and is run by MammalWeb Limited. MammalWeb is a "citizen science" platform intended to collate, validate and curate camera trap data that can inform us about the distribution and ecology of mammals.



This project was funded by the Government's Green Recovery Challenge Fund.

## Project modules

Our project activities focused around three key modules of mammals, invertebrates and birds with each module taking place over one school term.

### **Module 1 | Mammals**

At the start of the project, schools participated in a 'mammal challenge week', using different equipment and resources to learn about the mammals living in and around their school grounds. During class workshops, pupils set up camera traps and footprint tunnels to test their skills in identification. Schools also started their journey towards improving their local habitat, carrying out group litter picking exercises, and learning about the ways litter is harmful to wildlife. The mammals module also introduced teachers and pupils to citizen science, through the submission of camera trap findings to the MammalWeb project allowing pupils to contribute directly towards species data collection.



### **Module 2 | Invertebrates**

During module 2, pupils spent time hunting for invertebrates equipped with sweep nets, beating sheets, magnifiers, and insect pots. Through these activities, pupils learnt about how even the smallest animals can have an important role in the wider ecosystem. Pupils also planted their own pollinator-friendly plants and were encouraged to think about how this could benefit local insects and the wider environment. This module also saw schools design their 'ideal green school', with both teachers and pupils submitting their designs and sharing these with the wider community.



### **Module 3 | Birds**

In module 3, each school was supplied with a bird house, bird feeding station, ID guides and binoculars. Assisted by our team of project volunteers, pupils took part in birdwatching sessions and making their own bird feeders. This module also saw the launch and delivery of our Green Transformations funding bid, where schools applied for up to £400 to help turn their 'ideal green school' designs into a reality. This allowed schools to achieve a variety of their goals, from installing ponds and planting wildflower meadows, to purchasing waterproof clothing and outdoor classroom equipment.



# Green transformations

Our project aimed to improve school grounds to generate benefits for nature itself, and the pupils and teachers who spend time in these spaces. Transformations were achieved through a variety of mechanisms, including giving equipment and resources to schools, working with pupils and teachers to create their own transformation plans, and providing funding for each school to spend on equipment and other resources.

## Equipment provided

Each module was launched with the provision of a selection of outdoor equipment including camera traps, litter pickers, invertebrate surveying equipment, bird boxes and footprint tunnels.

***“The equipment has been amazing to use and has enhanced our daily teaching.”***

***“The generosity of the project has really made a difference to our school in terms of the equipment we now have - thank you.”***



## Laurel Avenue green transformation day

With thanks to additional funding from the County Durham Foundation and Banks Community Fund, we were able to hold a 'Green Transformation Day' at Laurel Avenue Primary School. Pupils from Reception to Year 6 were involved with the day, as well as teachers, wider school staff, volunteers, and project partners, all participating in a range of nature activities. With the help of the children, over 100 native trees were planted to create a new woodland area in the school and a new sensory garden area was made.



## Green transformation competition

Through teacher training sessions and co-design efforts throughout, our partner schools took the time to design their ideal green school. In module 2, both teachers and pupils submitted their designs which were then entered into a prize draw and shared with the wider community via a digital exhibition. The overall winning design, which included a nature area for wildlife and wind turbines to generate energy, was awarded to a pupil from Cassop Primary School in Durham.

See pupil entries in our virtual gallery on the [BES website](#)



## Funding for transforming school grounds

Following on from the green school grounds competition, we launched an open call for Green Transformation funding bids. Teachers could apply for funding for equipment and items to make their school grounds more environmentally friendly. The most popular requests were for bespoke planters, children's gardening tools, and wildflower seeds. Other requests included materials and labour for a pond dipping platform, outdoor nature boards, insect hotels, binoculars, landscaping and rotavator hire, outdoor seating and classroom materials, items for a mini pond, wormeries, and welly boot racks.

***“One of our key curriculum drivers is that children learn to live healthy lives. As part of this we want children to connect to nature and outdoor learning to improve their well-being, promote science and ecology learning and help them develop a love and passion for the natural world. Waterproof clothing will help our KS1 children access the outdoors.”***

***Sarah Bell, Kirk Merrington Primary School***

***“This will provide an inviting space for the children to be calm and relaxed in and connect them with nature. It will support gardening club and outdoor learning across the curriculum. The space will provide many benefits to help improve behaviour and provide a place to relax.”***

***Deb Dixon, The Beacon Centre Primary***

***“Not all children's' homes have gardens so we want to create a rich sensory environment in our courtyard for children and staff. We also want to inspire our children in terms of future careers, opportunities, and provide links to our Eco-team and sustainability projects.”***

***Jacqui Kevan, Brighton Avenue Primary***



# Benefits for pupils

Throughout the project, we aimed to connect people with nature and increase knowledge of local wildlife. This was achieved through a combination of all aspects of the project, including pupil workshops, the Encounters platform, participating in citizen science and green transformations. We measured connection to nature and knowledge of UK species, as well as perceptions of ecology and well-being through questionnaires completed before and after the project.

## Pupils' connection to nature

In surveys completed before and after the project pupils completed the Cheng and Monroe connection to nature scale. Taking an average of answers on the scale gives an overall score of between one (least connected) and five (most connected).

### Average scores

Pre-project  $n = 123$

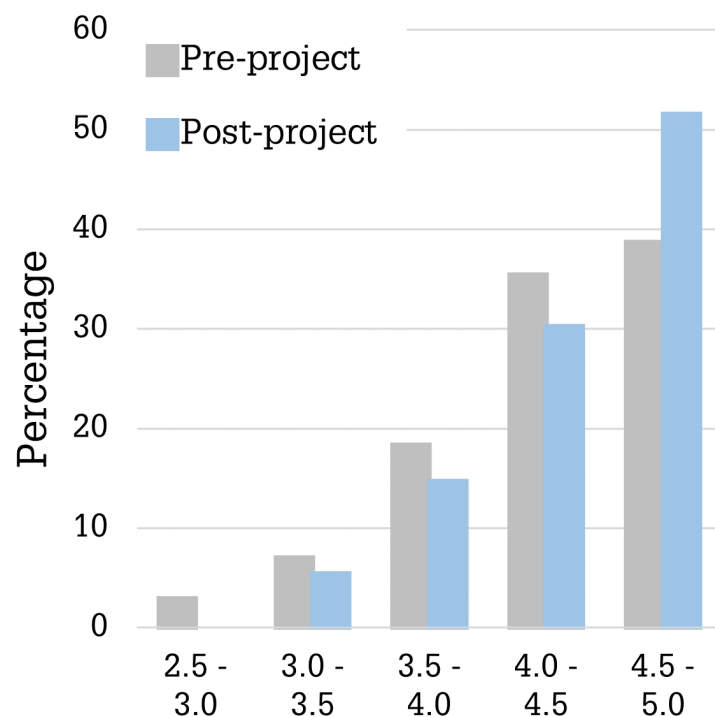
**4.29**

Post-project  $n = 141$

**4.41**

$t(262) = -1.99, p = 0.047$

### Distribution of scores



***“This has changed the way our children look after our environment, children regularly ask for the litter pickers and to look after our hedgehogs daily. They are excited to learn and to know more about the natural world. One child said ‘I told my Mam and Dad all about what littering does and now they said they will put things in the bin.’”***

***“[The project has] given the children the chance to explore their local environment because they don’t always appreciate what is around them and why it is important to care for it.”***



# Pupils' knowledge of UK species

In surveys completed before and after each module, pupils were asked to identify 10 UK species from photographs. Species shown were a mix of rare and common and native and non-native species.

## Average scores

### Mammals

Pre-module n = 160

**6.91**

Post-module n = 136

**7.85**

t(369) = -8.81, p = < 0.001

### Invertebrates

Pre-module n = 243

**5.33**

Post-module n = 181

**7.05**

t(294) = -5.26, p = < 0.001

### Birds

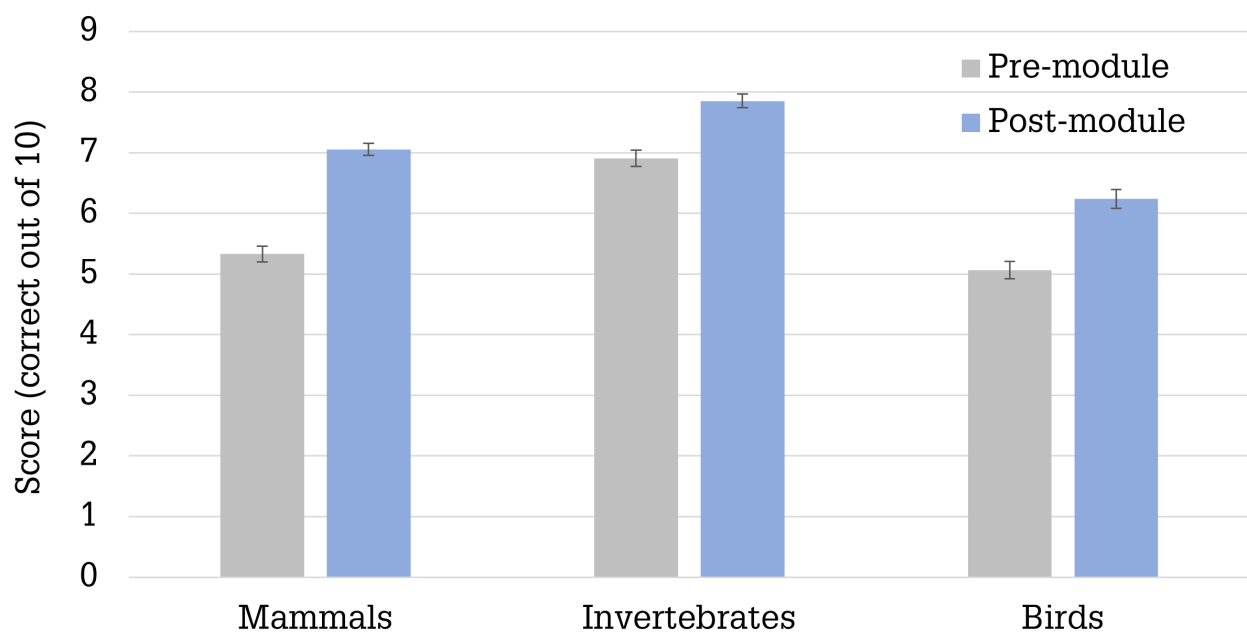
Pre-module n = 225

**5.06**

Post-module n = 190

**6.24**

t(413) = -5.49, p = < 0.001



Error bars represent +/- standard

***“Children have a better understanding of wildlife. Some of my children (Y3) did not know that foxes lived in this country until spotted on the camera trap.”***

***“They have become more aware of the wildlife that is around them, particularly within our urban environment- the misconception they had about wildlife being in the ‘countryside only’ has diminished, which is excellent!”***



## Pupils' perception of ecology

In surveys completed before and after the project we asked pupils: "What does the word 'Ecology' mean to you?"

**Of the answers given pre-project:**

34% were "Don't know"

26% included the word "Nothing"

21% mentioned "Nature" or "Environment"

**Of the answers given post-project:**

8% were "Don't know"

0% included the word "Nothing"

55% mentioned "Nature" or "Environment"

***"The children had no idea what the ecology meant and now understand it. They had preconceived ideas of what a scientist was and said that both Sammy and Alexa don't look like scientists, they looked like normal people."***

**Teacher at Barnard Grove Primary**

## Benefits for teachers

Our project aimed to engage with both pupils and school teachers. By inspiring teachers to engage with ecology and nature, and by giving them the skills and confidence to do so, we hope we've created a lasting legacy where teachers continue to seek out opportunities for their school to connect with nature.

### Teachers' connection to nature

In surveys completed before and after the project we asked teachers: "On a scale of 1-10 (with 10 being the highest), how connected to nature would you say you are?"

#### **Average scores**

*Pre-project n = 58*

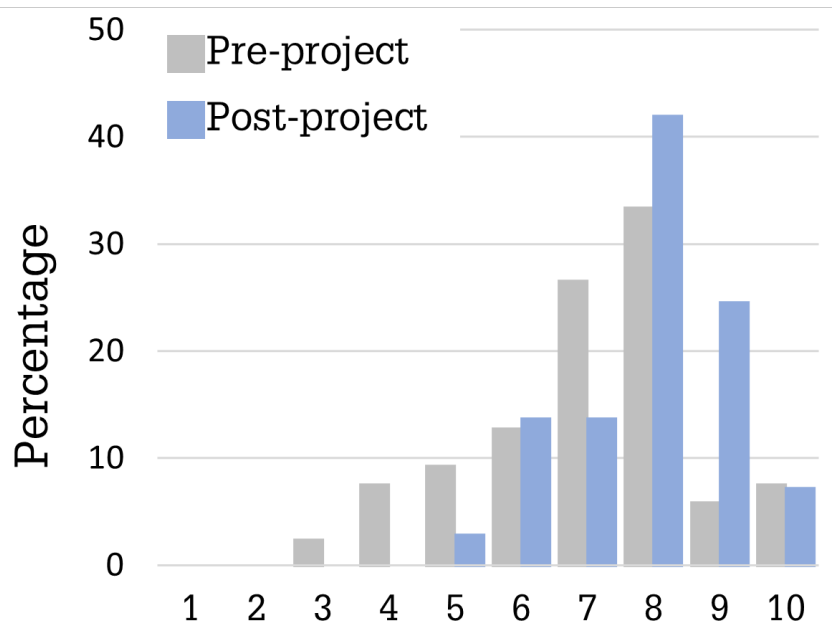
**7.07**

*Post-project n = 46*

**7.91**

$t(102) = 3.00, p = 0.003$

#### **Distribution of scores**





## Teachers' knowledge of UK species

In surveys completed before and after the project we asked teachers: "On a scale of 1-10 (with 10 being the highest), how good would you say your knowledge of UK nature and wildlife is?"

### Average scores

Pre-project n = 58

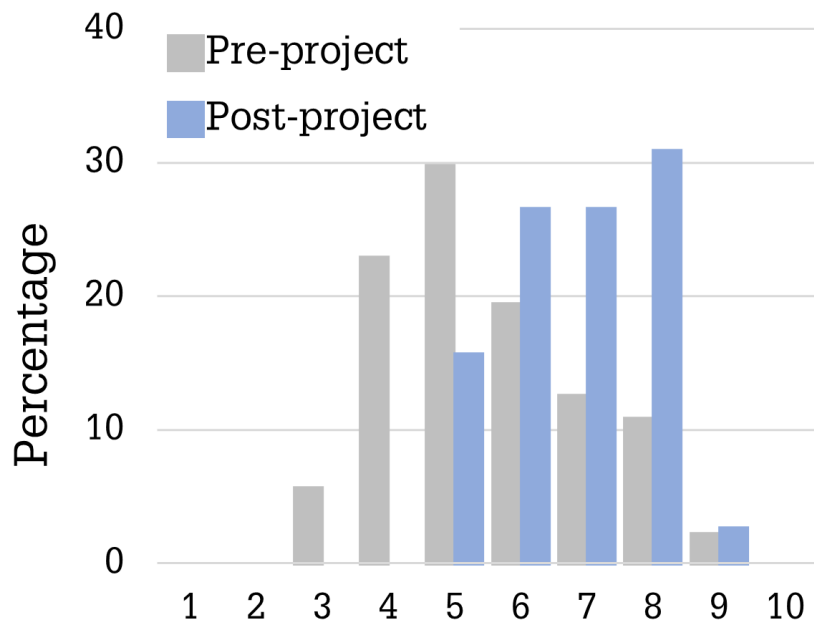
**5.48**

Post-project n = 46

**6.78**

$t(102) = 5.01, p = <0.001$

### Distribution of scores

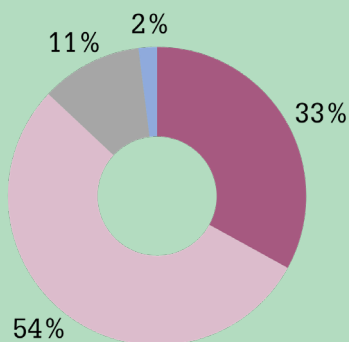


## Teachers' skills and confidence

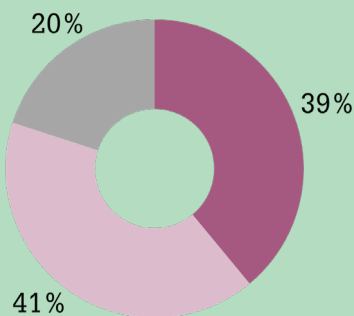
In surveys completed after the project we asked teachers how much they agreed or disagreed with a range of statements on skills, knowledge and confidence gained during the project.

### "I have increased my confidence in..."

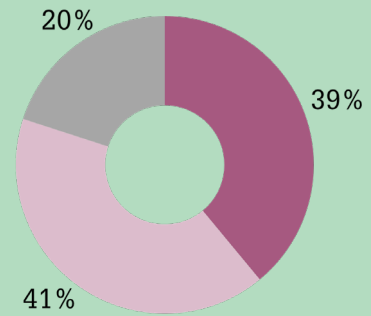
#### ... teaching ecology"



#### ... teaching about environmental careers"



#### ... transforming school grounds for wildlife"



- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

**"Very useful training. Lots of practical ideas to carry out with the whole age group. Appreciated opportunity to talk with others and share experiences. Thank you!"**

**"Teachers don't need to try and find resources for nature related activities as we now have many which helps with teaching."**

# Well-being benefits

There is increased evidence of the well-being benefits that come from being connected to nature. Through connecting teachers and pupils with nature, our project aimed to improve well-being for participants. We asked teachers to reflect on the well-being benefits of the project for themselves and pupils in post-project questionnaires.

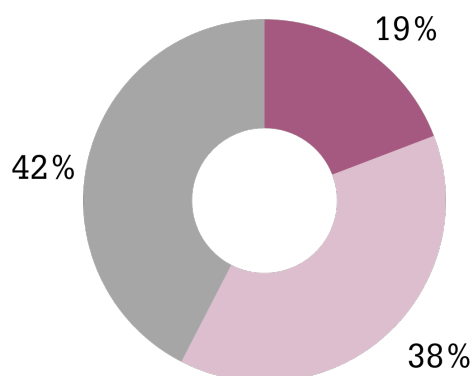
## Teacher and pupil well-being

In surveys completed before and after the project we asked teachers how much they agreed or disagreed with statements about their own and their pupil's well-being.

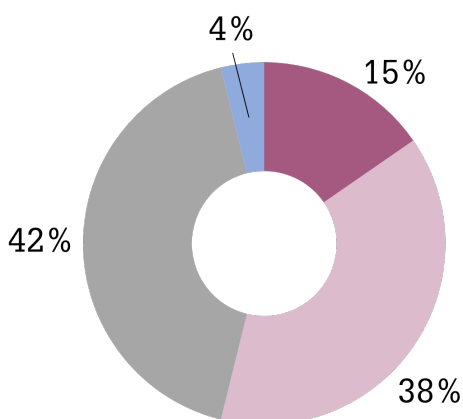
n = 27



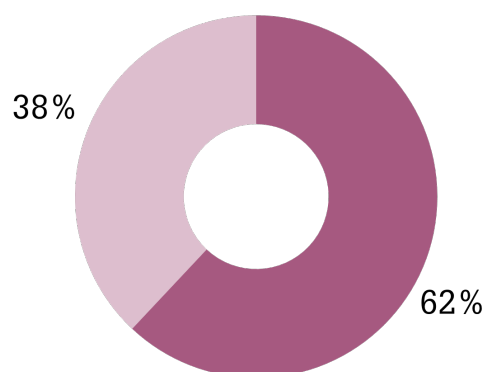
***"I enjoy my day-to-day teaching more"***



***"My well-being has improved"***



***"My pupils' well-being has improved"***



***"General awareness of our environment and how it links to our wellbeing has improved. Generally becoming a more pleasant place to be, seeing the interest in the change of seasons, children independently being aware of their part in maintaining and developing a healthy ecosystem."***

***Teacher at Montalbo Nursery and Primary School***

***"This has inspired my class to form a Eco/gardening club and one boy in particular has been able to get really involved with his knowledge and enjoyment of gardening and the outdoors. As he has home life problems, this has given him some focus for his energy."***

***Teacher at Amble First School***

# Volunteer case studies

Volunteers took part in a diverse training programme, which included both online and in-person sessions. On top of the training program, the project offered opportunities to visit primary schools delivering pupil workshops and to design online resources for schools to use. Through a combination of all of the project elements, volunteers have gained skills, knowledge and confidence that they can take forward in their future careers.

## Will Sheel



Being a volunteer with BES's 'Connecting Schools to Nature' project has been an eye-opening experience. The idea is to introduce young children to concepts in ecology by getting people with some background in ecology – environmental educators – to deliver creative, interactive and engaging assemblies. The breadth of training opportunities provided by BES to help environmental educators design outreach materials has been really valuable. As well as online sessions, I attended an in-person training afternoon at the Great Northern Museum in Newcastle. We were shown real-life activities that had been previously rolled out at science events.

**I found the enthusiasm shown by BES staff for outreach infectious and the afternoon inspired me to consider searching for career options in science education.**



I gave an assembly over Zoom which meant the children could see me but I could not see them. This both removed any source of nerves watching for yawns and emphasised the goal of speaking to all of them equally, inspiring indiscriminately. I was able to talk about my experiences in diverse scientific fields, from my lab coat days of hospital laboratories to strapping on my wellies to study flatulent baby seals. We were able to interact, with them shouting answers and relaying questions through the teacher and by the time the session was up I could feel tiny hands still straining towards the ceiling.

## Mateo Lewis



**There is nothing more rewarding than conquering your fear and turning it into something truly positive, truly valuable. I've gotten much more out of volunteering than I've put in, it's given me that which defines ecology itself- connection.**

# Encounters platform

The Encounters platform was co-designed with teachers and educators over the course of the project. The aim of the platform was to stimulate on-going engagement with the project, by offering a resource for teachers to run their own nature-based activities independently, alongside our main programme of activities. Different versions of the platform were created at different points in the project, before the final version, which is open for any school to sign up to, was released in March 2023. Over the course of the project, teachers logged a range of different nature activities.



## 134 Transformer Tasks

Including: Planting trees and wildflowers, building hedgehog homes and bug hotels, installing bird nest boxes and feeders

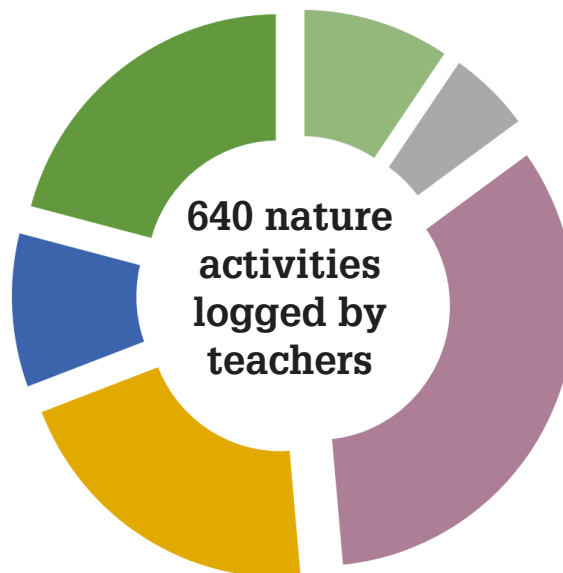
## 61 Activist Tasks

Including: Creating eco-groups in schools, making species conservation posters and setting up gardening clubs in school



## 63 Sharer Tasks

Including: Uploading lesson plans to resource hub and sharing other work with wider community.



**640 nature activities logged by teachers**

## 35 Creative Tasks

Including: Creating paintings, drawings and artworks of species found, writing poems and writing nature stories.



## 132 Naturalist Tasks

Including: Completing a range of online species quizzes for various taxa and at various difficulty levels.

## 215 Researcher Tasks

Including: Uploading and classifying camera trap footage, contributing to citizen science projects and doing bug hunts and bird watches



**Encounters is free for any school to sign up!**  
**Head to:**

[www.mammalweb.org/en/bes-encounters](http://www.mammalweb.org/en/bes-encounters)



# Project legacy

The project's legacy was considered since the outset of the project. The BES continues to work on disseminating the project's resources, including the new Encounters platform, through existing networks, with plans in place for further expansion. Aspects of the project's legacy are included within the British Ecological Society's strategic plan, ensuring that learnings and resources from the project will be carried forward into all aspects of the BES education program.

## Celebration event

An end-of-project event was held at the Hancock Museum in Newcastle to celebrate the efforts of everyone involved in the project. The guest list included volunteers, teachers, pupils, funders, project partners, other BES staff, and other interested parties. Over 80 people attended, bringing everyone together for the first time under one roof.

Six stalls were run by schools that had been involved in the project, highlighting all the green transformation work the pupils had been up to. The stalls gave the guests a chance to see the real differences the project had made to the schools and the invaluable contributions of our volunteers.



## Regional champion schools

To expand our reach we have implemented a regional champions legacy project, recruiting 15 schools from across the country to act as 'regional champions' for their area. By expanding our geographical reach of schools we can start to develop contacts and networks of schools in other regions, allowing more schools to benefit from the project's resources. The regional champion schools have received equipment bundles similar to the equipment provided to schools through the original project. This equipment - which includes a camera trap, bird nest boxes, equipment for insect surveys and more - has helped schools to start their own nature projects. Schools have also received training in how to use the Encounters platform to help them engage long-term with the project. Schools can interact with other schools via the community page on Encounters.

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