

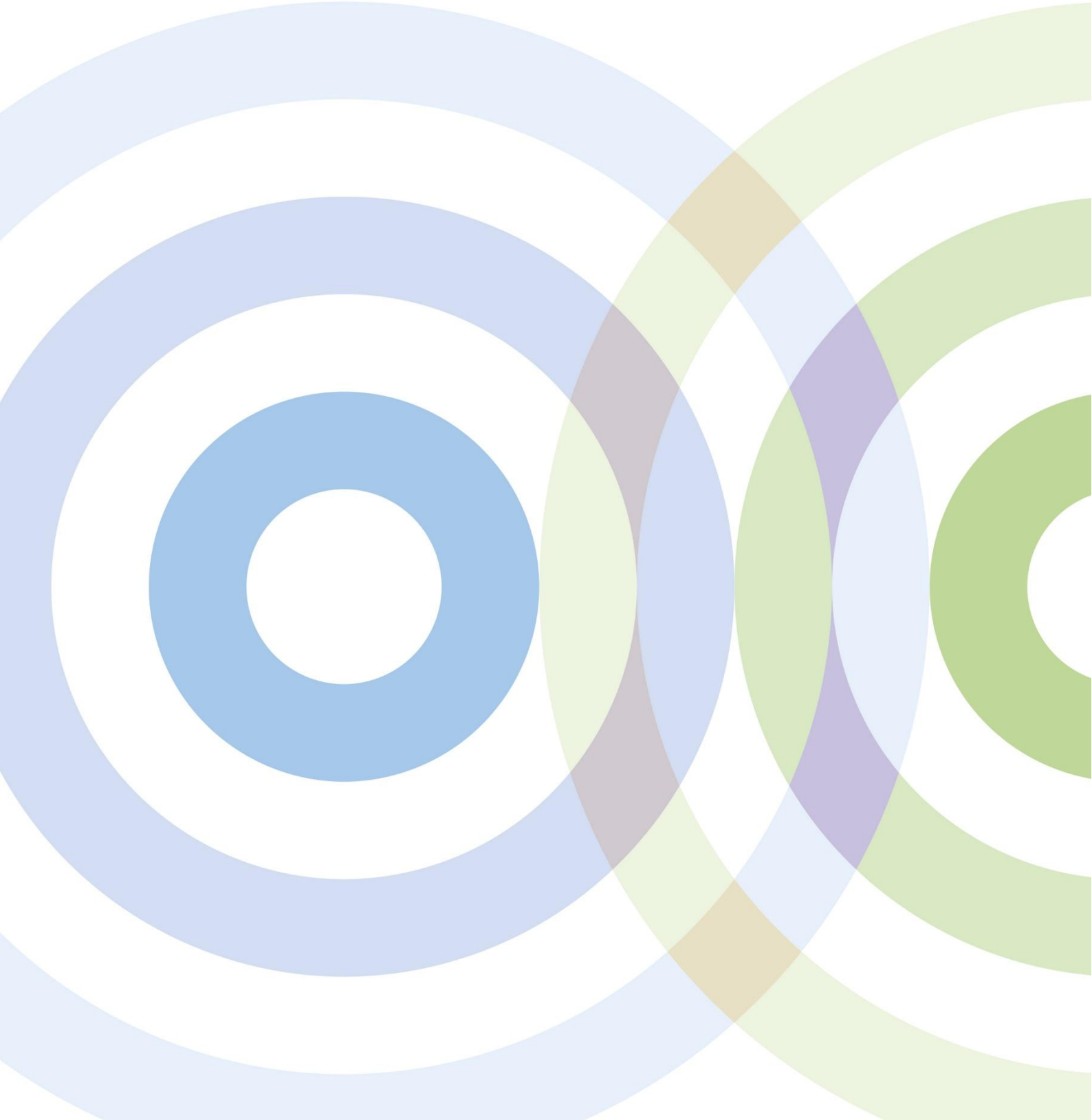


Ondata Research

Next Gen Earth Evaluation Report

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About the Authors

Laura Thomas and Charlotte Thorley both have significant experience supporting organisations such as science centres, museums, learned societies, charities and universities in gaining an in-depth understanding of the impact of their programmes. Charlotte and Laura have direct experience of working with researchers and community groups on outreach and public engagement and as part of university public engagement senior leadership. They have first-hand experience of running funding schemes as well as applying for outreach funding, particularly within the physical sciences. As consultants they have had ongoing experience with school outreach and public engagement as both practitioners and evaluators. In addition



to this, they are experienced social sciences researchers: Charlotte holds an EdD from the Institute of Education where her research was concerned with the attitudes of physics researchers to outreach and Laura is a part-time Doctoral Student and Research Fellow at the University of Stirling with her thesis focussing on the professional learning experiences of physics teachers and other work being undertaken in relation to Climate Change Education and curriculum making.



1. Introduction

Project aims and summary of activities

The Next Gen Earth project has been funded by the Natural Environment Research Council and was an opportunity for nine ASDC member organisations to work with underrepresented young people with the goal of reaching those 7 to 16 years old, along with some older groups, to engage them with environmental science, research and careers.

The project vision was:

To enable the next generation of environmental advocates through creative youth-led engagement with NERC science, research and innovation, championing regional diversity by elevating youth voices across the UK.

The project mission was:

To co-create inclusive, youth-led programmes that connect young people with environmental science and inspire action and ownership. Leveraging the place-based network of science and discovery centres and museums to amplify diverse regional perspectives and to understand the barriers that prevent young people from accessing and engaging with NERC science, research and innovation.

This evaluation report explores the impact of the project for the young people, the delivery partners and their contributing partners, which included researchers, community partners and industry professionals. There is a focus on the following two areas of interest for the evaluation:

1. Identifying and understanding the barriers that prevent young people from different and diverse regions in the UK (particularly those from historically underrepresented backgrounds in environmental sciences) considering a future career in NERC research and innovation.
2. Exploring what works to support agency and ownership in environmental sciences, promoting relevance and belonging through place-based engagements, and to broaden horizons and open up views of future possible selves in the field for a broad range of backgrounds and geographic locations.

The evaluation methodology was a mixed methods study, combining qualitative and quantitative data, however the majority of the data collection focussed on qualitative approaches. The purpose of this was to provide insights into issues being explored as part of this programme and this is especially important when considering a place-based approach where local context varied across the delivery partners. A broad range of evidence has been collected for this report and is detailed in Appendix A.



There were nine delivery partners working with participants between July 2025 and March 2026. A short summary of each project is available below. More detailed case studies are available in Appendix C of this report and in ASDC's project report.

The delivery partners worked with staff and young people from the following organisations: ACE Cardiff, Gosford Hill School, Home Education Wales, Kew Youth Forum and Youth Council, Methodist Church Circuit, Multi-Cultural Family Base (Edinburgh), Old Colwyn Youth Group, Oxford University Museum of Natural History Youth Forum, Reaching Wider, SPACE Youth Services (Bideford, Barnstable), Wales Youth Parliament, Young People Cornwall, Youth Voice (National Space Centre STEM group) and Ysgol y Moelwyn schools. Significant contributions were made by these organisations to the success of the projects.

Contributions were also made by those in research and industry, including from: Art Bunny, Bangor University (School of Ocean sciences), Cardiff University, More Than Minutes, National Oceanography Centre, Seiche, University of Oxford and University of South Wales. Technquest secured the contributions of the following organisations to their project event: Bute Energy, Cardiff University, Green GEN Energy, Seagrass Project, Size of Wales, University of South Wales, Welsh Water and Wild Science Project.

Centre for Alternative Technology (CAT)

CAT worked with an existing partner, Reaching Wider, to engage young people in Years 8 and 9 (aged 12 to 14) from two schools with a climate change project. They worked with the young people on exploring environmental sciences, looking at the impact of climate change on their communities and aimed to ensure young people had agency and felt they could make an impact. The final session was a trip to the School of Ocean Sciences at Bangor University.

Dynamic Earth

Dynamic Earth worked with young people (aged 7 to 14) to explore Earth and environmental sciences across a number of sessions and responded to the interests of the young people. They worked with an existing community partner, Multi-Cultural Family Base, who work with a wide range of communities in Edinburgh and aim to help “children and adults find shared experiences, belonging, and community”¹. The young people took part in experiments and discussions and had the opportunity to meet a researcher.

Exeter Science Centre

This was a new programme of activity for Exeter Science Centre with an existing community partner. Staff visited two youth centres over a number of weeks and worked with the young

¹ <https://scottishrefugeecouncil.org.uk/places/multi-cultural-family-base-mcfb/>



people (aged 12 to 14) to identify the ways in which they connected to their local environment. These interests resulted in the young people taking part in a range of activities and culminated in two field trips to local places the young people connected with. A number of contributions were made to the activities and field trips by local researchers.

Kew Gardens

Kew Gardens have an established youth council (ages 14 to 25) who collaborate with them on developing and delivering a range of events. Two key events were the focus of the Next Gen Earth project and these were a Model COP and an all-day event focussing on topics relating to plants and fungi with connections to related careers. The youth council took an active role not only in planning the events but also on the days themselves which were aimed at their peers.

National Space Centre

The National Space Centre established a new group of young people (aged 7 to 13) called Youth Voice. The focus of activity for the group was the creation of a new community garden. The National Space Centre worked with a number of different researchers and partners to support the young people in developing their ideas and bringing them to life. These activities culminated in a launch event in February 2026 when the garden was officially opened.

Oxford University Museum of Natural History (OUMNH)

There were two phases to the project undertaken by Oxford University Museum of Natural History. The first phase was a development programme for eight 'Youth Advocates' where they worked with researchers on a number of environmental sciences topics. The Youth Advocates then designed and delivered four sessions for a group of 'Youth Investigators'.

Techniquet

Techniquet engaged with three different groups as part of this programme: ACE Cardiff who work with young people (aged 7 to 11) from areas of deprivation in Cardiff, Home Education Wales who work with underserved children (aged 7 to 11) and the Welsh Youth Parliament who engage young people aged 11 to 18 from across Wales. Each group had their own set of activities but with common themes linked to environmental sciences. All groups worked towards the final celebration event which was held at Techniquet and linked to COP30. The young people presented talks and posters about the areas they had explored as part of the programme. A number of different organisations exhibited at the event and engaged in discussion with the young people.



The Eden Project

The Eden Project worked with young people (aged 13 to 16) who are part of The House St Austell, a nearby youth centre. Through a mixture of activities at Eden, at the youth centre and in the community, the young people explored a range of topics related to environmental sciences and the work being done at The Eden Project. The young people worked together to produce a film bringing together their experiences on the project and their own interests.



Xplore!

Xplore! worked with a recently formed youth group (ages 10 to 14), which is part of the Methodist Circuit. Based in Old Colwyn the group met in a community space. Over a number of weeks the young people shared their interests and explored a range of environmental science topics via discussions and experiments. They worked together to produce podcasts and other outputs to share their interests.



Project engagement

Across the nine programmes of activity there were over **three thousand seven hundred interaction hours**. Table 1 below summarises the metrics relating to the activities delivered.

	Totals
Participant interactions	1276
Interaction hours	3709

Table 1. Participant metrics

We have referred to participant interactions in the above table as many of these were repeat interactions rather than a number of different individuals. Table 2 below indicates the maximum cohort sizes that the different delivery partners worked with and their age ranges.

Delivery partner	Max cohort size	Age range
Centre for Alternative Technology	19	12 to 14
Dynamic Earth	12	7 to 14
Exeter Science Centre	15	12 to 14
Kew Gardens	32	14 to 25
National Space Centre	15	8 to 14
OUMNH – Advocates	8	16 to 19
OUMNH - Investigators	16	13 to 16
Technquest	13	7 to 17
The Eden Project	4	13 to 16
Xplore!	7	10 to 14
Total	141	

Table 2. Cohort size and age range by delivery partner

In addition to working repeatedly with these groups, three delivery partners ran events and the numbers attending these are in Table 3.

Delivery partner	Event size
Kew Gardens	107
National Space Centre	46
Technquest	171
Total	324

Table 3. Event attendance

The programme of activities undertaken by the delivery partners included a number of engagements with their groups.



The following tables show the number of activities undertaken and the activity types. Inreach refers to activities taking place in the delivery partner's location and outreach is at the community partner's location or a neutral venue. The online activities tended to be planning or consultative meetings rather than talks or workshops.

Mode of engagement	n	%
Activities (n)	94	
Online (n)	15 (16%)	16%
Inreach (n)	47 (50%)	50%
Outreach (n)	32 (34%)	34%

Table 4. Modes of engagement

The activities carried out by the delivery partners were reported to the evaluators as part of the quarterly metrics. They self-described the activities and these were then categorised into the following types.

Activity type	n	%
Drop-in	8	9%
Event	3	3%
Field trip	4	4%
Garden launch	1	1%
Information session	3	3%
Litter pick	2	2%
Meeting	11	12%
Planning workshop	4	4%
Practical activity (gardening)	11	12%
Science centre tour	1	1%
Workshop	46	49%
	94	

Table 5. Activity type



As part of the Next Gen Earth project, delivery partners were encouraged to engage with NERC researchers. The table below shows the engagement with researchers but also with other partners from the third sector and industry.

Delivery partner	Researchers/scientists involved	Third sector, policy, industry partners or other contributors
CAT	3	3
Dynamic Earth	1	
Exeter Science Centre	3	1
Kew Gardens	7	5
National Space Centre	1	6
OUMNH	5	
Techniquet	3	6
The Eden Project	1	4
Xplore!	1	1

Table 6. Involvement of other contributors

In addition to providing information about the activities, delivery partners were also asked to provide age and postcode information for the individual participants. If participants were aged under 16 their parent or guardian was also provided with details about the evaluation and how their information would be used. The age and postcode data was provided only if consent was obtained. Based on the returns provided Table 7 shows the age distribution of the individuals with the majority of participants falling into the ages of 12 to 16 (59.7%).

Ages	n	%
7 to 11	10	11.5%
12 to 14	31	35.6%
15 to 16	21	24.1%
17 to 18	14	16.1%
19 to 24	11	12.6%
	87	

Table 7. Participant age range



The postcode data was used to look up indices of deprivation. Table 8 below summarises the participant data for England.

Quintiles	n	%
1	12	16.2%
2	22	29.7%
3	13	17.6%
4	13	17.6%
5	14	18.9%
	74	

Table 8. Indices of multiple deprivation quintiles for participants with an English postcode

Quintile 1 indicates those who live in the most deprived areas and 5 indicates areas of the least deprivation. Please note that these quintiles are based on areas not individuals so it follows that if someone lives in an area of deprivation it does not necessarily mean they are experiencing deprivation. Equally, if someone lives in an area of low deprivation it does not mean they are not experiencing deprivation. However it is a helpful indicator to allow projects to make an assessment of the participants they are reaching. For the Next Gen Earth project we can see that over 45% are from quintiles 1 and 2 which represent the 40% most deprived areas in England. Participants in quintile 5 were recruited for the Kew Gardens and OUMNH projects; this reflects work done by both projects to identify individuals who met the project criteria beyond their postcodes, something which is needed for those centres located in areas of higher privilege and less deprivation overall.

In Scotland over three quarters of the young people were from areas in quintile 1 of the Scottish Indices of Multiple Deprivation. For Wales, individual data was not available however the remit of the community partners meant that the participants were from underrepresented areas in environmental sciences.

We now go on to discuss the evaluation findings, looking at the experiences of the young people and the work undertaken by the delivery partners.



2. Youth voice

Throughout all of the projects the young people have been exploring areas relating to environmental science. In the beginning each delivery partner posed a series of questions to the young people to gain a better understanding of their attitudes and understanding of environmental sciences. At the end of each project delivery partners asked a set of companion questions. These questions were drawn from the ASDC's Valuing Inclusion project² and came from the following areas: possible selves, agency and ownership, relevance and belonging. In addition to these questions there was one on whether people like them chose to be environmental scientists or researchers, one on skills, another on what environmental science is and a fourth on what kind of jobs are involved in environmental science. In this section the data from these surveys forms a core of the discussion but we also bring in reflections made by project leads and delivery staff to put the responses in context.

The tables featured in this section show the shift between the pre- and post-participation surveys. The full set of data can be found in Appendix B. We now look at these different areas and discuss the changes between the beginning and end of the project.

Before going on to look at the Valuing Inclusion categories we first discuss the responses to the question “**What is environmental science?**”. Importantly we see a significant reduction in those who left the question blank or said “I don't know”, falling from 31 to 16 responses post-participation. We would also highlight that in discussions with delivery partners and based on our own observations and conversations with young people, there were certainly lots of young people who could articulately describe to us what they had been doing and how they had been exploring environmental science but condensing this down into a short response may have been challenging for them, especially as some staff reported challenges with literacy (see the Skills subsection). However there are some useful aspects to note within the sets of responses.

At the end of the projects the descriptions of what environmental science is became more detailed and broader in their scope. The descriptions expanded to include mentions of the role of humans and references to conservation and problem solving increased, acknowledging the applied side of environmental sciences. The more detailed responses fell into categories of human impact, ecosystems/biodiversity, environmental challenges and conservation and protection, with some examples below from the end of the projects.

² ASDC (n.d.). *Valuing inclusion Theory of Change*. Available: <https://inclusion.sciencecentres.org.uk/resources/inclusion-theory-of-change/>



“Environmental science is science that discusses global warming, climate change and how we as humans impact the world”.

“Nature, people, climate, biodiversity, helping animals, building gardens”.

“Learning about the world and how it changes and how we can improve it”.

“The science concerned with the natural environment of the earth, including protecting and restoring them.”

We can also see from the responses how the topics of discussion and areas of exploration in the projects have helped the young people to articulate what environmental science is.

We now go on to examine the responses from the Valuing Inclusion areas. The first two categories discussed, possible selves and relevance, are linked to the identities of the young people whilst the second two categories, agency and ownership and belonging, look more at how they felt being part of the projects.

Possible selves

At the beginning of the projects 70.5% of the young people agreed or strongly agreed that they would like to know more about careers involving environmental sciences and we can see from Table 9 that there was a small shift in those who strongly agreed at the end of the project. This position was already a high proportion at the outset and this is to be expected given the majority of young people chose to be involved in these projects.

It is encouraging to see almost a 10 per cent increase in the young people who strongly agreed that they think environmental science will be useful to them in the future (row 2, Table 9), especially as the pre-participation responses showed almost 80% of young people agreed (46.4%) or strongly agreed (33%). This indicates a consolidation of how the young people felt about how useful environmental science would be in the future.

The young people also reported more certainty around whether they could work with environmental science in the future (row 3, Table 9). An important shift shown in Table 9 is the large decrease in those saying they ‘neither disagree nor agree’ with most of that movement shifting over to strongly agree. Pre-participation 61.3% said they agreed or strongly agreed whilst 34.2% responded neither. The movement to disagree and strongly disagree is not necessarily a negative outcome as often participation in these projects can help young people understand their interests lie elsewhere. We also understand from discussions with some delivery partners that a small number of young people deliberately chose to report negatively on the post-participation survey even though they verbally expressed opposite views to the staff they had worked with. These young people had negative experiences of education;



responding negatively to the survey whilst having enjoyed the experience was a way of them exerting their agency.

	Strongly agree	Agree	Neither disagree nor agree	Disagree	Strongly disagree
I would like to know more about careers involving environmental science	+1.5%	-1.3%	-0.2%	-1.8%	+1.8%
I think environmental science will be useful to me in the future	+9.8%	-10.7%	0.0%	+0.9%	0.0%
I could work with environmental science in the future if I wanted to	+9.0%	+0.9%	-14.4%	+3.6%	+0.9%

Table 9. Difference between pre and post participation survey questions relating to possible selves

One other area included in the survey was whether the young people thought **people like them chose to be environmental scientists and researchers**. Table 10 below shows how the young people felt about this.

	Pre		Post		Difference
	n	%	N	%	
Yes	31	28.4%	44	40.4%	+11.9%
No	11	10.1%	14	12.8%	+2.8%
Don't know	67	61.5%	51	46.8%	-14.7%
	109		109		

Table 10. Pre and post participation responses to the question "People like me choose to be environmental scientists and researchers"

Of those who responded no to the post-participation survey, the explanations as to why they said this tended to link to them as individuals who saw themselves in a different career. However, there was one comment saying "Not many chances to get into it and science in school was rubbish" (Young person, post-participation survey).

For those who responded yes, two comments particularly stood out:

"The speakers were from similar immigrant backgrounds. It shows me that anyone can work with the environment" (Young person, post-participation survey).

"I met a lot of researchers I relate to" (Young person, post-participation survey).

Others made comments about how they had met like-minded people with similar interests and peers they could relate to. There were a lot of people who said that it was something they enjoyed and others expressed their interest in conservation and making a positive impact on the world around them and that they had a sense of responsibility and care for the environment. Relevance also came through: "Environmental science is relevant to the things I like and do everyday" (Young person, post-participation survey).



Linked to these questions, the young people were also asked **“What type of jobs are involved in environmental science?”** and this was an open-ended question. An analysis of these responses shows some key differences between the pre and post participation surveys.

Initially when asked this question the most common responses fell into the biology and ecology category (e.g. biologist, marine biologist, zoologist, botanist, ecologist) and this saw a small increase by the end of the project. However, there was an increase in the awareness of scientific and research roles, moving beyond using the descriptor “biologist”. We saw more responses saying researcher, environmental scientist and climate scientist. There was also an increase in those related to earth and climate science more generally to include meteorology, hydrology and oceanography. Given the focus of some of the projects there was also a clear impact on the young people’s awareness of environmental policy and law-related roles as well as references to activism and roles in science communication and journalism. This also extended to small increases relating to horticulture, forestry and landscaping. Those responding “I don’t know” or who left the answer blank reduced from 35 at the beginning to 17 at the end. Overall the young people have broadened their understanding of the roles related to environmental science, acknowledging the breadth and interdisciplinary nature of many careers.

There is also evidence where we see that this experience is seeding interests and ideas that may be taken forward in the future. For example, one project lead recounted a conversation with one of the young people where they said, “I’m not necessarily going to be an environmental scientist, but I feel like I kind of know what I’m talking about more. And they said I might actually be quite interested in the technology side of it” (Project lead, exit interview).



Relevance

At the beginning of the projects 64.6% of young people strongly agreed or agreed that environmental science matters in their everyday life and this moved to 74.1% by the end of the project. We also continue to see a positive shift in the direction of those who strongly agreed.

Similarly with the relevance of environmental science to young people and the things they care about saw an increase of those saying they agreed or strongly agreed going from 74.1% to 82.0%, again with a good increase in those saying they strongly agreed.

It is worth noting that the positive shift seen is on top of an already high baseline score for these questions; many of the project teams recruited their participants through application processes or by offering the ability to opt into sessions, which may go some way to explaining this existing interest.

	Strongly agree	Agree	Neither disagree nor agree	Disagree	Strongly disagree
Environmental science matters in my everyday life	+8.3%	+1.2%	-8.7%	-2.6%	+1.8%
Environmental science feels relevant to me and things I care about	+8.4%	-0.5%	-7.0%	-2.7%	+1.8%

Table 11. Difference between pre and post participation survey questions relating to relevance



Agency and ownership

At the outset of the project, a significant proportion of the young people felt able to join in with environmental sciences activities, with 80.4% indicating agree or strongly agree and this shifted to 87.6% at the end of the projects. However, we can see from Table 12 that there was a substantial increase of 22.7% in those saying they strongly agreed. This indicates the success of the engagement approaches taken by the delivery partners ensuring the young people felt agency and ownership.

	Strongly agree	Agree	Neither disagree nor agree	Disagree	Strongly disagree
I feel/felt able to join in with environmental science activities	+22.7%	-15.5%	-4.6%	-3.6%	+0.9%

Table 12. Difference between pre and post participation survey questions relating to agency and ownership

Belonging

The responses to these questions also indicate the success of the ways in which the young people were involved in the projects. There were large increases in the proportions of those strongly agreeing that they felt comfortable and that their ideas were heard.

As with the pre-participation responses to the possible selves questions, there was a significant proportion of young people who agreed or strongly agreed they were comfortable doing environmental science activities at 81.4% but this moved to 91.8% at the end of the projects.

There was less agreement at the start of the projects in relation as to whether the young people felt their ideas were heard, this shifted from 63.1% saying they agreed or strongly agreed at the start to 86% at the end, again with a significant increase in the proportion indicating they strongly agreed.

	Strongly agree	Agree	Neither disagree nor agree	Disagree	Strongly disagree
I feel/felt comfortable when doing environmental science activities	+17.4%	-7.0%	-5.1%	-5.3%	0.0%
I feel/felt my ideas are/were heard during environmental science activities	+22.4%	+0.5%	-22.1%	+0.1%	-0.9%

Table 13. Difference between pre and post participation survey questions relating to belonging

There did not seem to be many instances where eco-anxiety became overly concerning. There were certainly times when delivery partners would engage with discussions with the young



people about their concerns and the issues affecting them. The National Space Centre observed that when faced with eco-anxiety affecting their young people they found that being able to tie this in with climate monitoring using satellites and knowing that people are working on such a scale helped. The young people also felt “empowered” by sessions on biodiversity and the partners who delivered sessions “gave them that little bit of fire to want to take the action and to know that that action, A, was realistic and practical and they could do it and B, they understood how that was going to make a difference.”

Skills

Another aspect explored in the pre and post-participation surveys were the skills young people think environmental science helps them develop. The question asked is shown in Figure 1 below.

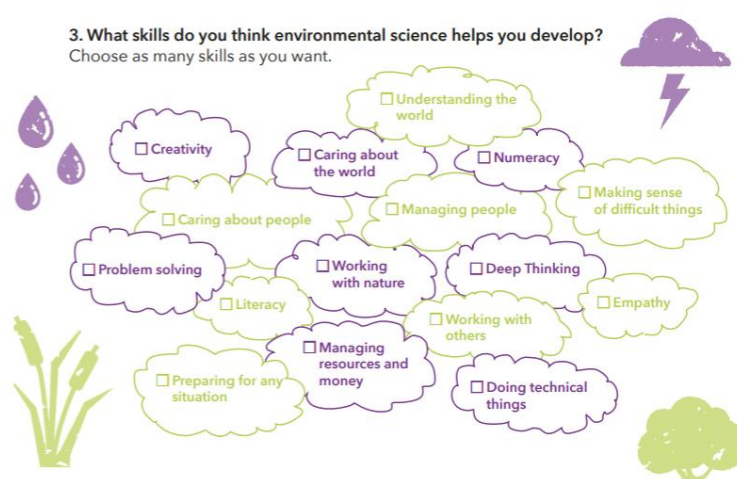


Figure 1. What skills do you think environmental science helps you develop?

Overall, between the pre and post participation surveys there is an increase of over 20% in the number of skills being identified, showing an increased awareness and understanding of the relevance of different skills. Table 14 shows the number of times these skills were referenced.



	Pre		Post		
Skills area	n	%	n	%	Difference
Managing people	36	3.8%	56	5.9%	2.1%
Creativity	65	6.9%	84	8.9%	2.0%
Doing technical things	52	5.5%	69	7.3%	1.8%
Managing resources and money	43	4.6%	60	6.4%	1.8%
Understanding the world	85	9.0%	101	10.7%	1.7%
Caring about the world	82	8.7%	97	10.3%	1.6%
Preparing for any situation	47	5.0%	62	6.6%	1.6%
Working with nature	78	8.3%	92	9.8%	1.5%
Empathy	53	5.6%	66	7.0%	1.4%
Numeracy	22	2.3%	35	3.7%	1.4%
Making sense of difficult things	65	6.9%	76	8.1%	1.2%
Caring about people	65	6.9%	73	7.7%	0.8%
Problem solving	77	8.2%	85	9.0%	0.8%
Deep thinking	70	7.4%	77	8.2%	0.7%
Working with others	76	8.1%	83	8.8%	0.7%
Literacy	27	2.9%	32	3.4%	0.5%
Total	943		1148		

Table 14. Summary of responses to Q3 on environmental science skills

The most common skills identified by the young people following their participation in the project were understanding the world, caring about the world, working with nature and problem solving. The ones seeing the largest increase of 2 per cent or more were managing people and creativity. Those which were consistently reported least, were surprisingly literacy and numeracy, with under 3 per cent for these responses at the start of the projects and less than 4 per cent of responses by the end.

As part of the exit interviews with the project leads we discussed the broad range of skills developed by the young people and these were also apparent in the reflections from staff and observations made by the evaluators. The main areas of development over the projects were linked to collaboration, communication skills, experimental skills, making social connections, problem solving, scientific inquiry and team work.

One particularly consistent area of development for the young people has been their confidence in talking about environmental science and in sharing or discussing their opinions more generally.

“Participants who were initially hesitant or unsure about discussing environmental topics are now actively leading sessions, making decisions, and suggesting new ideas.” (Project lead, reflection).

Observations saw young people teaching their families about their experiences (Techniquet), standing their ground when debating their responses to discussion topics (OUNHM), speaking



in front of an audience about their experiences (National Space Centre), asking questions of scientists (Dynamic Earth) and demonstrating a strong sense of ownership of the topics covered.

We now go on to consider some of the barriers young people are experiencing in relation to progressing into environmental science-related careers.



Barriers

One of the key evaluation questions relates to identifying and understanding the barriers that young people are facing which can mean they do not consider a career in environmental sciences.

A core aspect for a lot of the young people involved in these projects was the lack of opportunities to participate in something with an environmental science focus or meet people in environmental sciences who could act as a role model. Through the opportunities afforded to them by Next Gen Earth they built their understanding of what environmental science is and could better understand the skills associated with careers.

“The barriers are becoming apparent, the main one being lack of awareness about what environmental science is and how important it is for action on the challenges posed by the climate and biodiversity emergencies. As understanding improved, many of the young people expressed an interest in and talked about the importance of research.” (Project lead, reflection)

There were multiple reasons why these young people had perhaps not previously engaged or been interested in environmental science. For some they did not have a positive experience with schooling or with their science teachers, “For some of the young people we are the first positive experience of science that they have had” (Project lead, reflection). Others had caring responsibilities or other personal factors which meant that there was no opportunity for them to look out and to the future and consider the possibilities for themselves due to their time being almost fully committed.

“From conversations with young people and their families, as well as experience working with similar community groups, we understand that barriers to careers such as NERC research are systemic in terms of education, post code, household income, interest, health and time.” (Project lead, reflection)

It was commonly reported that young people were telling staff that they considered science as being “hard” and therefore something to be avoided or perhaps not being for them. In more deprived or rural communities, young people explicitly say environmental science or university-level environmental work is “for other people,” not people from their backgrounds or localities.

“Several of the young people said things like, ‘People from here don’t go into that kind of job,’ as if environmental science was automatically for someone richer, or from somewhere else.” (Project lead, exit interview)

There can be misunderstandings about what the nature of environmental science is. Some young people initially think environmental science is just “looking after animals” or insects, and don’t see broader, applied, or locally relevant paths (e.g., engineering, renewables, coding). That narrow picture makes it feel irrelevant to their own interests.



“At the start, a lot of them thought ‘environmental science’ just meant looking after animals or doing recycling. If that’s your mental picture, it’s quite easy to decide it’s not really for you.” (Project lead, exit interview)

Project staff also made some observations around the difficulties the young people had in making connections between the opportunities open to them in environmental sciences and the skills they themselves had and their personal interests.

“participants who enjoy writing, art, or technology sometimes don’t see these skills as relevant to research or innovation” (Project lead, reflection)

These connections also extended to the relevance of environmental sciences and in one project where some of the young people had not opted for science or geography at A-level, by the end they were keen to ensure that there was the opportunity for “everyone to feel that the environmental science themes they had explored were relevant, regardless of academic interests” (Project lead, reflection). Young people who were interested in environmental issues didn’t necessarily associate this interest with science; several projects note that many participants do not self-identify as “scientists” and rank science low in their subject preferences, even when they care about nature or climate. As one put it “Even when they were clearly interested in the environment, they did not describe themselves as ‘sciencey’ at all.” (Project lead, exit interview). This disconnect is structural; schools themselves do not easily incorporate the multidisciplinary nature of environmental science into traditional curricula and timetabling which goes on to deter them, and then the young people, from taking up opportunities available to them.

“In school, the environment tends to sit in a little box – maybe as part of geography, or a one-off eco-club. It isn’t woven through the curriculum, so it feels like an add-on rather than something central.” (Project lead, exit interview)

“Teachers were really keen, but they kept saying, ‘I just don’t know where I’d put this in the timetable.’ Even when the project is free, the pressure of the curriculum makes it hard for them to bring groups regularly.” (Project lead, exit interview)

Another area which was commonly mentioned in terms of observed difficulties and lack of confidence was in relation to literacy. In some groups (e.g., ACE Cardiff), fifty plus languages are spoken and some young people are very early in their language skills, making text-heavy, formal engagement with science particularly difficult.

“participants who struggle with reading or feel unsure about their abilities can feel that science is “not for them,” even if they have a strong interest.” (Project lead, reflection)

“I also saw a lot of the young people struggle with reading interpretation, instructions and facts, so possibly found it harder to engage with activities, or didn’t get as much out of them without additional support which was not always available”. (Project lead, reflection)



In summary, the barriers arising were

- Lack of opportunities to engage with environmental sciences activities.
- Lack of awareness or understanding of what environmental sciences is.
- Young people do not consider environmental sciences to be “for them”.
- Young people found it difficult to make connections between their interests and skills and environmental science.

However, as we have seen earlier in this section through their participation in these projects the young people were more able to describe what environmental sciences is and recognised that it could be something for them. In the following section we explore the enabling factors which supported this shift.



3. Enabling youth voice

The work which has been undertaken as part of the projects has contributed to achieving one of the identified aims in NERC's diversity and inclusion action plan³, specifically action 3.3 to deliver a community engagement programme. The focus of this action is on co-creation which has been at the core of Next Gen Earth. The motivation for taking this action is framed by NERC as:

A lack of diversity means we [NERC] are missing opportunities for a wide range of people to contribute their talent and skills, furthering the excellence of environmental science and helping us understand, predict and tackle many of society's pressing challenges.

In this section we explore the enabling factors which ensured the young people had agency and ownership and were able to feel a sense of belonging and a possibility of a future career or association with environmental sciences.

Practicalities: There were a number of logistical and practical considerations that enabled the young people to participate at all, and thus take their first step towards being heard. There were also changes that some of the projects would have made if starting again, with this aim to include the young people in mind. These included:

- Provision of food and drinks is essential. A common tool in community engagement, eating together can create an equalising environment, and provides a casual and nurturing approach. Importantly for the young people being reached through this project, provision of food and drink meant that costs to attend were minimised, and for some this represented better access to food than they might normally have.
- Covering other costs is also essential. Travel costs and any equipment needed must be covered to ensure every young person can participate fully without the activity creating a new burden for them.
- Finding ways to ensure the participants feel valued and rewarded are important. This might be through an application process (successful selection, CAT), provision of treats within the refreshments (Xplore, NSC), or payment for time spent working on the project (OUMNH). Such rewards allow for positive reinforcement of the ways of working together being deployed.
- Allowing generosity of time throughout the project is needed. This helps the young people to settle in. Several projects wished they had increased, even doubled, the

³ NERC (2023) NERC diversity and inclusion living action plan 2022 to 2025. Available: <https://www.ukri.org/publications/nerc-diversity-and-inclusion-action-plan-2022-2025/nerc-diversity-and-inclusion-living-action-plan-2022-2025/>



number of sessions they had with the young people in order to make the most of the relationship building that was underway. This was particularly important for those projects connecting with new groups. It also enables staff members to be responsive and reflective; when trying to respond to the ideas and requests of the young people and ensure they feel that they are shaping the activities, centre and partner staff need time to see what can be made possible, and how.

There were also several learning points in the way projects were structured and contextualised.

Thinking locally can provide a bridge to engagement: Projects that started from local issues (flooding where they live, local green spaces, energy in their community) made environmental science feel like “our problem” and “our story,” not somebody else’s abstract topic. At Techniquest one group talked specifically about flooding because their streets had flooded. There were numerous other examples of where the locality and place played a role. For the young people in Exeter they had connections with the beach and a local weir. For the young people in North Wales they were interested in the sea life nearby. For the young people at the National Space Centre, place was an anchor for them as they developed and grew their garden for not just their benefit but for the local community and future visitors. The students who visited Bangor (CAT) were able to interact with scientists who had been students at their own school, making the science and idea of being a scientist seem much more achievable. This demonstrates one of the valuable aspects about using a local setting, that it helps young people see the connections between their own lives, the local area and topics within environmental sciences. This led to wider discussions about their own interests, the skills and strengths they had and potential ways to progress this in the future either through taking action or through a career. If research themes are too complex or feel far from everyday life, then those sessions “don’t really work,” and young people can disengage.

“That activity was just too conceptually dense. You could see some of them trying really hard, but the science sat too far from their everyday experiences, so they checked out quite quickly.” (Project lead, exit interview).

When topics are presented mainly as abstract or global, without strong connection to the young people’s own places, it’s harder to inspire action and ownership. Some projects explicitly note they *lost* the local connection when they shifted to researcher-led themes.

“The session that worked least well was the one where we lost that strong local hook. Once it became more about the researcher’s project than about *their* place, the young people’s attention drifted.” (Project lead, reflection)



Overall facilitators explicitly named and valued what young people already knew about their communities, nature, and climate, rather than treating them as blank slates. This boosted confidence to speak and question.

Making connections starts the path to taking ownership: Once they have started to engage with the concepts covered, they are more able to help shape the direction of the project. Young people were involved in choosing themes, deciding what to research, and how to present it (e.g. exhibitions, performances, podcasts, activism). They chose not only topics and content, but formats and delivery options, tapping into existing interests and skills. This moved them from “participants” to co-designers. Sessions where adults deliberately stepped back and allowed youth to lead decisions (even if messy) were described as the most powerful for ownership and confidence. When it was over controlled, the young people had a tendency to step back.

“The sessions where they’d had a genuine say in the design were the ones they turned up for and owned. When it felt like ‘our’ workshop rather than theirs, the energy in the room dropped.” (Project lead, exit interview)

“When the adults rushed in to fix things, it took the decision-making away from the young people. You could feel their sense of ownership slip at that point.” (Project lead, exit interview)

Giving them control over how to share findings (zines, showcases, tours, events they hosted) created a tangible sense of “this is our platform” rather than “we are presenting for the adults.” Drawing, models, videos, performances, games and hands-on demonstrations gave routes to expression for young people who were less confident with written or formal spoken English. This particularly empowered multilingual groups and early readers.

Involving a wide cast of project members helps show the path from where the young people are now to where and who they might be in the future: multi-layered approaches involving young people of different ages, power levels and career stages means that each step they might need to take towards action or empowerment is much more achievable (OUMNH, CAT). The projects saw project leads and delivery staff acting as mentors and coaches to junior staff, early career researchers, community partners and researchers as well as the young people themselves. This ecosystem of individuals allowed for diverse identities, pathways and interest levels to be present throughout the project.

The strength of the connections being made was also facilitated by having people involved in the projects who the young people felt were “like them”, whether this was someone who’d grown up in the same or similar area to them or where they saw themselves represented in terms of gender and ethnicity. Encounters with scientists, educators and early-career



professionals who shared similar backgrounds, accents, or experiences made environmental roles feel attainable and made young people more willing to voice ideas and challenges.

“Once they met young adults just a few years older than them working in climate-related jobs, you could hear them saying, ‘Oh, maybe I could do something like that.’ That possibility just wasn’t visible before.” (Project lead, reflection)

“Before this project, they’d never met anyone from their town who called themselves an environmental scientist. Seeing someone who shares their accent and background in that role is a big shift.” (Project lead, reflection)

That connection needed to be more than surface level; joining two dots is not the only goal, but rather ensuring the young people really feel their own value in the room. Repeated contact with the same adults (youth workers, educators, researchers) created trust. That trust enabled frank conversations, critical questions, and young people pushing back or suggesting alternatives. Where this was possible, the participants could own their own participation.

The projects pave the way for future engagement but can’t guarantee it: Across these projects young people presented to staff, contributed to institutional plans, or advised on future programming, so their ideas had visible impact beyond the project itself. When it comes to continuing to have an impact, they have lots of intention, but not necessarily the power to do the things they want to. They need permissions, from family, guardians, teachers, and so even the best intentions are clouded by the idea that they can’t just go and do them. The most micro and controllable actions came up most often, such as consuming more reliable online content about environmental issues, or spending their money more environmentally soundly (Techniquequest).

Being part of a national project: the grant scheme itself has been a positive experience for delivery partners. They have felt the benefit in being part of a national network of funded projects where experiences have been shared. The training and advice and guidance from ASDC were considered to be excellent. With regards to funding, it was felt that the balance between the application, evaluation and reporting requirements and the amount of money provided was fair. Overall delivery partners would have liked more time to run the projects and they would have preferred to have more time between the conclusion of their sessions and the final reporting deadline. Whereas some completed delivery by January, multiple delivery partners were working into February and March. Often plans changed and adapted depending on a range of circumstances, either for the delivery partner or for a community partner. The flexibility of the funding was therefore appreciated, as delivery partners could adjust plans but still remain within the terms of the funding. One project lead commented that one enabling factor for the success of the projects is that “It’s not about numbers, it’s about engagement”.



Competing priorities and resource management put a barrier between researchers and the young people: All of the projects involved NERC or NERC adjacent scientists and researchers in some capacity to develop content and inform practice. The primary mechanism for this was bringing them in to give talks or inform the young people about their work at some point during the project. The young people would have appreciated more informal, bespoke contact with researchers for some of the projects, to have been able to go back to them and run ideas past them, or get final outputs checked for clarity and accuracy. They would have liked to work with them more collaboratively. In practice the science centres or community partners end up working as brokers, bringing in the scientists as a resource for information rather than true project partners. For this to be possible the timescales would need to be much longer, enabling scientist recruitment at the application stage, and ensuring they have the time available throughout the project. It's not clear how possible, if at all, this might be for the delivery partners to manage but they have the desire to continue to pursue this collaboration aspect further as they can see the potential benefits for all involved.



4. Summary of findings

Evaluation aim 1 was to identify and understand the barriers that prevent young people considering a future career in NERC research and innovation. This project has shown that having access to resources is a critical barrier, whether that be access to opportunities, or the personal resources needed to attend. When added to the negative experiences of science had by many young people, this not only stops participation but also any attempt to seek out participation. The term environmental science was generally unknown to the young people; they had interests and connections to topics and issues which would be considered to fall under environmental science but they did not see or were not aware of the connection.

In summary, the barriers arising were

- Lack of opportunities to engage with environmental sciences activities.
- Lack of awareness or understanding of what environmental sciences is.
- Young people do not consider environmental sciences to be “for them”.
- Young people found it difficult to make connections between their interests and skills and environmental science.

Evaluation aim 2 was to explore what works to support agency and ownership in environmental sciences. As well as providing some practical considerations, this project has shown the importance of building connection with the young people in their own spaces, terminology and contexts. It is essential to meet them where they are if they are to engage with environmental science topics. Once terminology is bypassed, they show particular interest in the issues that are faced by their locality, or that are worked on by people like them.

In short, young people’s voice and empowerment were strongest when:

- They co-designed and led work on issues rooted in their own places and interests.
- Met relatable adults who treated them as partners.
- Could express themselves in multiple ways.
- They saw real actions and institutional changes following their input.

Overall, the young people experienced a positional shift from “beneficiaries” to “experts in their own lives”, maximising the likelihood of them going onto take continued action. Language and practice across the projects framed young people as experts in their contexts and experiences. This gave permission to critique, redesign, and propose – not just answer questions. When organisations clearly stated that youth feedback would shape future programmes, and then *showed* how it did so, young people felt their contributions mattered and became more



assertive and confident about their needs and ideas. Activities that led to concrete actions (campaigns, local changes, peer education, youth-led events, community garden) helped young people feel they could *do* something. That sense of agency is core to empowerment.

Finally, one common assumption which has been made at times is that it is difficult for young people from deprived backgrounds to prioritise issues from environmental science. What is evident in this project is that that is not the case at all. They care, and through their participation in these activities they showed that when fully resourced, met where they are and when environmental science is recontextualised to more easily fit into their lives, they want to engage. However, without funding like this and the support structures offered by the delivery partners and project partners, participation becomes almost impossible. Next Gen Earth has provided a way for young people of every background to engage with contemporary environmental science issues, without being left behind or othered.



Appendix A – Evaluation methodology

The following table outlines the different methods used, who with and when along with their purpose and the data which was available for analysis.

Method	Participants and timing	Purpose	Data available
Metrics (quantitative)	Quarterly reporting of engagement numbers by delivery partners.	To track participation in the programme.	Quarterly returns from all 9 delivery partners
Delivery partner project manager reflection (qualitative)	To accompany quarterly reporting of metrics.	To provide context to activities and identify successes, challenges or barriers requiring further support.	Quarterly returns from all 9 delivery partners
Baseline and follow-up surveys (quantitative and qualitative)	To be completed by young people pre- and post-participation. Made available in English and Welsh.	To provide information on participants' understanding and awareness of environmental science and careers.	109 pre- and post-participation surveys
Delivery partner staff reflection (qualitative)	As and when depending on delivery model.	To provide insight into experiences of the activities from the perspective of the delivery partner staff, using their professional judgement and knowledge of working with young people in their area.	More than 30 individual reflection entries, some using the provided tool and some using an existing in-house tool.
NERC researcher and partner reflection (qualitative)	As and when depending on delivery model.	To provide insight into experiences of the activities from the perspective of the environmental scientists and what they have gotten from the experience.	7 responses from researchers and community partners
Delivery partner visit which may include activity observations, focus groups with young people or interviews with staff.	Each delivery partner will be visited by the external evaluators over the course of the project. As and when depending on delivery model.	To gain a deeper understanding of the activities and their impact.	6 of the 9 sites were visited by one of the evaluators over the project lifetime.
Exit interviews	Following the completion of project activities each delivery partner took part in an exit interview with one of	To provide context to activities and identify successes, challenges or barriers and ongoing impacts.	All 9 delivery partners participated in an exit interview.



	the evaluators and the ASDC Project Director.		
Outputs produced by the young people.	Typically produced at the end of project.	To provide an opportunity to follow the experiences of the youth advocates as they collaborate with science centres to plan and deliver activities.	
End of project showcase	At the conclusion of the project the delivery partners, steering group and evaluators came together to review the activities.	To provide an opportunity to share practice and discuss barriers and enablers.	All 9 delivery partners presented and all but one were present on the day to take part in the discussions.

Table 15. Summary of evaluation methods



Appendix B – Pre- and post-participation survey responses

	Strongly agree		Agree		Neither disagree nor agree		Disagree		Strongly disagree	
Statements	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
I would like to know more about careers involving environmental science	25.0%	26.5%	45.5%	44.2%	25.0%	24.8%	3.6%	1.8%	0.9%	2.7%
I think environmental science will be useful to me in the future	33.0%	42.9%	46.4%	35.7%	16.1%	16.1%	3.6%	4.5%	0.9%	0.9%
I could work with environmental science in the future if I wanted to	27.9%	36.9%	32.4%	33.3%	34.2%	19.8%	4.5%	8.1%	0.9%	1.8%
I feel able to join in with environmental science activities	31.3%	54.0%	49.1%	33.6%	16.1%	11.5%	3.6%	0.0%	0.0%	0.9%
Environmental science matters in my everyday life	33.6%	42.0%	31.0%	32.1%	29.2%	20.5%	6.2%	3.6%	0.0%	1.8%
Environmental science feels relevant to me and things I care about	32.1%	40.5%	42.0%	41.4%	22.3%	15.3%	3.6%	0.9%	0.0%	1.8%
I feel comfortable when doing environmental science activities	38.9%	56.4%	42.5%	35.5%	12.4%	7.3%	5.3%	0.0%	0.9%	0.9%
I feel my ideas are heard during environmental science activities	25.2%	47.7%	37.8%	38.3%	33.3%	11.2%	1.8%	1.9%	1.8%	0.9%

Table 16. Summary of all pre and post participation responses



Appendix C – Case studies

In this section we present nine case studies, one for each project. These examine what they did, who they did it with and the experiences of those involved.

The quotes used within the case studies come from discussions with the project leads as part of the exit interviews. Any other quotes or sources are noted in the case studies.



Centre for Alternative Technology

This project stood out for the depth of its co-creation and the way it explicitly linked climate change, young people's emotions, and their future pathways. From the outset, the intention was not to deliver a fixed programme but to build something "with them and for them": as the project lead put it, "We didn't know at the beginning quite what it was going to look like... we very much wanted it to be their program, so with them and for them". That co-creative approach extended beyond activities into how environmental science itself was framed. Young people moved from feeling "we don't know about environment... it's not people like us" to recognising that "environmental science is really the connection between humans and the environment" and that "there's something there that I could do". The project lead described the resulting shift as "evidence based hope... that there is hope, because I can now do this".

The work was also distinctly place-based and rooted in inclusion, focusing on communities identified in the Wales Index of Multiple Deprivation and starting from what young people had "seen where they lived" before asking them to imagine "what their community would look like" in the future. This was reinforced through powerful "people like me" representation: the NERC researcher and postdoc turned out to be from "the same town and [to have] went to the same school" as one of the groups, challenging the perception that "that's not for people like us. We don't do that. That's for somebody else". Bilingual delivery strengthened this further, with Welsh-speaking researchers working with a Welsh-medium school so that "all of those things help to build that profile of people like me".

The layered pathway from school students, to university mentors, to researchers created an unusually rich line of sight into environmental and related careers. Reaching Wider's mentors, "closer in age to the young people", provided one-to-one support and gathered "anecdotal feedback which was richer... than we would have got by giving them all the same questions". At the same time, informal conversations between mentors and postdocs meant that "that whole line of sight all the way through" – young person, undergraduate, researcher – was visible in the room. Combined with hands-on, co-chosen activities such as the wind-turbine workshop, which led "so many [to] say they wanted to work in renewable energy", these elements made this more than a standard outreach project: it was a structured but flexible exploration of identity, place and futures in environmental science.



Dynamic Earth

For this project, Dynamic Earth took a new approach to their work with community groups in that they went into the sessions with much less of a plan than they would normally. For their work with a group of ethnically diverse young people aged 7 to 14 they went into each session ready to respond to the young peoples' interests. In between sessions staff then reflected on what had happened and what the young people wanted to know more about before bringing together some ideas for the next session. Relationship building was important as many of the young people didn't see science as being for them and hadn't had a positive previous experience with science. These perceptions and attitudes changed over the course of the sessions, with the project lead noting that they enjoyed the sessions and had the opportunity to see the potential of science.

Dynamic Earth worked with a younger group of young people compared with some of the other projects and this meant that whilst the project provided an opportunity to raise awareness of career options in environmental sciences the focus was more on providing them with a positive experiences of science and helping them to better understand what environmental science is.

The group took part in experiments and used virtual reality to go diving in coral reefs. They heard from an ocean scientist about what they do and how they got into their career. The staff member at Dynamic Earth was keen to ensure that the young people could see themselves represented so worked to ensure that a person of colour was able to speak with them about working in environmental science. The young people were fascinated by this session and had so many questions for the scientist about what it was like to live on a ship doing research for weeks at a time. The sessions culminated in a collaborative piece of art and this became central to the conversations and discussions between Dynamic Earth staff and the young people, allowing them to reflect on what they had done together.



Figure 2. Art produced by the young people who were part of the work at Dynamic Earth



Exeter Science Centre

Many of the young people engaged in this project came to it with a dislike of science from school and some had a more general, negative experience of formal education. This resulted in a lack of confidence in relation to science and a general disinterest.

“Science was often perceived as inaccessible, overly academic, or disconnected from their lived experience. Broader social and economic challenges, alongside limited exposure to relatable role models in science, also appeared to influence attitudes.”
(Project volunteer, reflection)

The young people were part of two youth centres in Devon and the project team worked with them in the young peoples’ spaces, with the style being more drop-in or conversational than anticipated. In addition to one staff member from Exeter Science Centre, a volunteer from industry regularly attended sessions.

There were two core elements to the work with the young people: earning their trust and involving them in local environmental concerns. The youth centre staff noted that the relationship building was enhanced because the project team joined in with whatever activities the young people themselves were doing, playing board games or a musical instrument, showing scientists as “normal people” (Project lead, exit interview). The young people were able to choose whether or not to engage and when they did it meant it was “on their own terms” (Project volunteer, reflection). The initial activities run by the project team were aimed at identifying their hobbies and understanding where there was perhaps a connection to the environment. Links were ultimately to a local weir and beach; both identified by the young people as places they enjoyed spending time but that there were concerns around littering and pollution.

The project volunteer noted that the project had been successful in “creating a safe, informal space for engagement”. Over the course of the sessions, the young peoples’ perceptions of the project team shifted from being wary and uncertain to being welcoming and interested in what they were bringing along for them to do, with one exclaiming to Exeter Science Centre staff, “Hey Nature Lady, what have you got for us today?” and some who wouldn’t talk to the project team at all at the start, “by the end they were joining in, being very active” and there was a “willingness to talk about science [...] and take the lead in something [project related]” (Project lead, exit interview).

In terms of whether the project was a success, the project volunteer commented that “The combination of informal interaction, local environmental focus, and experiential learning (such as the beach visit) helped demonstrate that science can be relevant, approachable, and empowering.” The young people showed an increased interest in the topics and both the



project team and youth centre staff observed that the young people felt more confident talking about environmental issues.

There was also a sense of the project impacting on aspirations with one young person commenting to project staff that “if you set up a science centre, I’ll come and work there” (Project lead, exit interview) which is a wonderful outcome. One of the staff members from the youth centres, reflected on the experience: “We need much more work like this happening with young people. The work gave me hope.”

This is a partnership everyone wants to continue. The young people themselves are keen to take action in their community and be visible whilst they do it, for example through litter picks and addressing damage being done to the areas where they spend time. Exeter Science Centre also see an ongoing opportunity for them to be involved in social media content creation led by the young people, for example exposing environmental-related myths the young people have seen.



Kew Gardens

At Kew Gardens, this project piloted a genuinely youth-led model for engaging 14–25-year-olds with environmental science, careers, and policy. The Youth Council designed and delivered an immersive **Our Futures** careers event that moved beyond a traditional fair:

“What they chose to do was design a careers event... but with a kind of twist... we’re gonna immerse you in the activities and the language... were you to follow the path of a mycologist or a botanist or a horticulturalist... What are the opportunities for environmental science within Kew Gardens specifically?”

All facilitators for the event were under 30, all attendees were 14–25, and young people chose their own workshops, tours and talks, creating a distinctive atmosphere. The whole day was devised by, led by, facilitated by and attended by young people something that created a really different atmosphere from an event that is designed by museum staff or an older generation.

The project deliberately targeted local schools with higher-than-average pupil premium and removed cost barriers, reaching young people who live near Kew but often feel it “isn’t for them”, acknowledging that there are many families who despite living in the surrounding area for generations, have never attended the gardens because they don’t think it’s a place for them”.

A separate Youth Forum worked to strengthen Kew’s annual **Model COP event**, reshaping the format to deepen youth voice, for example insisting on writing their own resolutions rather than choosing pre-written ones. They expressed that it was not really their voice if they could only choose discussions and resolutions from a list that they are provided. It was changed so that “everyone’s writing their own resolutions from scratch, which actually was really powerful”.

Across both strands, young people reported valuing leadership opportunities, space for real debate, and relatable early-career role models, while Kew gained a scalable, justice-focused model for youth engagement that is now informing a proposed national partnership and “green zone” style expansion of the Model COP.



National Space Centre

Out of the nine projects, the work carried out by the National Space Centre with their newly established Youth Voice group was the only one linked to a physical space which would become a community garden and an outdoor learning space. A group of ten young people who all lived “hyper local” to the National Space Centre, and had a common interest in space, came together in regular sessions to develop an area of land as a community garden.

The young people, whilst local and of a similar age, mostly did not know one another and went to different schools. The relationship building began in an information session with the young people and their families and this was key to the success of the relationships as it set expectations and the ethos was established for them all to “come sit with us”.

The ‘Space to Grow’ garden provides a physical link between the young people and the National Space Centre. This link extends out into the local community via these young people, their friends and their families. Unconnected members of the community have been saying thank you to the group as they’ve been walking past. The National Space Centre also included other partners who became key to the success of the project and these also form part of this web of links extending out from the garden. Through this work the young people were able to see the importance of the garden for the local environment, especially in relation to biodiversity but also in relation to pollution and other factors in the local area which are monitored by satellites. Some of these links to partners helped to build aspiration and awareness of work being done locally in environmental science roles.

The young people were in control of decision-making and the design of the garden. National Space Centre staff noted that whilst it had been their decision to focus the project around the development of a garden, “everything else to do with that garden was decided by the young people”. This was achieved through the approach taken to facilitating the project, of “sitting at the table” with them. The young people were able to take on leadership roles and the National Space Centre staff were there to keep time and guide the sessions as enablers: “I was just kind of making sure they could order the resources they wanted to order that they’d found, or they could connect with the people that were going to give them the information that was going to enable [them] to create what they wanted to create”.

For some of the group they can see the garden from where they live. For many of them they will walk past it regularly. At the launch event they spoke with confidence and the group as a whole had a strong sense of pride and ownership and wanted us to be “captivated” by what we saw and they ensured everyone felt welcome in their space. This has been “something new [...] made by these young people [...] enhancing the experiences of everyone that comes through the door. [...] It really has brought a lot to the staff here and to the centre as a whole.”



For the families, they've seen an impact on their young people and have told staff that this experiences has helped to "open their eyes that there isn't a space that isn't for them".



Oxford University Museum of Natural History

This project stood out for the depth and layering of relationships it brought together, rather than being a one-off youth engagement activity. It was built on long-term, trust-based work with a core group of 8 young people, who had already participated in previous museum programmes. The two staff working most closely with the young people, Devika and Himal “were just with them, like, hand in hand all the way through... They already had a relationship with some of these people because they'd worked with them on previous projects. So they were they were trusted”, and “nobody in that group had not worked with Devika before... So that trusted, embedded relationship... was already well established”.

Himal's own journey from youth participant to staff member created a powerful line of sight from “kids like them” into museum roles: “although he is a member of staff, he came through one of the youth programs in 2022, so he's a good advocate for the youth programs”, giving a tangible progression route. Devika, as project lead, was also a young woman of colour, and with her PhD studies underway made an obvious connection between the young people and graduate research.

Within this relational context, the project offered genuine youth-led design and delivery. Youth advocates chose which NERC-related research themes to explore and “came up with ideas about how they wanted to develop them, and then we supported them with public engagement expertise”. The museum explicitly recognised young people's time and leadership through bursaries, something Sarah, the project lead, valued as “enabl[ing] us to recognise young people's time as a valuable commodity”. This combination of real budgets, paid roles and staff deliberately “hanging back” even when things were challenging meant that the advocates “definitely did develop that strong sense of ownership with this project”.

The project's content and format were also distinctive. Instead of staff or researchers pre-selecting topics, researchers submitted short outlines which the youth advocates then curated: “we shared [these] with our eight youth advocates. And the youth advocate group picked out four themes that they wanted to explore”. This meant young people were engaging with **current environmental science** “at the point of... PhD students who were sharing the research interests, not only of themselves, but also the people that they work alongside... rooted in environmental science and current environmental science”, and were “taken aback by [the] diversity of options... a good range of unexpected fields”. These themes were then translated into hybrid museum–youth–science activities, by the advocates, for an extended group of younger participants. A typical session included participants exploring data on roads and biodiversity, examining mitigation examples, and “creat[ing] a diorama of their local environment... and then they presented their dioramas to each other. So that's like typical



session". They built paper planes to consider fuel efficiency, drew comic strips based on predator–prey interactions and invasive species and more in their time together.

Although formally a short-term grant project that was “over in a flash”, it functioned as a significant step in a longer journey with this cohort and as a prototype for future collaborations. The model is already being shared with and taken up by another research group “as a kind of model to do this collaborative project in the summer and into the autumn next year”. Underpinning all of this is a consciously articulated understanding that “the more layers you can put in, the more people you involve, just the deeper the connection... You've got to have some youth involvement at lots of different levels”. That explicit focus on relational infrastructure, layered youth leadership and live research content, all within a museum setting, makes this project distinctive.



Techniquist

The Techniquist team showcased genuine co-creation across several very different groups and contexts. They framed the work around “putting climate change on trial” and then invited each group to decide what that meant for them rather than delivering a fixed workshop. As the project lead put it, “we’re not coming in and showing you how to make bath bombs. We’re coming here to discuss what you would like to look at.” This led home-educating families to focus on very local, lived-experience flooding in Pontypridd, while the Wales Youth Parliament took a more strategic route, asking “where do you go for reliable information based on science?” and deliberately seeking positive, solution-focused narratives.

The final celebration event brought together different “layers” of environmental action into a single, shared space. Young people spoke about hyper-local impacts like repeated flooding on specific streets, while considering personal, national and international actions in response. One reflection captured this particularly well: there was “every single layer of personal action right the way through to international action all together, and an actual conversation that flowed between the different levels.” At the same time, the usual demographic pattern at Techniquist was, in the project lead’s words, “totally reversed.” Families from ACE Cardiff, many visiting for the first time despite living within walking distance, arrived in large numbers; children “were running around like they owned the place, showing their mums things, showing their friends things.” It was also observed that “the children were almost the teachers on the day,” signalling a powerful shift in who felt they owned and could lead within the space.

Finally, the project functioned as a test-bed not just for young people’s learning, but for the practice of partners and for Techniquist’s own internal development. Exhibitors and NERC-linked researchers used the evening to try out new approaches to engagement; one energy organisation, for example, explicitly adapted their offer for subsequent events after realising that “him standing there with a pull-up banner isn’t enough to engage kids.” Internally, the project model and funding bid gave a member of the delivery team the confidence and template to go on and lead further work (notably the AI busking project), extending the project’s legacy into new thematic areas. The project enabled co-created content, multi-level participation, and parallel capacity-building for both community partners and the host institution.



The Eden Project

What was unique about this project was the specific combination of a very small, high-needs, opt-in group and The Eden Project as both venue and “proxy for nature.” The delivery team worked with just four young people, most engaged through additional-needs provision at a local youth centre, who did not exist as a group outside this project. This created an unusually intense dynamic: as one staff member reflected, with so few participants, “when one...disengaged...actually, the whole group dynamic broke down,” meaning the same young people had to carry every discussion. At the same time, Eden’s rainforests, Mediterranean biome and outdoor gardens allowed the place itself to “do lots of the heavy lifting...as a kind of proxy for nature,” offering rich, sensory experiences such as fruit tasting and “nature name badges” that quickly produced “properly chuffed” faces and genuine awe.

The project also developed a distinctive “youth-led within scaffolding” model, driven by the needs and preferences of this particular group. The group were “happiest in a guided activity, low cognitive demand, experiential,” something staff countered through repeatedly revisiting core concepts (biodiversity, climate, environmental science) and the project narrative at the start of each session. After each activity participants were asked three simple questions—“what did you like or enjoy? what did you find out? even better if”—and pinned the answers on the wall as a living record of their learning. These reflections then directly shaped what happened next, for example using comments about waterfalls, fruit tasting or ice skating to design subsequent sessions. Over time, ownership emerged through roles rather than formal leadership: one became the narrator of the final story, while two siblings “almost took on...project directors, managers” roles, guiding their contribution and the overall storyline. Staff were candid that the very open-ended youth-led framing may have been “almost un-enabling rather than enabling” for this cohort, and that clearer creative parameters (for example, defining it from the outset as a film project) might, paradoxically, have given these young people more room to flourish. This honest reflection is now feeding into both an Arts Council bid for a youth co-created festival and The Eden Project’s emerging youth strategy. The project created ongoing appetite on both sides to work more closely; Young People Cornwall subsequently brought numerous groups to The Eden Project for ice skating and visits, refreshing that relationship in a very practical way.

Xplore!

The work undertaken with the young people as part of this project began by helping them to identify climate effects in their area and how they themselves had experienced issues, for example due to flooding. The young people were aged 10 to 14 and were part of a youth focussed faith group. The project lead noted that the young people were “actually quite passionate about it and they were annoyed and they were upset about these things happening” but hadn’t linked it to climate change and had assumed it was something that happened when it rained. The Xplore! staff along with the youth group leader then supported the young people in building on this realisation to think about their own personal interests and how these linked to environmental science. One shared their love of crabs, another was fascinated by sharks. Depending on what they were interested in, staff would find someone to come along to help them explore that further and they also took part in some science investigations relevant to their interests. Xplore! staff often brought equipment that wouldn’t necessarily be used but wanted to have options to hand if something came up in conversation.

Once they became aware of the issues they then wanted to understand the ways in which they were able to take action, something they talked about as “Artivism”.



Figure 3. More than minutes representation of discussions between the young people

The young people took ownership through creative means, making posters, canvas painting, rock painting, zines and at the end of the project they produced two podcasts, one on pollution and the other on sharks. The final phase of the project is underway and is being co-ordinated by an artist who has partnered with the project to take all of the different artworks completed by the young people to combine them into three pieces. These pieces of art will remain in the



youth group's own space as a legacy of the project. One is about the ocean and the sea life local to them. The second reflects the science they have learned about over the course of the project. The third represents 'Activism' and how they can be activists through art. The young people were keen to have an impact. These artworks will allow the young people to have a material representation of what they have done that they can share and use as a focal point for discussions about climate change and their local area.



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