UK Centre for
Ecology & Hydrology

ANNUAL REPORT & ACCOUNTS 2024

2024 HIGHLIGHTS

UKCEH PARTNERS ON NEW ‘LAND USE FOR NET ZERO’ HUB

New hub brought together experts to bridge the gap between science and policy to achieve net zero.

UKCEH WELCOMES NEW BOARD MEMBERS

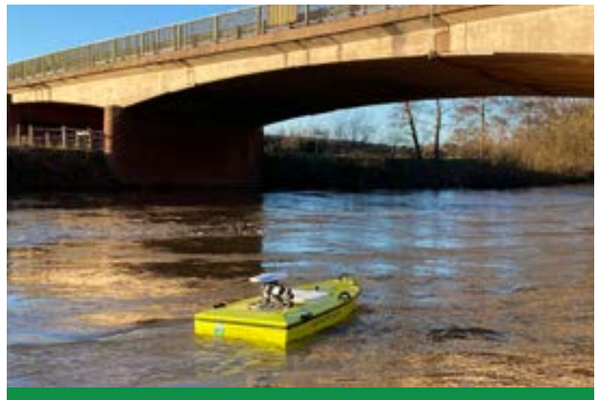
Judith Batchelar joined UKCEH as chair, along with new trustees Victoria McMyn and Professor Emily Shuckburgh.

COUNTING THE EARTH PODCASTS

Exploring the numbers behind nature, our podcast series picked apart the statistics surrounding climate and biodiversity.

WEST AFRICA OFFICE OPENS IN GHANA

Capitalising on our work across Africa, we opened our first international office in Accra, Ghana.



FLOODS AND DROUGHTS RESEARCH INFRASTRUCTURE

We launched an ambitious programme to improve our understanding of how, when and where floods and droughts occur in different parts of the UK.

ENVIRONMENTAL SCIENCE FOR A BETTER WORLD

Unveiling our five-year strategy, we outlined our ambitions to tackle the greatest challenges of our time.

2024 HIGHLIGHTS

NEGOTIATIONS ON THE WORLD STAGE

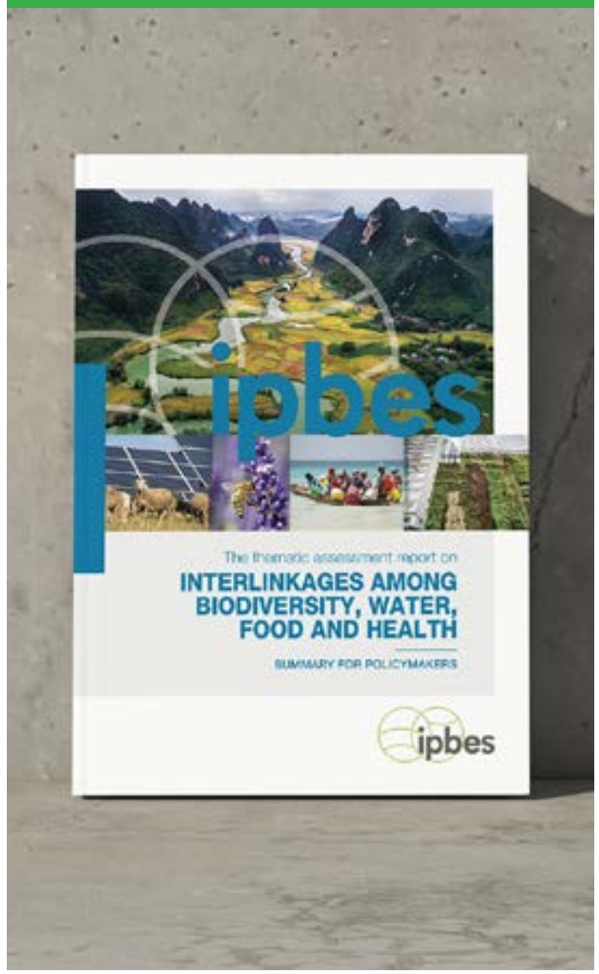
UKCEH scientists attended three COPs to engage with stakeholders:
1. COP16 - United Nations (UN) Convention on Biological Diversity,
2. COP29 - UN Climate Change,
3. COP16 - UN Convention to Combat Desertification.

GAME CHANGER FOR UNDERSTANDING WILDFIRES

UKCEH scientists contributed to a major new study to gain a greater understanding of global wildfire risks.

NEW GLOBAL IPBES NEXUS REPORT

Co-chaired by UKCEH scientist, Professor Paula Harrison, the UN's IPBES Nexus report prepared by 165 experts from 57 countries, assessed interconnections between biodiversity, food, water, health risks and climate change – the most comprehensive global assessment to date.



PROFESSOR DAME ANGELA MCLEAN OPENS COREMIS

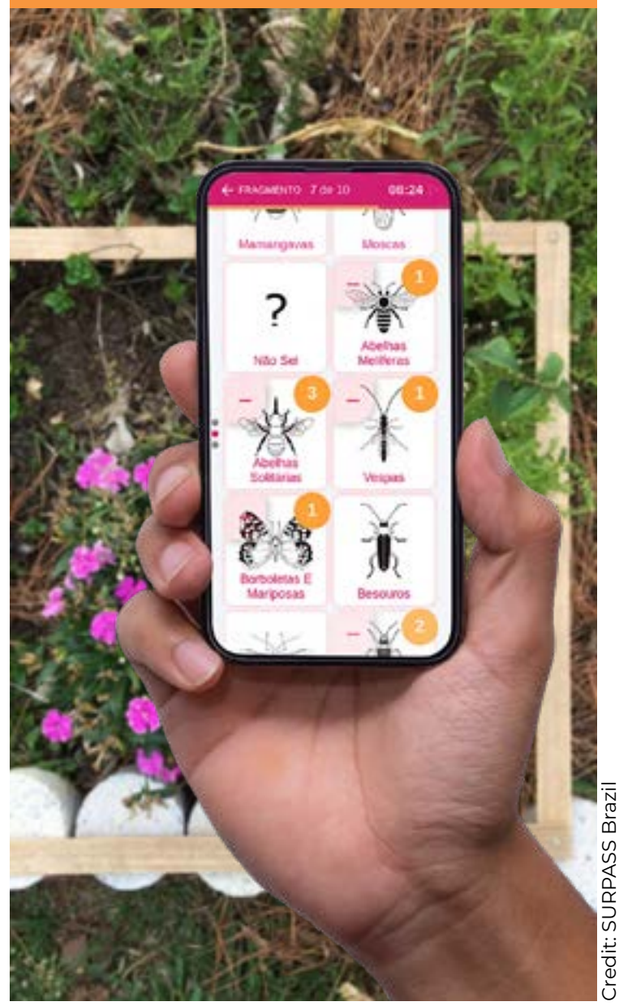
Our new £750,000 facility, with state-of-the-art microscopes that will transform our understanding of chemical pollutants, is the first of its kind in the country dedicated to the study of the environment.

UKCEH SCIENTISTS ACT AS ADVISERS

UKCEH scientists support inquiries and committees with their scientific expertise. Professor Chris Evans was appointed to the Climate Change Committee's Adaptation Committee.

TAKING OUR CITIZEN BASED INSECT MONITORING GLOBAL

Through phone apps, many that incorporate AI to support species identification, UKCEH is enabling citizens worldwide to engage with monitoring their local environments, adding valuable data to help us build insights for policy and research communities.



Credit: SURPASS Brazil

429

We trained 429 external learners through a portfolio of 28 commercial courses

250+

We jointly supervised over 250 postgraduate researchers

2,000

2,000 datasets (10.3 Tb) are now freely available via the Environmental Information Data Centre

£27,900,000

We won 181 bids worth more than £27.9 million

30

We carried out projects in over 30 countries worldwide

400+

Our scientists published 400+ peer-reviewed journal papers

100+

Our publications were co-authored with researchers from 100+ countries

6,300

Over 6,300 downloads of our Counting the Earth podcast episodes

CONTENTS

2024

Dr Stuart Wainwright OBE
Chief Executive

Over the past year, UK Centre for Ecology & Hydrology (UKCEH) has shown its customary vision, innovation and remarkable resilience and agility. We have made the necessary decisions to ensure a sustainable future and engaged our entire team in developing a forward-thinking strategy to 2030. In a more turbulent world, as biodiversity and climate change risks intensify, we have remained focused on delivering world-class, high-impact science where it matters most.

Our Strategy 2025: Research and Innovation had provided the strategic direction for the past five years, with this report marking its final year. The launch of our new strategy to 2030, Environmental Science for a Better World signifies a positive, purposeful shift.

We have reinforced our commitment to addressing urgent environmental challenges that affect people's lives, communities, and vulnerable ecosystems across the world. Our work on water quality, flood risk, biodiversity, and climate resilience are central to national and international missions, boosting growth, improving health and lives, building resilience, and safeguarding water and food security.

Our large-scale international and national efforts in gathering and analysing data remain vital, connecting evidence to real-world outcomes which benefit both people and nature. Looking ahead, innovation, AI and machine learning, and commercialisation will be key. Our strong partnerships - both in the UK and internationally - will be essential as we shape solutions for the complex challenges ahead, driving positive change through innovative science and creating a better future for all.

> "LOOKING AHEAD, THE CASE FOR UKCEH'S WORK HAS NEVER BEEN STRONGER."

Judith Batchelar OBE
Chair

In December 2024, I was both honoured and excited to take over the role as chair of UKCEH from Lord Cameron of Dillington. On behalf of the entire team, I want to sincerely thank him for his commitment, enthusiasm, and pride in UKCEH and its vital work.

As we report on this final year of our 2025 strategy, it offers a valuable opportunity to pause and reflect. It has been a challenging yet productive year, and I am grateful to the leadership team for navigating difficult decisions to secure our future while keeping our science impactful and relevant.

Looking ahead, the case for UKCEH's work has never been stronger. The World Economic Forum's Global Risks Report continues to place environmental threats — from biodiversity loss to water crises — among the most pressing global risks. Here in the UK, our new strategy directly supports national priorities, aligning closely with the ambitions of the 25 Year Environment Plan to improve air, water, soils, and biodiversity for future generations.

In the short time since becoming chair, I have seen how UKCEH's science positively affects people, communities, and landscapes at home and internationally. Through national reach, regional partnerships, and innovative approaches, UKCEH is well positioned to play a central role in building healthier, more resilient places for both people and nature. I look forward to working with the trustees and the leadership team in the coming years to bring the new strategy to life and deliver the positive impact we have planned for.

Fred Duarte, Atmospheric Analysis Facility

WHO WE ARE

UK Centre for Ecology and Hydrology (UKCEH) is a leading research institute with over 700 employees. We solve complex environmental challenges across water, land, and air. Our unique data and insights inform global policymaking, innovation, and conservation. Our major national capability programmes deliver integrated monitoring, modelling and data for the UK environment. We exist to provide the vital environmental science that governments, businesses, NGOs, and researchers rely on to meet the great challenges of our time.

HOW WE WORK

At the heart of UKCEH's research and innovation are large research infrastructures and our capabilities are monitoring, observation, experimentation, data science and modelling.

Monitoring and observation

We operate flexible, long-term, large-scale monitoring and surveillance networks essential to identify and quantify environmental changes and determine the underlying factors that drive that change.

Experimental platforms and research facilities

Our experimental platforms and research facilities provide the infrastructure for investigating different drivers of environmental change and assessing the effectiveness of interventions.

Data science and modelling

We develop models to forecast and predict aspects of the environment at different spatial and temporal scales.

PARTNERSHIP FOR IMPACT

Environmental challenges cannot be tackled in isolation. We rely on a healthy environment for our own health, resilience of our infrastructure and livelihoods and to support sustainable growth and enterprise in the future.

Our partnerships work collaboratively with researchers, governments, NGOs, business and local communities, spanning borders across the four nations of the UK and internationally. Our cross-disciplinary teams work across several different sectors from agriculture and food and drink to healthcare and beyond. We build the right partnerships and approaches to tackle increasingly complex issues, benefitting all involved.

Together, we deliver the science and innovation needed to address these complex issues; enhancing the environment, boosting growth through managing risk and building resilience, and improving people's lives.

Katrina Sharps, Climate Change Solar Dome Facility, Abergwyngregyn

OUR STRATEGY

This is the final year of reporting our progress against our **Strategy 2025: Research and Innovation** which includes:

- Creating and enhancing sustainable ecosystems
- Reducing and preventing pollution
- Mitigating and building resilience to climate and environmental change

In November 2024, we launched our Strategy to 2030, **Environmental Science for a Better World**. Over the next five years, we will empower our partners to take meaningful action to tackle the climate crisis, informing adaptation strategies and interventions that maximise resilience, promote sustainable land use, accelerate the journey to net zero, and protect communities from floods, droughts and water scarcity. Our strategy focuses on three interconnected environmental challenges which are crucial for a sustainable future:

- Building resilience in a changing climate
- Enhancing ecosystem and human health
- Restoring biodiversity for a sustainable future

Lord Cameron of Dillington, Louise Heathwaite, Stuart Wainwright, Judith Batchelar at UKCEH's strategy launch

UNVEILING OUR PLANS FOR THE NEXT FIVE YEARS

Amidst the first flurries of snow and tractor protests in London, we launched our Strategy to 2030, **Environmental Science for a Better World** in November 2024. Our strategy comes at a critical time as we confront urgent environmental, societal, and economic challenges and meet increasing demand for our expertise.

As Stuart Wainwright OBE, CEO of UKCEH, told guests at the launch, our focus for the next five years is clear: delivering impactful, world-class environmental science to tackle climate change, enhance biodiversity, and support sustainable ecosystems. Our research will span borders, sectors, and disciplines, fostering collaboration to deliver the knowledge, data, and solutions the world urgently needs.

Outgoing chair Lord Cameron of Dillington and incoming chair, Judith Batchelar OBE both shared their reflections and support as we embark on the next phase, with Professor Louise Heathwaite, Executive chair of NERC, providing an inspirational keynote speech.

Partnership is essential to achieve our aim. Over 90 stakeholders representing government, industry, research and academia, attended the event, which included an interactive exhibition to showcase our work across land, water and air. This provided a networking opportunity alongside a better understanding of the collaborative approach taken to deliver world-leading environmental science.

OUR NATIONAL ROLE

As an independent research institute funded by UKRI-Natural Environment Research Council and other funders, we deliver impartial environmental science to benefit the UK research community, governments, businesses, and society.

Our large-scale research infrastructures and national capability programmes generate high-quality scientific evidence, enabling and inspiring the academic community, and putting the environment at the heart of critical policy and business decisions.

OUR INTERNATIONAL ROLE

We provide research-based evidence, advice, and solutions around the globe, addressing many of the world's most pressing environmental and societal challenges, including those identified by the United Nations Sustainable Development Goals (SDGs).

We do this through international research partnerships, including our work with UN agencies and programmes such as Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the United Nations Environmental Programme (UNEP), the United Nations Educational, Scientific and Cultural Organization (UNESCO), and the World Meteorological Organization (WMO).

NATIONAL CAPABILITY FOR UK ENVIRONMENTAL CHALLENGES

UKCEH delivers impartial environmental data that benefits and enables the UK research community, governments, businesses, and society. Our large-scale research infrastructure and National Capability programmes generate high-quality scientific evidence, enabling and inspiring the academic community, and putting the environment at the heart of critical policy and business decisions. On behalf of the nation, we continually develop and operate this infrastructure, creating opportunities for collaboration and innovation. UK-SCAPE - the programme in through which we have been delivering this benefit to the research community – concluded in March 2024. Our commitment to deliver and evolve large-scale monitoring and research infrastructure for the UK continues with the announcement of a new programme of work.

1 Delivering the 'Understanding the UK Environment' programme (NC-UK 2024-29)

UKCEH was awarded £29.9 million to deliver integrated monitoring, modelling, and data for the UK environment over a five-year programme empowering researchers, governments, and businesses to tackle major environmental challenges. This 'National Capability for the UK Challenges' (NC-UK) programme is part of a £101 million investment by NERC in research centres and key partners. It aims to enhance national long-term environmental science capabilities, supporting large-scale observations, modelling, and research through innovations in platforms, sensors, and data science to deliver an integrated and adaptable environmental monitoring network.

In addition to monitoring, the programme also focuses on:

Providing data, models, and insights to increase our resilience to flood and droughts.

Measuring how changes in land use impact greenhouse gas emissions, to support net zero goals while protecting natural resources.

Analysing how pollutants affect ecosystems to inform clean air, clean water, and sustainable soil strategies.

Understanding biodiversity loss on land and in water, and providing monitoring, data, and models to support nature restoration.

2 High-tech aerial mapping of England's hedgerows

Home to hundreds of plant species, nesting birds, small mammals and insects, hedgerows capture and store carbon. Integral to our rural landscape since the Bronze Age, hedgerows traditionally mark boundaries and keep livestock in a contained space. Our scientists created a new map using aerial laser scanning to provide precise data on the quantity, length, and – for the first time - height of hedgerows across England.

The data will be important in helping the Government with its Environmental Improvement Plan, to support farmers to create or restore 30,000 miles of hedgerows by 2037 and 45,000 miles by 2050. Advances in satellite, drone and data science technologies will enhance the quality and availability of mapping images, enabling quicker and easier remote surveys as well as improved access and data overlay options for users.

Key findings:

390,000 km of hedgerows exist on field boundaries in England - enough to go around the world almost 10 times.

The southwest boasts the highest hedgerow density with an average of 5.1km per 1km square of land.

The lowest densities are found in Surrey (1.2 km), Hampshire (1.5 km), and Berkshire (1.7 km) per 1km x 1km square of land.

3 New Land Cover Maps released – *updating evidence to inform decisions*

Used by government departments, consultancies, academics and environmental charities, our land cover maps can be combined with other data to assess the impact of land cover on carbon, biodiversity and hydrology, guiding decisions on land management.

The maps show grasslands, arable, water, woodlands, urban and suburban areas across the length and breadth of the UK. The latest products in our time series, which starts in 1990, extend the time series to include 2022 and 2023.

ESSENTIAL SCIENCE FOR GLOBAL CHALLENGES

We lead efforts to tackle global challenges through our work with UN agencies and programmes, including IPBES, UNEP, UNESCO and the WMO.

In 2024, we continued to provide scientific evidence and tools to underpin effective responses to global challenges. Examples of our work include:

1 The opening of UKCEH's first international office in Ghana

Our new office in Accra will foster world-leading partnerships between UK and West African scientists to develop new solutions for our environment. The office was officially opened by Hon. Ophelia Mensah Hayford, Ghana's Minister for Environment, Science, Technology, and Innovation, with over 100 academics, researchers, and representatives from key environmental institutes attending the ribbon-cutting ceremony.

Our plans for the West Africa office include:

- New partnerships to map and monitor national biodiversity resources.
- Expansion of greenhouse gas science in the region, particularly in relation to the expanding oil palm industry in West Africa.
- Partnering with governments and technical agencies in the region to monitor metal pollution in water courses, soil, and food systems in mining areas.
- Implementation of the World Meteorological Organization's Global Hydrological Status and Outlook System (HydroSOS).
- Building research capacity of African scientists, especially early career researchers, through our visiting research programmes and organising summer schools and training workshops.

2 Official delegations to United Nations Conference of Parties

Working with British Embassies and Foreign Commonwealth and Development Office (FCDO) we attended United Nations Conference of Parties (COPs) on Biodiversity, Climate Change and Convention to Combat Desertification. Our attendance at three COPs enabled us to build on existing international partnerships, explore opportunities for new collaborations and help to strengthen our position as a leading environmental research institute.

In Cali, Colombia: We co-hosted an event with the Natural History Museum at the British High Commission on 'The UK's role in biodiversity monitoring and modelling.'

In Baku, Azerbaijan: We contributed efforts to develop a Saltmarsh Breakthrough initiative. We plan to launch a comprehensive new report on The State of the World's Tidal Marshes in 2025.

In Riyadh, Saudi Arabia: We built on our experience of developing the Good Practice Guidance on how to monitor three components of drought risk over time.

3 The significant impact of land management and practice on nitrogen pollution

UKCEH scientists showed that levels of reactive nitrogen released into the environment are directly linked to land management practices. The levels of harmful reactive nitrogen compounds like ammonia, nitrous and nitric oxides (NO) are on the rise.

While fertilisers have revolutionised agriculture and increased food production to feed more people globally, their effect on the land has consequences for the climate, environment, and human health. The complex interactions between fertilisers and surrounding ecosystems in regions like South Asia had been chronically understudied.

In our study in Sri Lanka, we found that one gas, nitric oxide (NO), increased as we added more fertiliser. But another gas, nitrous oxide (N_2O), only increased when we also added a source of carbon (like glucose). This suggests that the tiny organisms (microbes) in the soil respond differently depending on what nutrients are available. It shows that the soil system is quite complex and needs to be studied more closely to understand how these microbes affect gas emissions.

1 NEW INFRASTRUCTURE TO IMPROVE RESILIENCE TO FLOODS AND DROUGHTS

Millions of people in the UK are affected by floods and droughts, with impacts on residents, farmers, businesses, transport, and wildlife. Climate change is increasing the frequency and intensity of extreme weather events.

Without significant investment in research infrastructure there would be a lack of scientific evidence to support the UK's resilience to extreme weather, and the damage and costs would spiral upwards.

To better understand how, when and where floods and droughts occur in different parts of the country, UKRI-Natural Environment Research Council (NERC) confirmed this year, £38million funding for an ambitious programme jointly lead by UKCEH, British Geological Survey, Imperial College London and the University of Bristol.

The programme, Floods and Droughts Research Infrastructure (FDRI), comprises fixed and mobile measuring equipment which will monitor the entire water environment - on a much bigger scale than previously – and integrate data on evaporation, soil moisture, weather, groundwater, and rivers flows for the first time. Taking advantage of cutting-edge technologies such as advanced computer modelling, artificial intelligence and drone footage, it will deliver near real-time data and improve our understanding of floods and droughts.

FDRI'S IMPACT

£700 million a year

The cost of damage caused by flooding alone is estimated at more than £700m a year. This infrastructure will build the UK's resilience to extreme weather.

Open and accessible research

The research infrastructure will be used by the research community to access near real-time data.

Saving money with solutions

There are cost savings benefits for constructing green infrastructure and environmental sensors.

Benefit to society

Reducing the impact of floods and droughts will build the UK's resilience through evidence and solutions to improve infrastructure, forecasting and deliver new technologies.

Measuring the water levels and river flow using a sensor

2 BRAZIL-UK WILDFIRE RESEARCH SETS GLOBAL EXAMPLE

Beneath their leafy canopies, forests across the globe are key ecosystems in storing carbon and their protection is vital if we are to meet global climate targets. The escalation in extreme weather conditions which cause wildfires is accelerating the carbon loss from these important ecosystems.

As part of a pioneering Brazil-UK collaboration between UKCEH, the Met Office and Brazilian partners, local collaborators in the Amazon used advanced global and land climate models to explore how fires affect the forests' ability to store carbon. They examined both historical data and future scenarios to identify critical temperature thresholds where wildfires cause significant shifts in tree cover and carbon storage. Alarmingly, the latest temperature at which, globally, these impacts become more pronounced is 1.34°C - close to current levels of warming.

As an outcome of this research, we need to rethink the relationship between mitigation and adaptation. These have been seen as two separate approaches; mitigation reducing emissions, and adaptation helping us to cope with the impacts that have already happened. However, fire shows us how closely linked they are. Reducing emissions can lower future fire risks, while adapting fire management strategies is crucial for helping forests remain resilient amid changing fire regimes and preserve forest cover.

Partnerships between Brazilian and UK researchers are leading to new insights about how fire regimes are changing and how best to manage these risks. As a global issue, fire requires coordinated efforts.

KEY FINDINGS:

Every 0.1°C matters

Northern Boreal forests and tropical South America are showing signs of ecosystem damage, tree, and carbon loss. Other areas may not face severe effects until warming reaches 2°C.

Mitigation fire impacts

Acknowledging regional differences and understanding global temperatures changes can preserve vast areas of forest and avoid large-scale deforestation or a move to less carbon-rich vegetation.

Human actions can influence

Research suggests our actions can still influence future fire regimes, and if we do more now to limit warming, we can better protect vulnerable ecosystems.

Brazil as a lens

One of the planet's largest carbon stores, the Amazon rainforest is experiencing fires that not only threaten biodiversity but also its ability to maintain carbon-rich forest cover.

Fire management strategies to help forests remain resilient

3 COORDINATED APPROACH FOR BETTER FARMING OUTCOMES

A comprehensive study reveals that wisely handling nutrients like nitrogen, phosphorous and potassium together can reap multiple benefits which prevent pollution, boost crop yields and minimise nutrient loss in our soils leading to better farming outcomes. Globally 20% of agricultural soil face severe potassium deficiency.

Our research indicated that potassium deficiency in agricultural soils is a largely unrecognised but potentially significant threat to global food security if not addressed. The lack of this key nutrient can inhibit plant growth and reduce crop yields. Farmers often spread potassium-rich fertilisers over their fields to replenish the depleted nutrient, but supply issues can inhibit its use and there are also questions about the environmental impact.

Prices are volatile as production of mined potash from which potassium is extracted comes from just 12 countries dominating the £15 billion market. While potash mining generates millions of tonnes of refuse composed of sodium chloride salts which leach into soils and salinise soil and water tables, harming plants, and animals.

UKCEH, the University of Edinburgh, University College London and the Institute of Environmental Assessment and Water Research in Spain found in many regions of the world, more potassium is being removed from agricultural soils through leaching or when crops are being harvested. Agricultural soils in South-East Asia can experience critical shortages up to 44%, while 39% in Latin American and 30% in sub-Saharan Africa due to intensive farming practices.

Potassium deficiency in agricultural soils

SIX RECOMMENDATIONS

Six recommendations were put forward to prevent potential crop yield declines, safeguard farms, and address environmental concerns:

1 Global assessment

Conduct a global assessment of current potassium stocks and flows to identify the most at-risk countries and regions.

2 Monitoring systems

Establish national capabilities for monitoring, predicting, and responding to potassium price fluctuations.

3 Research and support

Help farmers maintain sufficient soil potassium levels with further research about the yield implications of limited potassium in various crops and soils.

4 Sustainable practices

Evaluate the environmental effects of potash mining and developing sustainable application practices.

5 Circular economy

Develop a global circular potassium economy that maximises the reuse and recycling of the nutrient.

6 Policy coordination

Increase intergovernmental cooperation through the UN and other agencies to develop global policy coordination akin to what has been developed for nitrogen.

4 THE VALUE OF GREEN SPACES IN OUR CITIES

Even in the busiest cities, green spaces offer a vital escape and a chance to reconnect with nature. They can also do more to keep cities cool during heatwaves.

A global study, of 30 scientists from five countries, reviewed evidence of the cooling effect of natural features in more than 100 cities and towns worldwide. We found that botanical gardens can cool the air by around 5°C during heatwaves. Parks, wetlands, green spaces, and waterways can reduce temperatures in cities by shading due to water vapour given off by plants or from water bodies cooling the air by evaporation.

While there was variation depending on local factors, there were some general patterns and, typically, the larger the area of green space or waterway, the greater the cooling effect. In reducing temperatures in urban areas, green and blue infrastructure projects can also store carbon, improve air quality, and reduce flooding.

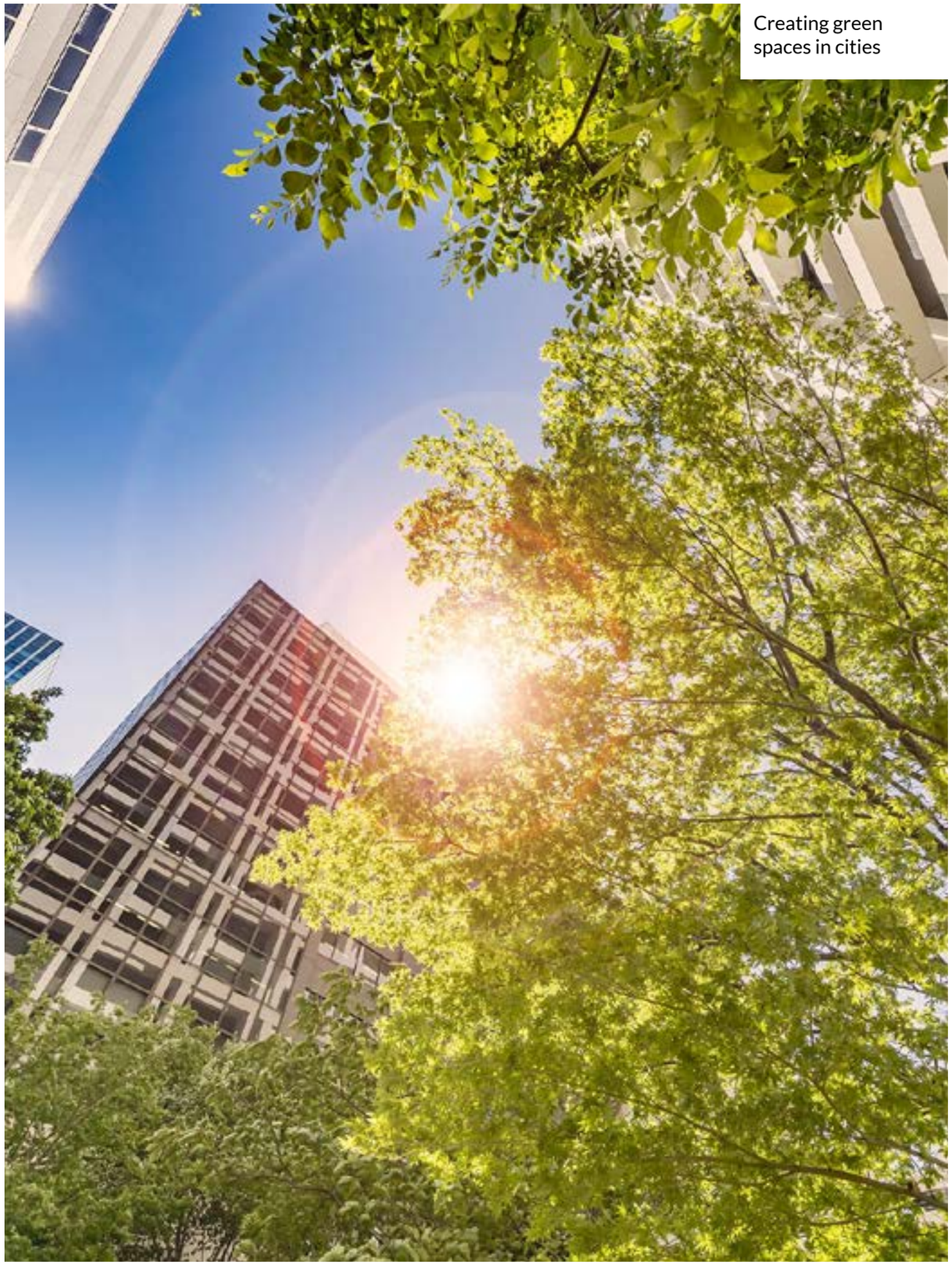
Creating green spaces can also benefit residents' physical and mental wellbeing. Making these areas accessible to all creates opportunities for recreation, relaxation and exercise. It has been shown to reduce stress, anxiety and depression. It encourages physical activity, social interaction and helps with social cohesion in highly populated urban areas.

This research highlights the importance of decision-making for cities being made at local or regional levels to enhance the social and physical features of those environments. Local town planners can make cities more resilient to the effects of climate change while improving the health and wellbeing of their residents.

KEY FINDINGS:

The average temperature reductions were:

Botanical gardens	-5.0°C
Wetlands	-5.0°C
Rain garden	-4.5°C
Green walls	-4.1°C
Street trees	-3.8°C
City farms	-3.5°C
Parks	-3.2°C
Reservoirs	-2.9°C
Playgrounds	-2.9°C



Creating green spaces in cities

5 UNIFIED APPROACH NEEDED FOR GLOBAL CHALLENGES

A new landmark report provides the most comprehensive assessment to date of the complex interconnections between biodiversity, food security, water availability and quality, health risks and climate change – and outlines solutions that would deliver multiple benefits.

The three-year international study, co-chaired by Professor Paula Harrison of UKCEH, involved 165 international experts from a range of disciplines and was carried out for the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES). At its launch over 200 media outlets attended the report launch, resulting in 1,527 hits across 996 different news sites, translated into 36 languages in 101 countries with 5.7 billion potential impressions.

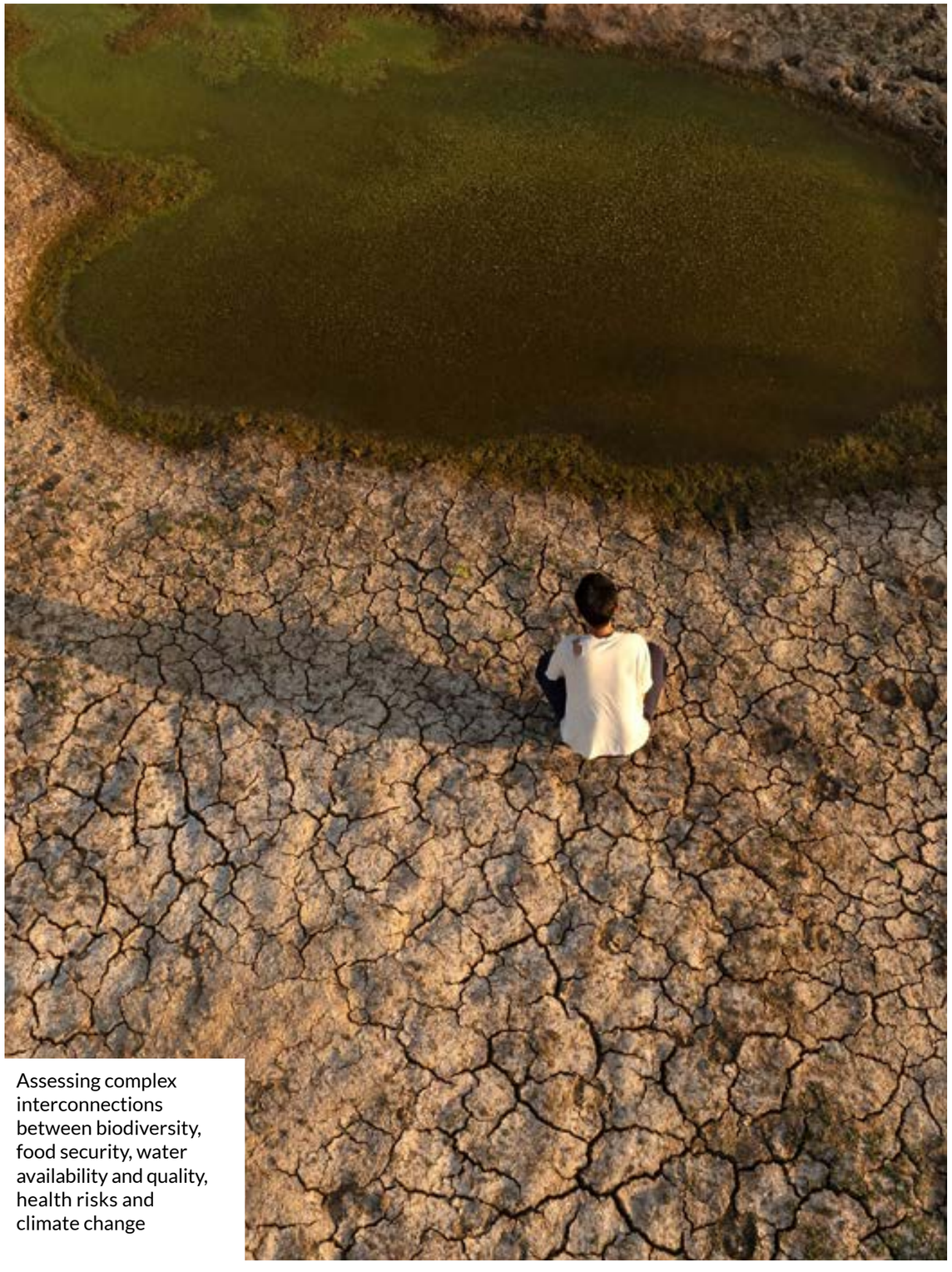
While the major global crises facing biodiversity, water, food, health, and climate systems are interlinked with the challenges often amplifying each other, existing governance, and actions to address, fail to tackle the complexity of interlinked problems and can be ineffective and counterproductive.

It is crucial that decisions and actions move 'beyond single issue silos' and need to consider indirect drivers and their impact on interactions between the different challenges. Many institutions are working in isolation, often resulting in conflicting objectives, inefficiencies, and negative incentives, leading to unintended consequences.

Biodiversity is declining across every region of the world, largely due to human activity, which impacts food security and nutrition, water quality and availability, health and wellbeing outcomes, resilience to climate change and almost all nature's other contributions to people.

The study set out a roadmap for action from national to community level to sustainably manage biodiversity, water, food, health, and climate change, many of which are also low cost. Over 70 response options are available for decision-makers to help synergise the approaches to create multiple benefits with eight deliberate steps to help identify problems and shared values to work towards holistic solutions. The report also examines future challenges and opportunities by assessing nearly 200 scenarios.

Delaying the action needed to meet policy goals will seriously increase the costs of acting later.



Assessing complex interconnections between biodiversity, food security, water availability and quality, health risks and climate change

6 THE GLOBAL ROLE OF CITIZEN SCIENCE IN MONITORING INSECTS

Monitoring insects is vital for guiding conservation efforts addressing biodiversity loss and climate change. UKCEH, The Cyprus Institute, and INIBIOMA in Argentina highlight how citizen science and digital technologies are advancing insect monitoring.

Large-scale, long-term citizen science datasets are essential for tracking global insect declines, driven by climate change, land-use change, invasive species, pollution, and resource overuse. These losses threaten vital ecosystem services as insects play many important roles including pollination and decomposition.

Accurate data is crucial to measure trends, identify causes, and assess conservation actions — yet global, openly available datasets, especially from the most species-rich regions of the world, remain limited due to gaps in the data.

In the past decade, new technologies have expanded insect monitoring possibilities. Smartphone apps, online tools, and AI-assisted species identification are enhancing citizen science, while improved computing powers species maps and biodiversity models to inform policy and conservation decision-making.

Flower-Insect Timed Counts (FIT Counts) are an accessible scalable method already implemented across Europe, the Caribbean, and South America through partnerships with local groups.

Preventing the spread of alien species is the most effective way to manage biological invasions, but when introductions occur, rapid control is essential. Early warning systems rely partly on citizen scientists reporting species of concern.

In the UK, the Asian Hornet Watch initiative has received thousands of reports from the public. Confirmed sightings have enabled swift action, successfully eradicating the Yellow-legged (Asian) hornet so far. While these hornets pose no greater risk to human health than a bee, they are a threat to our native honey and wild bees. It is important that sightings are spotted quickly to prevent the opportunity for them to spread.

Globally, interest in citizen science for monitoring insect abundance, biodiversity, and distribution is growing. These efforts provide valuable data for policy and research, while offering those participating meaningful opportunities to engage with nature and support biodiversity conservation.

Monitoring the spread of invasive species, the yellow-legged (Asian) hornet

Five key priorities to enable the expansion of citizen science globally:

1 **Secure long-term funding for citizen science and biodiversity monitoring.**

2 **Create networks for information-sharing and collaboration.**

3 **Offer accessible, engaging ways for volunteers to take part and get feedback — *e.g. via social media or WhatsApp is working well within some countries and contexts.***

4 **Build capacity in emerging tech like computer vision to improve data quality, learning, and feedback.**

5 **Openly share innovations, tools, and datasets through online platforms.**

Claire Carvell monitoring insect species which informs policy and conservation decision-making

7 HISTORIC SO_2 LEVELS IN EDINBURGH TIED TO ICELANDIC ERUPTION

In May 2024, Edinburgh no stranger to an occasional haze, experienced an unprecedented atmospheric event unlike any seen for years when sulphur dioxide (SO_2) levels hit an historic high. In response, UKCEH researchers investigated if this haze could be attributed to a volcanic plume crossing the UK following an eruption in Iceland.

The series of eruptions near the Icelandic town of Grindavik on Iceland's Reykjanes Peninsula were initially deemed a local concern due to its non-explosive nature, with the impact on the UK's air quality thought to be minimal. However, SO_2 in Scotland increased to levels not witnessed since the 1970s.

Using a combination of observations and modelling data, our scientists were able to pinpoint the high SO_2 levels, showing that it was highly likely the spike could be attributed to the Icelandic volcano.

Whilst SO_2 can be damaging to ecosystems and contribute to the formation of particulate matter ($PM_{2.5}$) which is harmful to human health, measurement and model results indicated that due to the short-lived plume of SO_2, the $PM_{2.5}$ concentrations were not at a concerning level. This event will give us valuable insights into how well we can predict the impacts of volcanic eruptions on human health and our environment.

KEY POINTS

Tracking the plume

The Scottish Environment Protection Agency's (SEPA) national volcanic emissions network first detected an increase in SO_2 on the Isle of Lewis on the evening of 30 May. By the early hours of 31 May, the plume had drifted south, peaking in Scotland's Central Belt by 6am.

Linking the spike

Using UKCEH's EMEP4UK model which simulates the emission, transport, chemistry, and deposition of air pollutants, confirmed the plume's path, showing it would have missed the UK under different weather conditions.

Impacts on human health

While SO_2 levels exceeded air quality objectives for 10 hours in Edinburgh, it did not breach workplace exposure limits, nor did it pose a significant health risk. Formation of $PM_{2.5}$ levels remained low throughout the event.

Predicting future volcanic air pollution

These valuable insights into air quality measurement and modelling capability means UKCEH is well placed to support UK's preparedness and response to future eruptions.

Volcanic eruption on Iceland's Reykjanes Peninsula

NEW CHAIR

Lord Cameron of Dillington announced his retirement from his role as chair of the board of trustees, after six years in the role.

In December 2024, Judith Batchelar OBE became the new chair of UKCEH board. With over 40 years' experience in food and drink industry, she is currently deputy chair of the Environment Agency and a trustee of the Royal Botanic Gardens Kew.

Judith co-chairs Defra's Food Data Transparency Partnership eco working group, serves as a commissioner on the Food, Farming and Countryside Commission, and is an ambassador for Farm Africa and the Woodland Trust.

"I am honoured to take on the role of chair of this brilliant research institute, which has so much to contribute to tackling the urgent environmental challenges of our time. I am passionate about applying science to decision-making and believe I can bring my experience to bear to help make a real difference."

NEW TRUSTEES

After an extensive search, UKCEH appointed two new trustees to our board. In summer 2024, Victoria McMyn joined as a finance trustee and chairs the finance and audit sub-committee of the board, succeeding Neil Scragg who stepped down after six years in the role. Victoria is currently the chief change officer at UK Shared Business Services and was previously chief operating officer at the Natural Environmental Research Council.

Professor Emily Shuckburgh OBE was appointed as an additional science trustee. A world-leading climate scientist and science communicator, she is director of Cambridge Zero, the University of Cambridge's climate change initiative. Emily also leads the UKRI Centre for Doctoral Training on the Application of AI to the Study of Environmental Risks and is a director of the Centre for Landscape Regeneration.

GOVERNANCE

The UK Centre for Ecology & Hydrology is a registered Charity in England & Wales (number 1185618) and in Scotland (number SCO49849), and a registered Company Limited by Guarantee in England & Wales (number 11314957). The liability of members is limited to a maximum of £1 each.

The registered office of the UK Centre for Ecology & Hydrology is at the Maclean Building, Benson Lane, Crowmarsh Gifford, Wallingford, Oxfordshire, OX10 8BB, UK.

OUR BOARD OF TRUSTEES

Our board of trustees is responsible for:

- Ensuring that UKCEH has a long-term strategy to address its objectives and supporting strategic and business plans.
- Reviewing performance in the light of the strategy, objectives, business plans, and budgets and ensuring that any necessary corrective action is taken.
- Ensuring UKCEH's financial stability and that there is a sound framework of financial controls.
- Ensuring that UKCEH complies with charity and other law, and with the requirements of the regulators.
- Ensuring that UKCEH complies with its charitable objects.
- Ensuring there is an effective risk management and internal control framework.
- Ensuring an appropriate health and safety management framework is in place and operating effectively, through review of quarterly reports.
- Ensuring appropriate safeguarding measures are in place and operating effectively with review of risk and assurance reports.
- Ensuring UKCEH adheres to the principles of the Charity Governance Code to underpin its governance framework and support high standards of governance.

In 2024, the board commissioned an external assessment of board performance against the Charity Governance Code. The resulting report concluded that governance at UKCEH is strong and set out a series of recommendations to further strengthen the impact of the board. These will be taken forwards in 2025.

Alison Sternberg Robinson and Sharon Robinson at an UKCEH employee presentation

Our trustee directors are:

- Ewen Cameron, Lord Cameron of Dillington, Chair (retired November 2024)
- Judith Batchelar OBE, Chair (appointed December 2024)
- Dr Stuart Wainwright OBE, Chief Executive
- Lynette Eastman
- Will Galgey
- Professor Iain Gillespie
- Professor Sir Charles Godfray
- Victoria McMyn (joined June 2024)
- Linda Naylor
- Benet Northcote
- Neil Scragg (retired June 2024]
- Professor Emily Shuckburgh OBE (joined July 2024)
- Alexia Tye

Board meetings

The board met four times during this accounting period, with attendance as follows:

Trustee Director	13/03/24	26/06/24	25/09/25	04/12/24
Judith Batchelar				Y
Ewen Cameron, Lord Cameron of Dillington	Y	Y	Y	
Lynette Eastman	N	Y	N	Y
Will Galgey	Y	Y	Y	N
Iain Gillespie	Y	N	Y	N
Charles Godfray	Y	Y	Y	Y
Victoria McMyn		Y	N	N
Linda Naylor	Y	Y	Y	Y
Benet Northcote	Y	Y	Y	Y
Neil Scragg	Y	N		
Emily Shuckburgh		Y	Y	Y
Alexia Tye	Y	Y	Y	Y
Stuart Wainwright	Y	Y	Y	Y

SUBCOMMITTEES OF THE BOARD

The board delegates some areas of its work to subcommittees. These are:

The finance and audit subcommittee

The subcommittee oversees and reviews all financial matters and advises the board as needed. They ensure there is a strong framework for financial accountability, risk analysis and risk management. They evaluate the budget before board approval, and they oversee the financial audit and reporting process. The subcommittee met four times during 2024.

The People subcommittee (formerly known as remuneration and appointments subcommittee)

The subcommittee ensures there is an appropriate pay and performance framework for UKCEH employees. They review the remuneration of trustee directors and recommend a level of renumeration for the chief executive. The subcommittee also oversees the recruitment and selection of new trustees and the chief executive. The subcommittee met three times in 2024.

Other matters relating to the trustees include:

Remuneration of key management personnel

Remuneration of key management staff is reviewed by the chief executive with the oversight of the board. Benchmarking data from comparable organisations is used when reviewing and setting pay levels.

Appointment and induction of trustees

Trustee vacancies are openly advertised, with a focus on increasing diversity. New trustee directors are provided with information on their responsibilities and the delegation framework, and the operation of the board and its subcommittees. They receive regular presentations from UKCEH's scientists at board meetings and have opportunities to visit UKCEH's sites to meet with staff.

Trustees' Indemnities

Under the UKCEH governing documents, directors are entitled to an indemnity against liability incurred by them to a third party in the proper performance of their duties as a director or officer of UKCEH. The governing document also gives UKCEH powers to provide indemnity insurance for the Trustees in respect of liability arising from breach of trust, duty or negligence, subject to the conditions of s.189 of the Charities Act 2011 (which excludes from such insurance any criminal and regulatory fines and penalties). UKCEH maintains such insurance for the Trustees, with an annual cap on liability.

Anna Doeser performing kick sampling at the Loch Leven

How we organise our work

The trustees delegate the day-to-day leadership and operations of UKCEH to the executive committee, led by the chief executive. The executive committee meets formally four times a year to review progress against the organisation's business plan. In addition, the committee meets fortnightly to deal with matters arising from day-to-day operations.

The science leadership committee works collectively, openly, and transparently to oversee UKCEH science direction and delivery. The committee is chaired by the science director and includes senior science and innovation staff. It holds quarterly formal meetings and meets informally each week to deal with matters arising from day-to-day operations.

Key management personnel

The members of the executive committee during 2024 were:

Dr Stuart Wainwright

Sam Bullen

Professor Harry Dixon

Gill Turner Lay

Dr Eiko Nemitz

Professor Richard Pywell

Professor Gwyn Rees (retired June 2024)

Nick Reynard

Dr Claus Svendsen

Dr Daniel Read

Alison Sternberg Robinson (joined December 2024)

Dr Nick Wells (stepped down May 2024)

Dr Doug Wilson

Eleanor Blyth (interim cover from June 2024)

Trading subsidiaries

UKCEH has two wholly owned registered subsidiaries, the UK Centre for Ecology & Hydrology Enterprise, a company limited by shares (number 12251749) and UK Centre for Ecology & Hydrology International Limited, a company limited by guarantee (number 15670898).

The registered address for both subsidiaries is the Maclean Building, Benson Lane, Crowmarsh Gifford, Wallingford, Oxfordshire, OX10 8BB.

UKCEH Enterprise

The principal activity of UKCEH Enterprise is to increase UKCEH's social, economic, and environmental impact and science excellence through commercial product and service collaborations and commercialisation of UKCEH research outputs and capabilities. The financial statements of UKCEH Enterprise are independently audited and filed at Companies House.

The directors of UKCEH Enterprise are:

Linda Naylor

Ian Reid

Dr Nick Wells

Dr Doug Wilson

Alison Sternberg Robinson (joined 2025)

UKCEH International

Incorporated in 2024, UKCEH International will support our activities outside of the UK, helping us to establish a greater presence in other countries to carry out research projects and deliver scientific expertise around the world. This will include the recently opened West Africa office based in Accra, Ghana. UKCEH International was not actively trading in 2024 hence dormant accounts have been prepared. It is expected to begin actively trading in 2025.

The directors of UKCEH International are:

Professor Harry Dixon

Will Galgey

Gill Turner Lay

Two non-executive directors were appointed in January 2025, Susie Kitchens, and Stephen Phillips.

Performance of UKCEH Enterprise and commercial achievements

UKCEH Enterprise seeks to accelerate the commercial application of UKCEH scientific capabilities and advancements, amplifying impact and funding pioneering environmental research and development (R&D). Our portfolio includes national-scale information products, industry-funded R&D, environmental sensors, advanced biological and chemical analytical services, spin-out creation, and researcher-led consultancy.

In 2024 UKCEH Enterprise generated an increased total return of £366k to UKCEH, including the subsidiary IP licensing fee payable to UKCEH, underpinning reinvestment through an internal commercial innovation fund.

Innovation projects enabled in 2024 included early-stage operationalisation of a city planning tool for blue and green spaces and a floating weed reporting system, prototype development of an automated biodiversity monitoring device to address natural capital and consumer markets alike, and continued development of the flood estimation webservice.

Beyond the Fund, an updated ammonia sensor was developed for commercial sales in 2025, a national hedgerows product launched addressing the biodiversity net gain market and in partnership with Greensphere Capital and other investors, explored two spin-out company concepts in the fields of automated biodiversity monitoring and natural capital management.

We are reviewing our approach to monitoring device design, manufacturing and licensing from these initial forays into this area of commercialisation.

Future UKCEH Enterprise impact and net income growth will in part be driven by industry R&D contracts, including environmental sample analytics not least microplastics. At year end, the UKCEH Enterprise Industry R&D portfolio exceeded £2m, driven primarily again by natural capital management and environmental sensing. Initiatives to inspire and catalyse further UKCEH entrepreneurialism through 2025 include a Royal Society entrepreneur-in-residence and two Accelerator partnerships under development.

UKCEH commercialisation highlights

£303k Gift Aid to UKCEH from UKCEH Enterprise, a 20% increase over 2023.

£2m UKCEH Enterprise industry R&D portfolio at year end.

Royal Society Entrepreneur-in-Residence award secured focussed on inspiring and catalysing commercialisation within UKCEH's science area of Water and Climate Sciences.

UKCEH West Africa Office partnered with UNESCO securing an FCDO award which includes commercial innovation audit and innovation ecosystem mapping with research institutions in Ghana and Nigeria (the work will take place in 2025).

UKCEH successfully awarded a place on the Scottish Government's CivTech Accelerator to develop a service to provide validation and verification services for Woodland Carbon and Peatland Codes.

Launched national-scale hedgerows product supporting the biodiversity net gain and natural capital markets, securing several Value-Added Reseller agreements extending reach in this emerging market.

Established outsourced manufacturing relationship to scale up automated biodiversity instrument sales of £299k in 2024, enabling development of a global monitoring network – 200 devices in 30 countries to date.

Provided continued professional development for >400 external learners, an increase of 30% over 2023 trainees, through a portfolio of 28 courses.

SECTION 172 STATEMENT

Compliance with trustees' duties under Section 172(2) Companies Act 2006

The UKCEH board of trustees have acted in a way they consider to be in good faith, would be most likely to promote the success of the company for the benefit of its members as a whole, and in doing so have regard to the matters set out in s172(1)(a-f) of the Companies Act 2006.

The likely consequence of any decision in the long term

During the year, the trustees have considered the long-term consequences of their decisions. For example, focuses for this reporting period included the development of a new organisation strategy, and building relationships and reputation to support future income and impact.

The interests of the charity's employees

In this reporting period, trustees considered updates to the people strategy, a revised approach to remuneration, reward, and recognition. They also considered action plans to create a future that champions equity, equality, diversity, and inclusion (EEDI).

The need to foster the charity's business relationships with suppliers, customers and others

Collaboration is key to our work. We partner with a wide array of organisations to provide the scientific insights and solutions that society needs, including researchers, governments, NGOs, businesses, and citizens. We build equitable partnerships, focusing on mutual respect and benefit.

Our procurement policy focuses on preferred and framework suppliers through an open and competitive process. We ensure our suppliers are aligned with our values and with our commercial, charitable, environmental, and social objectives as far as possible.

The impact of the charity's operations on the community and the environment

We demonstrate environmental leadership through our own actions; and are committed to carry out our scientific research in a way that minimises our impact on the environment. In line with our ISO 14001 certified environmental management system, we have set stretching environmental goals as part of our commitment to improving our environmental sustainability. This year, UKCEH announced its commitment to the Concordat for the Environmental Sustainability of Research and Innovation Practice. This voluntary agreement, co-developed by the UK research and innovation (R&I) sector, aims to embed environmental responsibility into all aspects of research and innovation practices, aligning with the UK's net zero by 2050 goal.

We foster outstanding public engagement across our research portfolio, with a focus on citizen science, community engagement and informing public debate. We increasingly provide an informed, trusted, evidence-led public voice on the environment.

How we deliver public benefit

Our charitable objectives are:

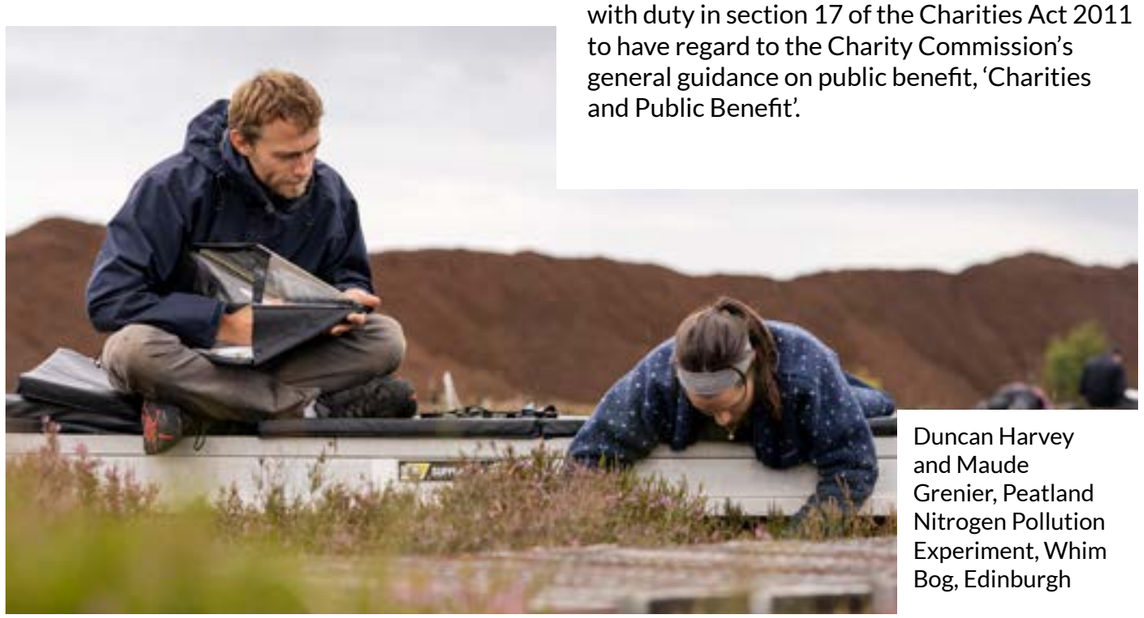
To carry out pure and applied scientific research in terrestrial and aquatic environments, including their interactions with the atmosphere.

To advance education in the environment and environmental science, and sustainable development.

To promote sustainable development for the benefit of the public by promoting the preservation, conservation, protection and improvement of the environment and the prudent use of natural resources.

To promote sustainable means of achieving economic growth and regeneration.

The ways in which we deliver public benefit are outlined both in the performance and achievements section of this report, and in the people, stakeholder, and environmental sections.



Duncan Harvey and Maude Grenier, Peatland Nitrogen Pollution Experiment, Whim Bog, Edinburgh

Our contribution to social value

At UKCEH, we are committed to positively impacting society and the environment. Our ethical research, equitable partnerships, and greener supply chain practices reflect this. We prioritise wellbeing through physical and mental health initiatives and advertise job opportunities in deprived areas. We promote training and development, secondments, and volunteering.

Maintaining a reputation for high standards of business conduct

Integrity is one of our core values. We embed this in our everyday activities in a range of ways, including uploading the principles set out in the Concordat to Support Research Integrity and operating to UKRI's Good Research and Trusted Research Policies and Processes. We have established a code of ethics, led by our research ethics committee, along with relevant policies and procedures for research integrity, research ethics, conflicts of interest, and open science.

The trustees confirm that they have complied with duty in section 17 of the Charities Act 2011 to have regard to the Charity Commission's general guidance on public benefit, 'Charities and Public Benefit'.

Harry Dixon at employee session on developing our new strategy

At UKCEH, success is a collective effort, and this year, our people played a pivotal role in shaping transformative cultural objectives to complement our new strategy. These objectives firmly align with our core values of teamwork, integrity, and excellence and will guide our people activity over the next five years.

UKCEH was shortlisted for an Investors in People award (The Award for UK Employer of the Year (250+ people): Silver), a recognition of our unwavering commitment to creating a supportive, high-performing, and inclusive workplace.

We continued to prioritise employee wellbeing through our varied wellbeing calendar, offering sessions such as 'A Conversation for Working Parents,' 'Caring for Carers,' a live mindfulness session, and on-site wellbeing checks conducted by our Occupational Health provider. We also launched 'Menopause Cafés,' providing a respectful, confidential space for colleagues to talk about menopause.

To support colleague development, we launched our Job Family Framework, providing increased visibility on the range of roles across UKCEH, the responsibilities, knowledge and experience required. This framework serves as a valuable tool for discussions on career progression and development. We also relaunched our merit promotion process, making it more accessible and transparent for all employees.

Listening to feedback from our 2023 Investors in People report, we have heavily invested in leadership and management training, commissioning a hugely successful 'Evolve' leadership development programme, which supported the growth of 49 senior leaders. This programme was complimented by line manager toolkit sessions, which upskilled 73 of our line managers in goal setting, developing a coaching approach, and managing employees through change. Additionally, we introduced a mentoring scheme, career planning and development one-to-one discussions, fostering knowledge sharing and career development across the organisation.

These initiatives reflect our dedication to a workplace that supports professional development, employee wellbeing, and an inclusive culture, ensuring UKCEH remains a great place to work.

Consultation and communication

We foster open and transparent communication across the organisation. We actively support trade union membership and recognise Prospect as the official employee representative, engaging in meaningful consultation and negotiation through the Joint Consultation and Negotiation Committee (JCNC).

Our People and Communication Team (PACT), composed of representatives from across the organisation, plays a vital role in ensuring colleagues have a voice on organisation-wide matters. This platform facilitates discussions on important topics, enables constructive feedback, and helps shape positive changes that align with our shared goals. Examples of positive change because of PACT include, but are not limited to:

Introduction of a sponsorship policy, offering financial assistance and interest-free loans for colleagues requiring sponsorship.

A Working from Abroad trial allowing employees to request approval to work from abroad for up to three weeks a year.

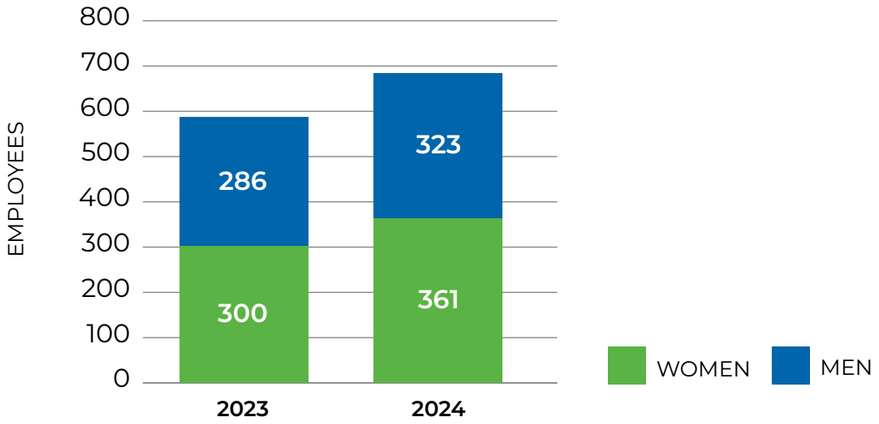
Introduction of an optional finance induction for all new staff.

We take a proactive and inclusive approach to employee engagement. In addition to our fortnightly all-staff 'UKCEH Connects' meetings, our chief executive led a series of engagement forums, providing opportunities for employees across all levels to discuss key priorities and share insights. In the development of our new strategy, we ran a 'strategy week' to ensure all colleagues could input and feedback on the strategy. Regular one-to-one, team, department, and directorate meetings allow leaders and employees to align on objectives, track progress, and ensure everyone understands their contribution to UKCEH's strategy.

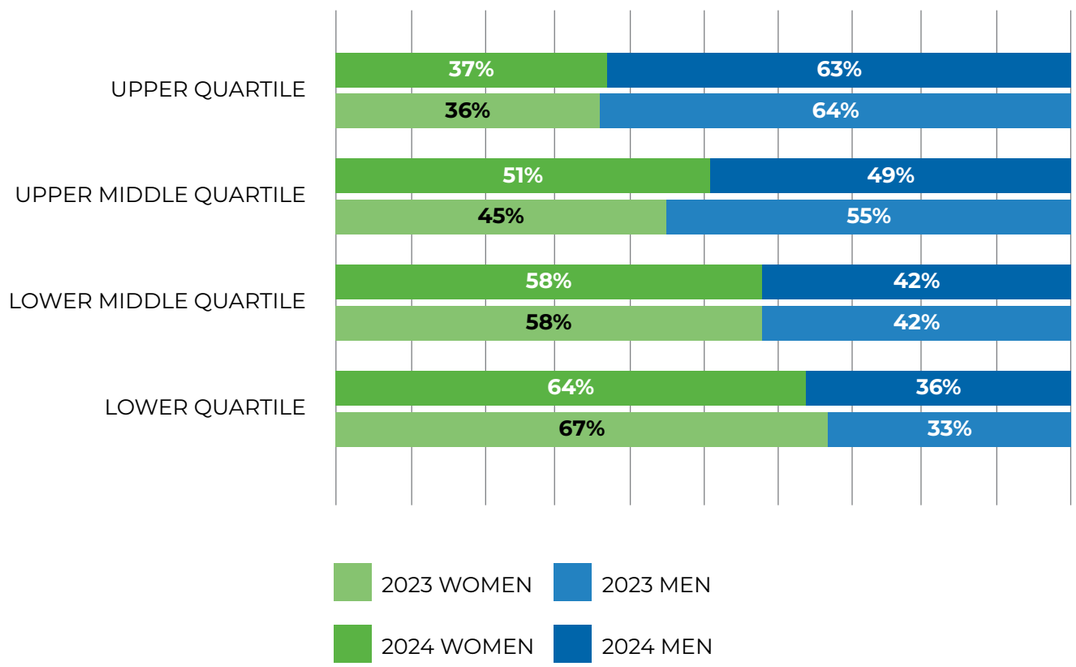
To keep our workforce well-informed, organisational updates are published daily on our intranet, while our weekly newsletter, The Grapevine, delivers a concise summary of key news and developments to all staff and students. These efforts reinforce our commitment to a connected, informed, and engaged workplace.

OUR GENDER COMPOSITION

The data provided here represents a snapshot of our gender composition on 5 April 2024 compared 2023.



The proportions of men and women within each pay quartile.



Equity, equality, diversity, and inclusion (EEDI)

Creating a culture that champions equity, equality, diversity, and inclusion (EEDI) has led to our colleagues hearing from inspiring speakers this year, including:

Lauren Rowles MBE: World, European and two-time paralympic rowing champion, and public figure within the disability and LGBTQ+ community.

Ayo Sokale: A Chartered Civil Engineer in flood risk, named one of the Top 50 Women in Engineering Under 35 by the Independent.

Alongside our calendar of EEDI topics and events, we commissioned an accessibility audit of our sites, published our gender equality statement, and launched several staff network groups.

We also welcomed new colleagues as EEDI ambassadors enabling a more proactive approach, including the launch of an EEDI book club, connecting environmental and EEDI themes, through literature.

Disability Confident Commitment

UKCEH is proud to be a Disability Confident Committed employer, as part of the UK Government's Disability Confident scheme. This accreditation reflects our dedication to creating an inclusive and supportive working environment for people with disabilities. As a Disability Confident organisation, we:

Ensure that disabled applicants are given full and fair consideration for employment, with reasonable adjustments made throughout the recruitment process.

Support employees who acquire a disability during their career with us, including through workplace adjustments, flexible working arrangements and access to our occupational health services.

Promote equal access to training, development, and progression opportunities for all staff, including those with disabilities. This includes offering individual development conversations, access to a coach and the recent introduction of a new mentoring scheme.

Health and safety report

In 2024, in addition to recertifying our safety management system against the ISO 45001 standard, we focused on keeping our people safe, through training, engagement and audits. To help with this, we created a new internal podcast called 'SHE and Me' to help highlight best practice and share lessons learned, embedded traveller safety into a new UKCEH Travel Policy and undertook an organisation-wide audit of laboratory chemicals and COSHH compliance.

We continued to encourage health and wellbeing across the organisation. For the third year running, we offered free flu vaccinations and organised a step count challenge to promote movement and reduce problems related to prolonged sitting. To our extensive Health and Safety training programme we added specific training on 'managing lone working and buddy systems' and developed a training needs matrix and additional internal training courses ready to roll out in 2025.

Accident Reporting

Over the course of 2024, there were 40 accidents (including ill-health), 14 incidents (including vehicle incidents) and 45 near misses reported across UKCEH. There was one RIDDOR reportable accident resulting in over seven days lost time.

Learning and development

We offer everyone the opportunity to fulfil their potential through personal and professional development. We provide leadership development programmes, line manager training, and workshops on in-demand skills that our scientists need to do their excellent science.

Postgraduate and early career research

We continue to play a prominent role in training the next generation of environmental scientists. In 2024, 131 of our scientists supervised 254 masters and doctoral researchers. These students benefited from access to our expertise, laboratory facilities, field sites and data centres. As of the end of 2024, UKCEH continues to be involved in 23 active doctoral training partnerships funded by NERC, EPSRC, BBSRC, and UKRI across the UK. Of these, we are full hosting partners for 15 partnerships.

Throughout 2024, our Research Associate programme supported 64 Research Associates, with 36 still active in the programme at the end of 2024.

Additionally, we hosted 11 undergraduate students for internships and dissertation activities in 2024. This is an area which we hope to grow in future years. We are committed to creating a cohesive community of early career researchers and making sure they get the support they need.

Sharon Mandipe, an early career researcher

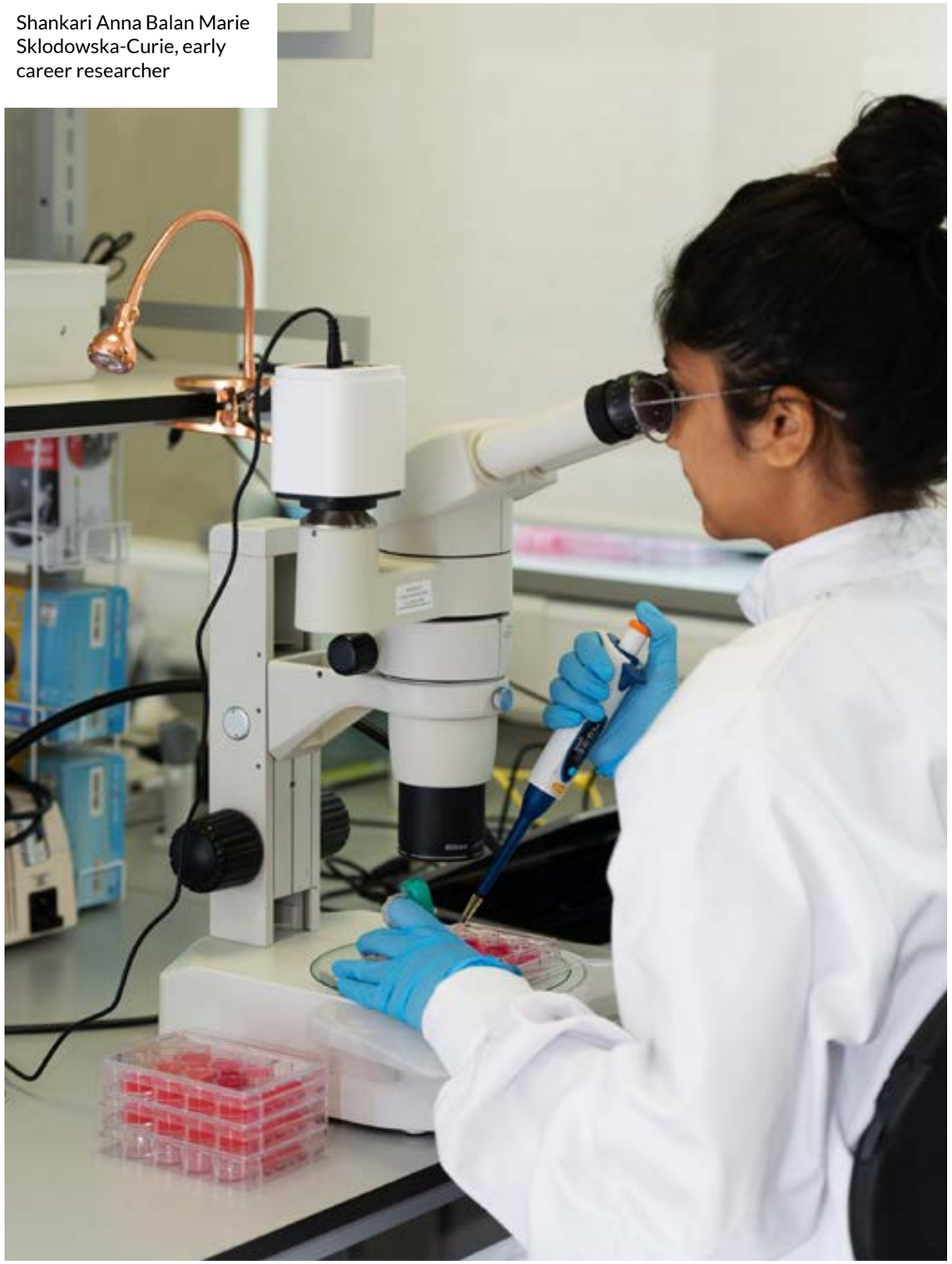
Research integrity

At UKCEH we are committed to the principles set out in the Concordat to Support Research Integrity and incorporate these into our everyday research work and culture; this is exemplified in our core Values of Teamwork, Excellence, and Integrity. We recognise the ongoing need to place research integrity at the centre of our research endeavours and ensure that research excellence is underpinned by the highest standards of honesty, transparency, accountability, rigour, and respect.

UKCEH operates to UKRI's Good Research and Trusted Research Policies and Processes and has a Code of Ethics alongside relevant policies and procedures for Research Integrity, Research Ethics, Conflicts of Interest and Open Science.

In 2024 UKCEH became a member of the UK Research Integrity Office (UKRIO). UKCEH follows the UKRIO template for institutional annual statements on research integrity which is published on the UKCEH website. In 2024 UKCEH revised its Research Integrity and Misconduct in Research policy and procedure and developed improved resources and training provision for employees. No formal allegations of scientific misconduct were investigated in 2024.

Shankari Anna Balan Marie Sklodowska-Curie, early career researcher



How we work with stakeholders

UKCEH delivers world-class and highly impactful research across the environment we all live with – the land, air, and water we use to sustain our lives – both in the UK and internationally. We cannot do it alone.

Complex environmental challenges require collaborative solutions. We are very proud of our breadth of wonderful partners who help us deliver the insights and solutions needed to ensure our cities are liveable, with clean air and no risk of overheating, to avoid catastrophic floods or wildfires that destroy homes and livelihoods, and to ensure our water is safe for people and ecosystems and also tastes good.

Here are some examples of how we work with stakeholders:

Researchers: We play a foundational role in UK environmental science and enable academia to undertake even more excellent science, including through accessing our integrated research infrastructure from long term datasets such as the Biological Records to our emerging Floods and Droughts Research Infrastructure at the cutting edge of digital capabilities to help us manage the impacts of our changing climate.

Governments and NGOs: We have strong relationships with governments and NGOs, for whom we are a trusted provider of high quality, rigorous research. Our research underpins national and international policy, strengthens regulation, builds resilience, and supports green growth. Our scientists provide robust input into a range of committees and expert advisory groups across the Devolved Administrations, to government bodies such as DEFRA and to UN Specialist Committees overseeing vegetation, nitrogen pollution impacts and more.

Businesses: We partner with businesses, collaborating on commercial opportunities to tackle environmental challenges and supporting environmental governance and reporting. Our insights help businesses to achieve environmental resilience, compliance, and sustainability.

International partners: We play an active role in the global environmental science community, leading coordinated international initiatives and convening scientists across borders to tackle common environmental challenges.

Citizens: We foster outstanding public engagement across our research portfolio, with a focus on citizen science, community engagement and informing public debate. We increasingly provide a trusted and evidence-led public voice on the environment.

External training

In 2024, UKCEH experienced significant growth in its commercial training offer on subjects ranging from 'How to write highly cited papers' to 'using drones to map habitats'. A record number of external learners attended interactive training courses, with a total of 429 participants, including 277 in interactive sessions and the remainder opting for on-demand courses.

Since its launch in 2018, UKCEH has trained 2,500 learners. In 2024, we offered a portfolio of 28 courses, attracting high-profile customers such as Department for Environment, Food & Rural Affairs (DEFRA), Drax, Government Office for Science (GO Science), Fisheries Ireland, EDF Energy, Scottish Environment Protection Agency (SEPA), Environmental Protection Agency Ireland (EPA Ireland).

Additionally, our commercial training enhanced the skills and expertise for our own staff, training 70 employees. We plan to introduce new courses in 2025 aligned with our 2030 strategy.

Complaints and feedback

UKCEH maintains robust policies and procedures for managing external complaints and ensuring high levels of customer satisfaction, in line with the requirements of our ISO 9001 certification and best practice standards. We carry out regular customer satisfaction surveys, the results of which are reviewed by both the executive committee and the board of trustees to inform continuous improvement. All external complaints received in 2024 have been successfully resolved.

How we work with suppliers

We remain committed to obtaining value for money in all our procurement activities, ensuring alignment with our commercial, charitable, environmental, and social objectives, whilst complying with relevant legal requirements. As a charity primarily funded by the public sector, we adhere to the Public Contracts Regulations 2015.

2024 has been a pivotal year as we prepared for the legislative changes brought about by the introduction of the Procurement Act 2023 and started to map out our journey to net zero. Our transparent approach to engaging suppliers ensures a cost effective and efficient route to purchasing and that we get best value for money; but also making sure that our chosen suppliers mirror our values and goals whilst supporting us in our efforts to support people and planet.

Free digital tool for environmental decision making

How we engage the public

We carry out effective and impactful public engagement with our research with mutual benefits for our science, our researchers and the public. We strive for excellence in our public engagement, embedding best practice within research projects and programmes across all sites and science challenges, with a focus on citizen science, community engagement and public dialogue.

PUBLIC ENGAGEMENT CASE STUDY: Citizen Science in Bloom

Blue-green algae blooms can produce toxins and pose a threat to the health of people, pets, and livestock, but UKCEH is helping people in the UK and beyond stay safer in the water through the power of citizen science.
Our innovative Bloomin' Algae app allows users to submit images of suspected algal blooms to be verified by experts. If a bloom is suspected, the relevant authorities are notified to investigate and confirm if a bloom is present, and users can check a live map for any confirmed blooms in their local waterway. The app also provides information on the health risks of algal blooms, helping people make informed decisions about whether it is safe to enter the water.

The Bloomin' Algae app was developed in 2017 with the Scottish Environmental Protection Agency, but in 2024 with funding from our NC-UK programme, the app underwent significant upgrades to improve its security and functionality. This also enabled us to expand our reach through targeted advertising in outdoor recreational magazines, including the Caravan Times. Continued innovation is vital for optimal data collection, and the funding is enabling us to explore new technologies such as USB microscopes and integration of earth observation data with the app.

The app is reaching international audiences, with Chile and Kenya being added in 2025 and plans to expand into Denmark, Finland, Greece, and Poland over the coming months. This will help protect human and animal health across the world. The app is also being modified to produce a new version that will enable the reporting of floating weeds, such as the invasive water hyacinth, in Lake Victoria. Problems with water hyacinth currently cost the Kenyan economy up to £2.5million a day in lost trade because boats cannot pass through the thick mats of vegetation. It also threatens food security because local fisherman are unable to fish effectively.

By adopting a holistic approach involving end users, communities and stakeholders in developing solutions, we can help speed up public health warnings about harmful algal blooms and gather more data to carry out vital research.

Blue-green algae blooms present in lakes

Environmental, energy and carbon reporting

In 2024 we embedded environmental sustainability and Net Zero commitments within our new 2030 Strategy: Environmental Science for a Better World and became signatories to the UK Concordat for the Environmental Sustainability of Research and Innovation Practice. We are pleased to share some the achievements against each of our strategic environmental goals, outlined below.

1 Reduce UKCEH reliance on fossil fuels and achieve 'Net Zero' Scope 1 and Scope 2 greenhouse gas emissions by 2040 and associated Scope 3 emissions by 2050.

We appointed a Net Zero Advisor and worked with consultants to calculate a full baseline year for our greenhouse gas emissions. We drafted a high ambition Net Zero pathway with interim targets, aligned with the Science Based Target initiative methodology. We also moved all our field site electricity contracts to renewable tariffs in line with our main site contracts.

We will continue to work with our landlords to identify appropriate investment opportunities to ensure progress against our high ambition Net Zero pathway.

2 Demonstrate efficient use of resources and seek to reduce environmental impacts associated with our scientific research, including from business travel.

Our remaining laboratories continued their progress towards gold certification against the Laboratory Efficiency Assessment Framework criteria. We launched a new Travel Policy which embedded our business travel hierarchy in support of lower carbon travel options and appointed a new Travel Management Company to provide improved emissions data and support for low carbon journeys.

We will collaborate with partners and funders to achieve the commitments set out in the Concordat to minimise the environmental impacts of research while ensuring we continue to deliver excellent science.

3 Embed sustainability considerations within UKCEH financial decision making and procurement processes.

We appointed consultants to calculate a full spend based carbon footprint baseline of our suppliers and partners. We completed a RAG analysis of those contributing the top 30% of Scope 3 emissions against core sustainability criteria.

We will continue to work with our suppliers and partners to identify opportunities to improve accuracy of Scope 3 emissions reporting and minimise ESG impacts associated with our financial spend.

4 Implement improvement measures across UKCEH sites to support biodiversity, enhance ecosystem services and prevent pollution.

We undertook a series of staff engagement events across our main sites, including the 'Great UKCEH FIT Count' challenge. We were excited to record the first Great Crested Newt sighting at our Edinburgh site in 15 years which could be linked to the recently refurbished wildlife pond.

We will continue to work with our grounds contractors and internal experts to identify opportunities to enhance biodiversity and support ecosystem services across our UKCEH estate.

5 Deliver the sustainability implementation and engagement plan for UKCEH.

We launched a 'Cut Costs – Cut Carbon' internal staff engagement campaign encouraging staff to spot the small wins and report bigger opportunities for investment and savings. We created a Sustainability page on our website to host our Letter of Commitment to the Concordat and share progress against our strategic environmental goals.

We will continue to work collaboratively with our people, partners, suppliers and contractors to help achieve our Environmental Goals.

River Aja taking part in 'UKCEH FIT Count' challenge

Energy usage decreased in 2024. In part this is due to a reduction in gas demands at the Wallingford site whilst the Chiltern Wing boilers were offline for a month.

Overall greenhouse gas emissions have reduced this year. Unfortunately, a number of losses from our air-conditioning plant has counteracted the reduction in energy demand from sites.

Table 1: Summary energy use and associated greenhouse gas emissions for UKCEH calendar year 2023 and 2024.

Overall UKCEH energy use (kWh) & associated greenhouse gas (GHG) emissions	Annual Figures (1 Jan 2024 - 31 Dec 2024)	Corrected Figures (1 Jan 2023 - 31 Dec 2023)
UK energy use (kWh)[1]	7,076,338	7,595,144
Associated GHG emissions[2] (tonnes CO_2e)	1,038.68 (1,691.27)	1,270.70[7] (1,926.22)[7]
Intensity Ratio Energy use (kWh) per £1k turnover[1]	106.02	131.20
Intensity Ratio Emissions (tonnes CO_2e) per £1k turnover[2]	0.02 (0.03)	0.02 (0.03)
Intensity Ratio Energy Use (kWh) per m^2 floor area[1] (24147)	293.05	314.54
Intensity Ratio Emissions (tonnes CO_2e) per m^2 floor area[2] (24147)	0.04 (0.07)	0.05 (0.08)
Intensity Ratio Energy Use (kWh) per average staff number	9,980.73 (709)	11,848.90 (641)
Intensity Ratio Emissions (tonnes CO_2e) per average staff number (based on respective year average staff number values)[2]	1.46 (2.39)	1.98[7] (3.01)[7]

Table 2: Detail of supporting data which contributes to overall figures presented in Table 1 above.

Breakdown data contributing to Table 1 figures.	Annual Figures (1 Jan 2024 - 31 Dec 2024)	Corrected Figures (1 Jan 2023 - 31 Dec 2023)
UK gas use[1] (kWh)	3,185,733	3,764,697
UK electricity use[1] (kWh)	3,298,741	3,320,520
UK energy use associated with transport (kWh)[3]	582,064	508,678
Scope 1 GHG emissions[4] (tonnes CO_2e)	778.15	793.02[7]
Scope 2 GHG emissions[5] (tonnes CO_2e)	10.47 (663.05)	9.57[7] (665.09)
Scope 3 GHG emissions[6]	250.06	381.27[7]

Methodology and limitations

1 UK energy use includes electricity and gas use across UKCEH sites along with mains supplied electricity use on our UK field sites. In addition, energy use includes conversion of km travelled and fuel purchased for fleet vehicles, hire cars and personal vehicles. Solar generation exported to the grid is excluded. Where fuel purchase costs are known but not fuel quantities, the litres have been estimated from UK Government average fuel costs data.

2 Figures in brackets are calculated using mains grid conversion factors for all supplies to give best practice comparative purposes. Greenhouse gas emissions associated with 2024 energy use and personal km travelled have been calculated using UK Government 2024 Conversion Factors.

3 To improve the accuracy of calculations, transport emissions relating to fleet vehicles in 2024 are calculated from litres of fuel and UK Government 2024 Conversion Factors. This is a change from 2023, which used km travelled and the associated individual vehicle or UK Government Conversion Factors.

4 Scope 1 emissions include mains supplied gas use, fugitive refrigerant emissions, fleet vehicle km travelled and other fuel purchased.

5 Scope 2 emissions have been calculated using emissions factors specified by utility providers. For best practice comparative purposes Scope 2 emissions calculated using mains grid conversion factors as specified by the UK Government are included in brackets.

6 Scope 3 emissions include hire car and personal km travelled for business purposes; transmission & distribution emissions relating to mains electricity use along with Well to Tank emissions associated with Scope 1 and Scope 2 reported data. These figures are presented voluntarily.

7 2023 emissions are re-reported after it was identified Scope 1 refrigerant gas losses had been reported in error, associated Scope 3 WTT emissions were re-calculated and market-based conversion factors were identified to apply to Scope 2 emissions. Associated KPI metrics are also corrected accordingly.

The trustee directors have ultimate responsibility for risk management in the organisation. Our risk strategy outlines the organisation's approach to risk, while our risk policy and strategy set our responsibilities for managing these risks.

The trustees delegate day-to-day management of risks to the executive committee, who are responsible for identifying, evaluating and monitoring the key risks faced by UKCEH, as well as the controls and actions taken to manage and mitigate them. These encompass organisational level risks as well as risks relating to specific science projects, each of which is subject to individual risk assessment.

On a quarterly basis, both the finance and audit subcommittee and the full trustee board review the risk register, with a focus on the top-level organisational risks and notable changes that have occurred in the preceding quarter.

UKCEH's risk management approach is defined within the Quality Management System, certified to the ISO 9001 standard. Mandatory staff training covers subjects such as cybersecurity and anti-bribery, and additional risk training is provided as appropriate.

The highest-rated risks to the organisation are around cybersecurity and data protection, and our approach to these is outlined below. Other significant risks actively managed by the organisation are summarised in the following table:

Risk Area	Management of Risk
Reputation and Relationship Management	Communications and media expertise, dedicated resource, incident response protocols, and a crisis communications plan.
Serious Health and Safety Incident	ISO 45001-accredited Health & Safety Management System, clear policies and procedures, targeted training, and incident preparedness.
Financial Sustainability	Strong business planning, continuous monitoring of income pipeline and costs, and proactive financial intervention when required.
Artificial Intelligence and Large Language Models	Development of a clear AI strategy, horizon scanning for opportunities and risks, and staff engagement to promote safe and informed use.
Information Technology Requirements	Ongoing investment in IT infrastructure, robust hardware and software support, cybersecurity measures, and structured change management processes.
Cybersecurity and Data Protection	Cyber Essentials certification, multi-factor authentication, regular staff training, incident response planning, and compliance with data protection regulations (e.g. UK GDPR).
Failure of Science Provision, Planning and Delivery	Strengthening of project management practices, internal project audits, funder engagement, and improved forecasting and capacity planning.
Capability and Ability to Fully Resource	Implementation of a Learning and Development Strategy, student engagement support, workforce planning, and a focus on organisational culture.
Financial Controls	Staff training and awareness, clear financial procedures, and regular internal and external audits.

Cybersecurity and data protection

We actively monitor emerging cyber threats and trends, with a particular focus on critical risks such as ransomware. Our continuous surveillance informs our approach to security controls and mitigations, including targeted investments in cybersecurity infrastructure and enhancements to key processes such as online backups.

To maintain robust security status, we regularly assess the effectiveness of our technological defences, incident reporting, and recovery capabilities, taking proactive steps to manage risk within acceptable levels. This includes conducting security penetration testing and implementing necessary remediation measures.

In 2024, we successfully retained our Cyber Essentials accreditation despite evolving requirements.

All UKCEH staff complete mandatory annual training on General Data Protection Regulation (GDPR) and cybersecurity awareness, supplemented by ongoing guidance and communications. Additionally, all project audits and UKCEH risk assessments include a standing review of personal data management practices.

Franck Mpinda in the Wallingford server room

UKCEH made an overall surplus for the year ended 2024 of £1.4m, as shown on the Statement of Financial Activities on page 70. This comprises a net movement of funds of £1.8m relating to operating activity within our non-capital unrestricted and restricted funds, and a net movement of £(0.4)m on capital funds. Our capital funds include capital funding income for new assets, and depreciation on existing assets.

In the 2023 accounts we reported a deficit of £(1.1)m and outlined how we would get back to surplus in the context of challenges in how research is funded in the UK. Although we have many opportunities available to us as an organisation and have had sustained success in bidding for funding, much of this funding is at less than the Full Economic Cost (FEC) of delivering the work.

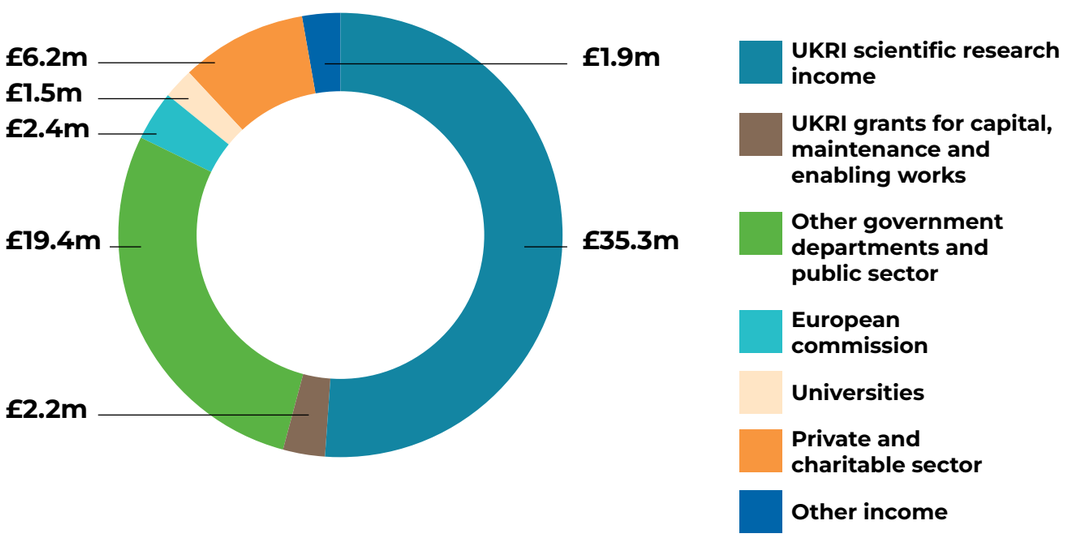
In 2024 we successfully moved back into surplus by focussing on;

- seeking more diverse funding sources,
- being efficient in our operational spend, and
- choosing what we bid for to balance our portfolio.

This focus on prioritisation of funding opportunities will continue into 2025 and involves placing limits on bids where funding is below FEC, thereby ensuring we deliver scientific excellence and impact whilst remaining financially sustainable.

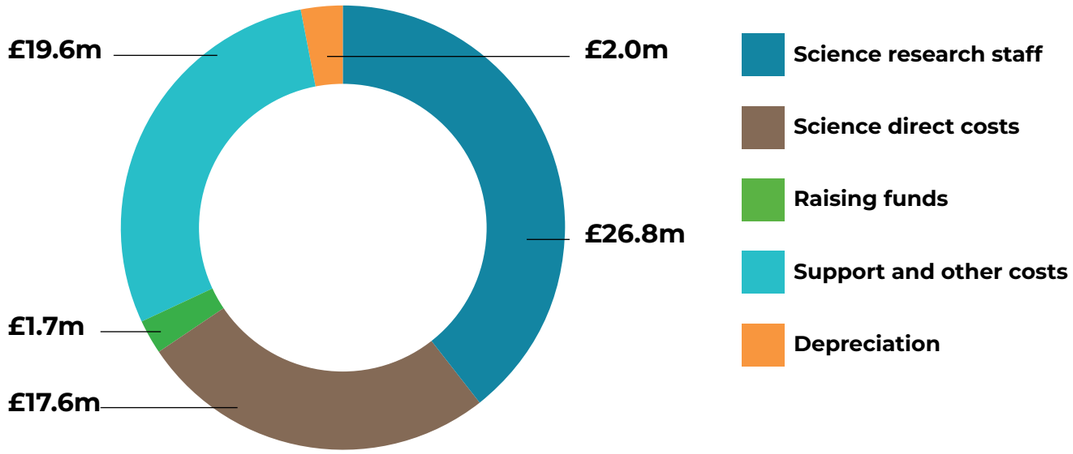
Principal funding sources and income

UKCEH's total income for 2024 was £68.9m, an increase on £60.5m in 2023. The majority of this income came from UKRI in the form of awards, grants, and agreements for scientific research activities of £35.3m (2023: £33.1m). Grants for capital, maintenance and enabling work of £2.2m were received from UKRI during 2024 (2023: £2.6m). Other government departments and the public sector accounted for a further £19.4m of research income (2023: £15.0m). In 2024, £6.3m was received for private and charitable sector projects (2023: £5.3m). Other income derives principally from UKCEH's trading subsidiary, UKCEH Enterprise.



Expenditure

The principal cost to the organisation is the remuneration and related staff costs of the scientific research staff, which accounted for £26.8m in the year (2023: £23.7m). Science direct costs of £17.6m (2023: £15.8m) include the subcontracted costs of our partners, where work is delivered in partnership with other institutions. Support costs include the pay and related costs of professional service teams as well as the premises, information technology, and administrative costs of running the organisation.



Reserves policy

Reserves consist of restricted funds (capital and non-capital in nature), unrestricted designated funds, and the remainder, unrestricted funds, which we call “general” reserves, an amount available for the furtherance of general charitable objectives at the discretion of the trustees.

UKCEH prices its grant and award-funded research under a methodology that allows it to meet funder requirements, sustainably cover costs, reinvest in capital equipment and infrastructure, and maintain a reserve. This is supplemented by other income, including that generated by the trading subsidiary, UKCEH Enterprise Limited.

The balance of the unrestricted designated capital fund at 31 December 2024 was £2.7m, which largely results from the transfer of assets from UKRI-NERC on independence in 2019, and subsequent internal investment in capital. It will be used for future capital expenditure.

The restricted capital fund had a balance of £8.7m at 31 December 2024, and this represents funding the organisation has received where the use is capital in nature and has been specified by the funder.

The restricted fund had a balance of £nil at 31 December 2024. This fund comprises funding and costs in respect of specific research projects. As explained above, for some scientifically important projects, closely tied to our charitable goals, the funding does not fully cover the costs of delivering the project. For those projects, we transfer unrestricted funds to restricted funds to enable UKCEH participation. This is done in total, annually, hence resulting in a £nil fund balance at the year end.

In 2023, UKCEH updated its reserve policy. The updated policy replaced the previous fixed general reserve target of £5m with a dynamic reserve range intended to cover operational risk and factoring in both operational costs and income certainty. If the general reserve balance falls below this range, we will focus on rebuilding the reserve, if it goes above the range, we will actively look to invest the reserve in furtherance of our charitable objectives.

The general reserve target range based on 2024 results is between £6.6m and £11.6m. The actual general reserve balance at 31 December 2024, of £8.5m, is close to the middle of this range. The board consider that our reserves are at an appropriate level, but given some uncertainties in capital funding for 2025, will re-evaluate the need to designate further reserves for capital investment mid-way through 2025.

Our approach to investments and cash management

The UKCEH investment policy sets out our approach to financial investment, our objectives, and how we intend to achieve them. UKCEH has a low to medium attitude to risk, with a primary objective being to mitigate erosion of capital by keeping pace with inflation. Commensurate with our organisational objectives, we place ESG (Environmental, Social and Governance) considerations at the centre of our investment decisions. The finance and audit subcommittee is responsible for the overall oversight of financial investments, on behalf of the board of trustees.

During the year ended 31 December 2024 the board approved increasing our investment in the Rathbone Greenbank Strategic Growth Portfolio from £1m to £2m, with the increase phased across 2024 and 2025. As at 31 December 2024 the value of our investment was £1.6m. This fund is considered to have a medium risk profile, targets a return of CPI+3 per cent, and follows a defined sustainable investing approach.

To benefit from high interest rates, during 2024 we continued to invest in UK Government T-bills of between one- and six-months duration on a rolling basis, managed by Rathbones. The return on these T-bills was between 4.5% and 5.3% throughout 2024.

The cash balance for the organisation includes a significant portion of grants and awards received in advance of spend, and hence needs to be readily available. We use rolling short- and long-term deposits to maximise interest earned, while ensuring that sufficient cash is available to meet day to day operational commitments.

Fundraising

In 2024 the organisation trialled limited online fundraising from the public through the JustGiving platform for defined programmes. This raised £638 in total, including gift aid. Going forward we will instead take a more targeted approach to fundraising through philanthropic organisations, individuals, and foundations. Plans for this will be expanded in 2025.

UKCEH does not undertake any public fundraising activities that meet the Charities (Protection and Social Investment) Act 2016.

Exhibition of the ARC boat at the NERC showcase in Cardiff

Going concern

The trustees of UKCEH consider the organisation to be a successful going concern. Since it was established on the 1 December 2019, UKCEH has had a positive net income in aggregate, and has built its reserves to a level well above the minimum target.

We successfully moved back into surplus in 2024, after a deficit in 2023, through actions including a focus on income diversification as well as prioritising the type of work we bid for, balancing income from sources that fully cover costs with research income from funders for which the funding rules do not allow for full cost recovery. We have a robust plan for 2025 based on known activity and our fund balances remain positive. After a period of growth, we plan to consolidate the organisation size and take a more targeted approach to new opportunities.

The board of trustees reviewed and approved the 2025 UKCEH plan in December 2024 and we have a high degree of confidence in future income levels. UKCEH continues to be very successful in bidding for funding and as April 2025 we had secured close to 100% of its planned income for 2025. Beyond 2025, our long-term plan includes a robust forecast for 2026.

Demand for our environmental science expertise continues to be high and we believe that there are no known measurable material uncertainties that could call into doubt the ability of UKCEH to continue as a going concern.

Launched in November 2024, our new strategy, **Environmental Science for a Better World**, outlines our commitment to combining scientific excellence, innovation, and collaboration, with a relentless focus on impact and sustainability. We put nature and people at the heart of what we do.

Our strategy set out how collaboration with both new and established partners will deliver shared benefits of protecting nature, boosting growth, and improving people's lives. Our research is essential for tackling complex environmental issues that require collective action.

Over the next five years, UKCEH will focus on:

Research excellence: Deepening our understanding of land, water, and air systems through rigorous research. We will do this, by developing and providing cutting-edge technologies, research infrastructure, and facilities.

Positive impact: Ensuring our science helps governments, businesses and NGOs tackle the great environmental challenges of our time.

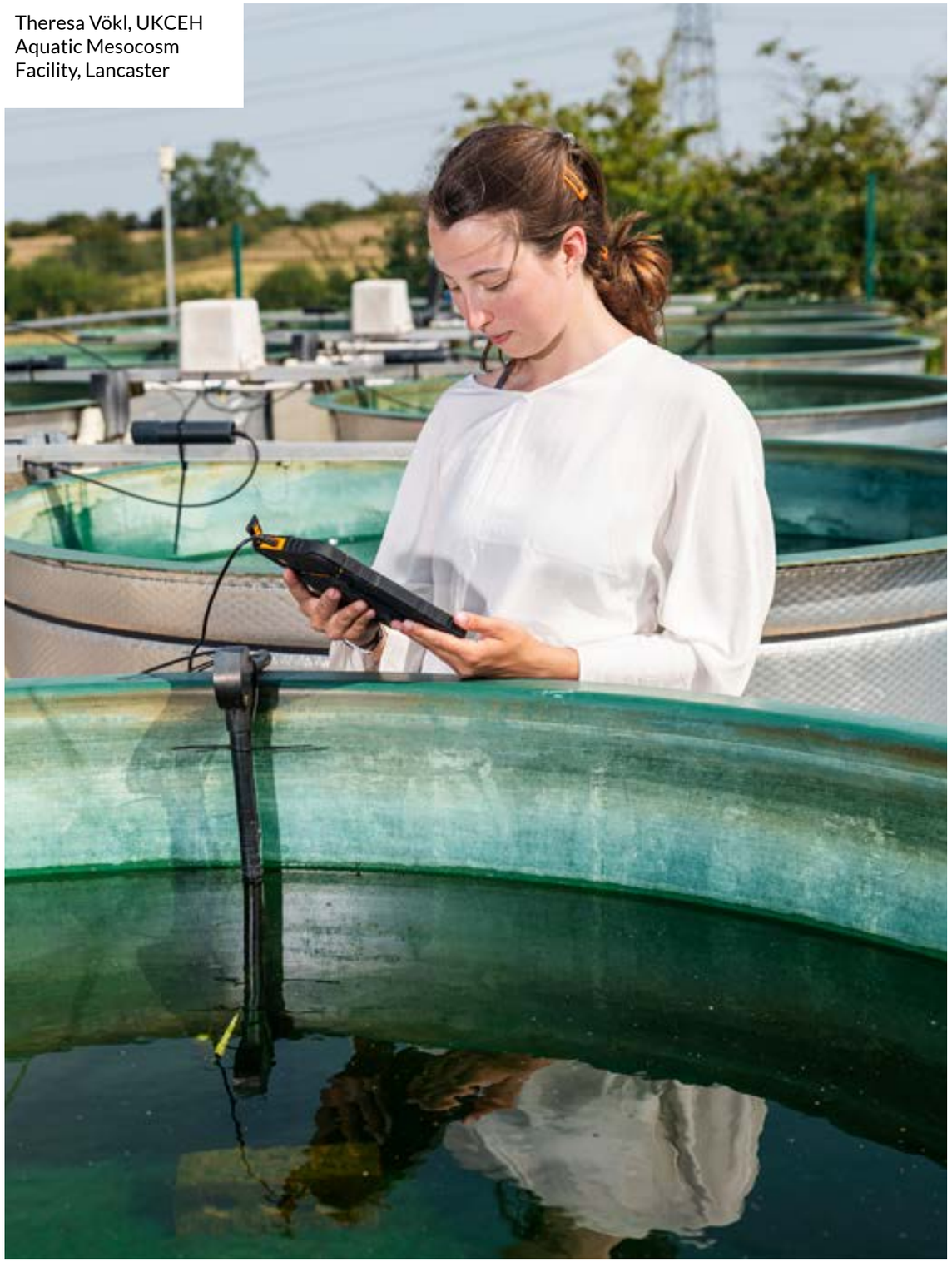
Working in partnership: Delivering real-world solutions that benefit nature and people through research and innovation. We will do this by:

- Enabling and inspiring UK environmental science to research new discoveries.
- Strengthening our relationships with governments as a key source of reliable environmental science.
- Expanding our partnerships with businesses and NGOs as the go-to sources for the highest quality science and advice.

Public engagement: Providing clear, robust, and independent environmental research to enrich public debate and combat misinformation.

Our work is only possible because of our expert and dedicated people. We will ensure they get the support, training, and resources they need to make a positive difference, and ensure they feel that UCKEH is an inclusive and equitable place to work.

Theresa Vökl, UKCEH Aquatic Mesocosm Facility, Lancaster



STATEMENT OF TRUSTEES' RESPONSIBILITIES

The trustees, who are also directors of UK Centre for Ecology & Hydrology for the purposes of company law, are responsible for preparing the trustees' annual report and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

Company law requires the trustees to prepare financial statements for each financial year. Under that law, the trustees must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the charitable company and the group and of the incoming resources and application of resources, including the income and expenditure, of the charitable group for that period.

In preparing these financial statements, the trustees are required to:

- Select suitable accounting policies and then apply them consistently.
- Observe the methods and principles in the Charities Statement of Recommended Practice (SORP)
- Make judgements and estimates that are reasonable and prudent.
- State whether applicable UK accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements.
- State whether FRS 102 'The Financial Reporting Standard applicable in the UK and Republic of Ireland' has been followed, subject to any material departures disclosed and explained in the financial statements.
- Prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charitable company will continue in business.

The board of trustees is responsible for keeping adequate accounting records that are sufficient to show and explain the charitable company's transactions, disclose (with reasonable accuracy) at any time the financial position of the charitable company and enable them to ensure that the financial statements comply with the Companies Act 2006, the Charities Accounts (Scotland) Regulations 2006 (as amended) and the provisions of the charity's constitution. They are also responsible for safeguarding the assets of the charity and the group and for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Insofar as each of the trustees is aware:

- There is no relevant audit information of which the charitable company's auditor is unaware.
- The trustees have taken all steps that they ought to have taken as trustees to make themselves aware of any relevant audit information and to establish that the auditor is aware of that information.
- The trustees are responsible for the maintenance and integrity of the corporate and financial information included on the company's web site. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Approved by the board of trustees of the UK Centre for Ecology & Hydrology on 30 June 2025 including in their capacity as company directors, the strategic report contained therein, and signed on its behalf by:

Judith Batchelar OBE
Chair

Glenn Rhodes, Gareth McShane and Kelly Le Quesne, lake sampling at Windermere

INDEPENDENT AUDITOR'S REPORT TO THE TRUSTEES OF THE UK CENTRE FOR ECOLOGY & HYDROLOGY

Opinion

We have audited the financial statements of the UK Centre for Ecology & Hydrology ('the charity') and its subsidiaries ('the group') for the year ended 31 December 2024, which comprise Consolidated Statement of Financial Activities, Consolidated Balance Sheet, Charity Balance Sheet, Consolidated Statement of Cash Flows, Charity Statement of Cash Flows and notes to the financial statements, including significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable by law and United Kingdom Accounting Standards, including Financial Reports Standard 102 The Financial Reporting Standard applicable in the UK and Republic or Ireland (United Kingdom Generally Accepted Accounting Practice).

In our opinion, the financial statements:

- give a true and fair view of the state of the group's and the parent charity's affairs as at 31 December 2024 and of the group's income and expenditure, for the year then ended.
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Charities Act 2011 and Regulations 6 and 8 of the Charities Accounts (Scotland) Regulations 2006 (amended).

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statement that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating to going concern

In auditing the financial statements, we have concluded that the trustees' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the charity's or the group's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

Our responsibilities and the responsibilities of the trustees with respect to going concern are described in the relevant sections of this report.

Other information

The trustees are responsible for the other information contained within the annual report. The other information comprises the information included in the annual report, other than the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon.

Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether this gives rise to a material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

Matters on which we are required to report by exception

We have nothing to report in respect of the following matters in relation to which the Charities (Accounts and Reports) Regulations 2008 and the Charities Accounts (Scotland) Regulations 2006 requires us to report to you if, in our opinion:

- the information given in the financial statements is inconsistent in any material respect with the trustees' report; or
- sufficient and proper accounting records have not been kept by the parent charity; or
- the financial statements are not in agreement with the accounting records and returns; or
- we have not received all the information and explanations we require for our audit.

Responsibilities of trustees

As explained more fully in the trustees' responsibilities statement set out on page 64, the trustees are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the trustees determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the trustees are responsible for assessing the group and the parent charity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the trustees either intend to liquidate the charity or to cease operations, or have no realistic alternative but to do so.

Robin Hutchinson demonstrating the insect types to monitor in a FIT Count

INDEPENDENT AUDITOR'S REPORT

Auditor's responsibilities for the audit of the financial statements

We have been appointed as auditor under section 151 of the Charities Act 2011, and section 44(1)(c) of the Charities and Trustee Investment (Scotland) Act 2005 and report in accordance with the Acts and relevant regulations made or having effect thereunder.

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Details of the extent to which the audit was considered capable of detecting irregularities, including fraud and non-compliance with laws and regulations are set out below.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at: www.frc.org.uk/auditors responsibilities. This description forms part of our auditor's report.

Extent to which the audit considered capable of detecting irregularities, including fraud

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We identified and assessed the risks of material misstatement of the financial statements from irregularities, whether due to fraud or error, and discussed these between our audit team members including internal specialists. We then designed and performed audit procedures responsive to those risks, including obtaining audit evidence sufficient and appropriate to provide a basis for our opinion.

We obtained an understanding of the legal and regulatory frameworks within which the charity and group operates, focusing on those laws and regulations that have a direct effect on the determination of material amounts and disclosures in the financial statements. The laws and regulations we considered in this context were the Charities Act 2011 together with the Charities SORP (FRS 102) and the Charities Accounts (Scotland) Regulations 2006. We assessed the required compliance with these laws and regulations as part of our audit procedures on the related financial statement items.

In addition, we considered provisions of other laws and regulations that do not have a direct effect on the financial statements but compliance with which might be fundamental to the charity's and the group's ability to operate or to avoid a material penalty. We also considered the opportunities and incentives that may exist within the charity and the group for fraud.

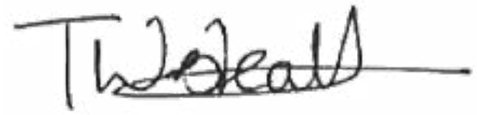
Auditing standards limit the required audit procedures to identify non-compliance with these laws and regulations to enquiry of the trustees and other management and inspection of regulatory and legal correspondence, if any.

We identified the greatest risk of material impact on the financial statements from irregularities, including fraud, to be within income recognition (specifically grant and contract income recognised on a judgemental basis) and the override of controls by management. Our audit procedures to respond to these risks included enquiries of management and the finance and audit subcommittee about their own identification and assessment of the risks of irregularities, designing and performing audit procedures over the income streams noted previously, sample testing on the posting of journals, reviewing accounting estimates for biases, reviewing regulatory correspondence with the Charity Commission, and reading minutes of meetings of those charged with governance.

Owing to the inherent limitations of an audit, there is an unavoidable risk that we may not have detected some material misstatements in the financial statements, even though we have properly planned and performed our audit in accordance with auditing standards. For example, the further removed non-compliance with laws and regulations (irregularities) is from the events and transactions reflected in the financial statements, the less likely the inherently limited procedures required by auditing standards would identify it. In addition, as with any audit, there remained a higher risk of non-detection of irregularities, as these may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls. We are not responsible for preventing non-compliance and cannot be expected to detect non-compliance with all laws and regulations.

Use of our report

This report is made solely to the charity's trustees, as a body, in accordance with Part 4 of the Charities (Accounts and Reports) Regulations 2008 and Regulation 10 of the Charities Accounts (Scotland) Regulations 2006. Our audit work has been undertaken so that we might state to the charity's trustees those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the charity and the charity's trustees as a body, for our audit work, for this report, or for the opinions we have formed.



Tara Westcott
Senior Statutory Auditor

Date: 1 July 2025

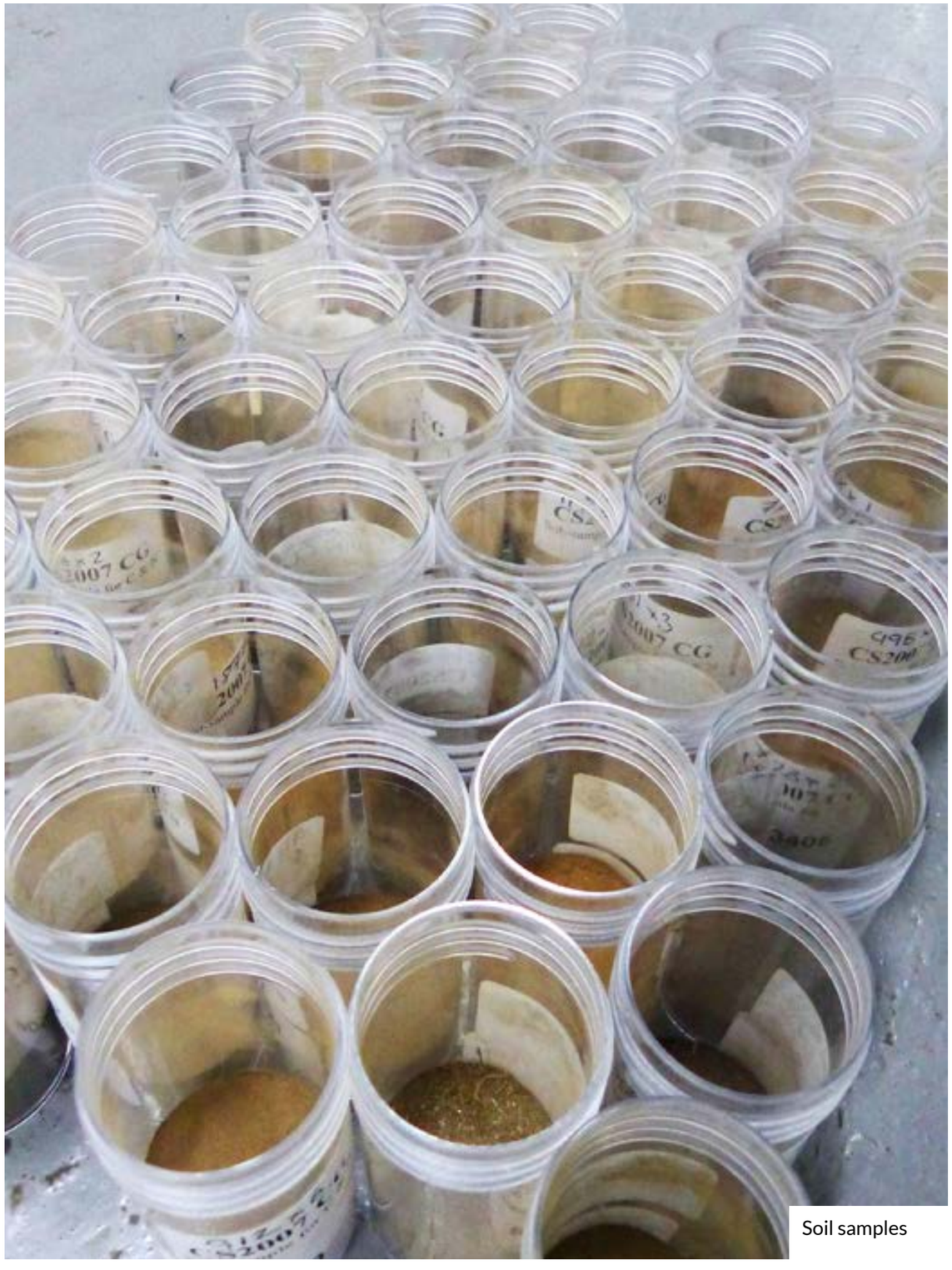
Crowe U.K. LLP is eligible for appointment as auditor of the charity by virtue of its eligibility for appointment as auditor of a company under section 1212 of the Companies Act 2006.

Crowe U.K. LLP is eligible for appointment as auditor of the charity under regulation 10(2) of the Charities Accounts (Scotland) Regulations by virtue of its eligibility under section 1212 of the Companies Act 2006.

Consolidated statement of financial activities for the year ending 31 December 2024
Incorporating an income and expenditure account

	Note	Unrestricted funds £000	Restricted funds £000	Unrestricted designated capital funds £000	Restricted capital funds £000	**Total 2024 £000**	Total 2023 £000
Income							
Donations		-	1	-	-	**1**	-
Income from charitable activities							
Scientific research		11,786	52,365	-	-	**64,151**	55,684
Capital and maintenance grants		-	1,342	-	850	**2,192**	2,590
Education and training		19	369	-	-	**388**	619
Other activities		-	320	-	-	**320**	-
Income from other trading activities							
Trading income		947	-	-	-	**947**	788
Other income		332	-	-	-	**332**	326
Income from investments		609	-	-	-	**609**	471
Total income	2	13,693	54,397	-	850	68,940	60,478
Expenditure							
Charitable activities		6,063	38,265	417	1,573	**46,318**	41,617
Raising funds		-	1,711	-	-	**1,711**	1,315
Other		949	18,734	-	-	**19,683**	18,747
Total expenditure	3	7,012	58,710	417	1,573	67,712	61,679
Net income for the year before transfers		**6,681**	**(4,313)**	**(417)**	**(723)**	**1,228**	(1,201)
Gain on fixed asset investment		204	-	-	-	**204**	137
Transfer between funds		(5,070)	4,313	37	720	-	-
Net movement in funds in year		1,815	-	(380)	(3)	**1,432**	(1,064)
Fund balances at beginning of year		6,655	-	3,052	8,683	**18,390**	19,454
Fund balances at 31 December 2024	15	8,470	-	2,672	8,680	19,822	18,390

All income and expenditure derives from continuing activities.
Results of the charitable company for the year were total income £68,538k and surplus £1,432k.



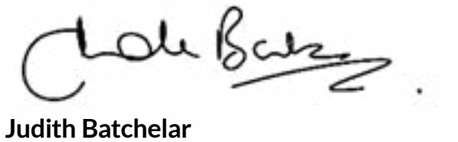
Soil samples

Consolidated balance sheet as at 31 December 2024

Company Registration No: 11314957

	Note	2024 Charity £000	2024 Group £000	2023 Charity £000	2023 Group £000
Fixed assets					
Tangible assets	7	9,443	9,443	9,740	9,740
Investments	8	6,435	6,385	5,199	5,149
Total fixed assets		**15,878**	**15,828**	14,939	14,889
Current assets					
Stocks	9	-	41	-	-
Debtors	10	12,934	13,472	10,839	10,606
Cash at bank and in hand	11	12,663	13,067	14,710	15,069
Current liabilities					
Creditors falling due in one year	12	21,653	22,586	22,098	22,174
Net current assets		**3,944**	**3,994**	3,451	3,501
Net assets		**19,822**	**19,822**	18,390	18,390
The funds of the charity					
Unrestricted funds					
Unrestricted funds		8,470	8,470	6,655	6,655
Unrestricted designated capital funds		2,672	2,672	3,052	3,052
Total unrestricted funds		**11,142**	**11,142**	9,707	9,707
Restricted funds					
Restricted funds		-	-	-	-
Restricted capital funds		8,680	8,680	8,683	8,683
Total restricted funds		**8,680**	**8,680**	8,683	8,683
Total charity funds	15	**19,822**	**19,822**	18,390	18,390

The financial statements on pages 70-93 were approved by the Board and authorised for issue on 30 June 2025 and signed on its behalf by:



Judith Batchelar
Chair

Consolidated cash flow statement for the year to 31 December 2024

	2024 Charity £000	2024 Group £000	2023 Charity £000	2023 Group £000
Cash flows from operating activities				
Net income/(expenditure) and net movement in funds for the year	1,432	1,432	(1,064)	(1,064)
Interest receivable	(585)	(585)	(469)	(469)
Dividend receivable	(24)	(24)	(2)	(2)
Depreciation	1,990	1,990	2,113	2,113
Investment management fee	14	14	-	-
Loss/(gain) on disposal of fixed assets	-	-	112	112
(Gain)/loss on investments	(204)	(204)	(137)	(137)
Capital grants receivable	(850)	(850)	(1,390)	(1,390)
(Increase)/decrease in stock	-	(41)	-	-
(Increase)/decrease in debtors	(2,095)	(2,866)	(1,258)	(1,169)
Increase/(decrease) in creditors	(445)	412	1,472	1,443
Net cash provided by operating activities	**(767)**	**(722)**	(623)	(563)
Cash flows from investing activites				
Interest received	563	563	459	459
Purchase of tangible assets	(1,693)	(1,693)	(2,929)	(2,929)
Purchase of investments	(1,000)	(1,000)	(5,000)	(5,000)
Capital grants received	850	850	1,390	1,390
Net cash provided by investing activities	**(1,280)**	**(1,280)**	(6,080)	(6,080)
Change in cash and cash equivalents in the year	**(2,047)**	**(2,002)**	(6,703)	(6,643)
Cash and cash equivalents at the beginning of the year	14,710	15,069	21,413	21,712
Total cash and cash equivalents at the end of the year	**12,663**	**13,067**	14,710	15,069

Notes to the Consolidated Financial Statements

1. Accounting policies

a. Basis of preparation

UK Centre for Ecology and Hydrology (UKCEH) ("the Charity") is a private company limited by guarantee, domiciled and incorporated in England and Wales on 17 April 2018. The Company is registered as a charity in England and Wales and Scotland. The registered trading address and company and charity numbers are on page 33. The Charity began trading on 1 December 2019. The charity is a public benefit entity as defined by FRS102 and part of a public benefit group. Monetary amounts in these financial statements are rounded to the nearest whole £1,000, except where otherwise indicated. Sterling is the Group's functional and presentational currency.

The group accounts have been prepared under the historical cost convention with items recognised at cost or transaction value unless otherwise stated in the relevant note/s to those accounts. The financial statements have been prepared in accordance with Accounting and Reporting by Charities: Statement of Recommended Practice (FRS102) applicable to charities preparing their accounts in accordance with FRS102, the Financial Reporting Standard applicable in the UK and Republic of Ireland issued on 16 July 2014, the Charities Act 2011, the Companies Act 2006, the Charities and Trustee Investment (Scotland) Act 2005, the Charities Accounts (Scotland) Regulations 2006 and UK Generally Accepted Accounting Practice.

The principal accounting policies adopted in these financial statements, which have been consistently applied, are as follows:

b. Basis of consolidation

The consolidated financial statements incorporate the financial statements of UKCEH and its subsidiary undertakings in accordance with Financial Reporting Standard ("FRS") 102 "Accounting for Subsidiary Undertakings". The results of the subsidiaries are consolidated on a line by line basis. The financial statements of all group undertakings and associates are made up to 31 December 2024. A separate income and expenditure account has not been presented for UKCEH as this is exempted by Section 408 of the Companies Act 2006.

UKCEH has two subsidiary undertakings: UK Centre for Ecology & Hydrology Enterprise Limited (Company registration number: 12251749, wholly owned) and UK Centre for Ecology & Hydrology International Limited (Company registration number: 15670898, limited by guarantee without share capital). The principal activity of the UK Centre for Ecology & Hydrology Enterprise Limited is to increase UKCEH's social, economic and environmental impact and science excellence through commercial product and service collaborations and commercialisation of UKCEH research outputs and capabilities. UK Centre for Ecology & Hydrology International Limited was dormant in 2024 and has been established to help undertake international activities going forward in support of the Charity's goals. The registered office of both subsidiaries is Maclean Building, Crowmarsh Gifford, Wallingford, Oxfordshire, OX10 8BB.

c. Going concern

The trustees of UKCEH consider the organisation to be a successful going concern. Since it was established on the 1 December 2019, UKCEH has had a positive net income in aggregate, and has built its reserves to a level well above the minimum target.

We successfully moved back into surplus in 2024, after a deficit in 2023, through actions including a focus on income diversification as well as prioritising the type of work we bid for, balancing income from sources that fully cover costs with research income from funders for which the funding rules do not allow for full cost recovery. We have a robust plan for 2025 based on known activity and our fund balances remain positive. After a period of growth, we plan to consolidate the organisation size and take a more targeted approach to new opportunities.

The board of trustees reviewed and approved the 2025 UKCEH plan in December 2024 and we have a high degree of confidence in future income levels. UKCEH continues to be very successful in bidding for funding and as April 2025 we had secured close to 100% of its planned income for 2025. Beyond 2025, our long-term plan includes a robust forecast for 2026.

Demand for our environmental science expertise continues to be high and we believe that there are no known measurable material uncertainties that could call into doubt the ability of UKCEH to continue as a going concern.

d. Income

Grant income is recognised in the statement of financial activities when received or when the charity becomes entitled to receipt. Grants that have been received will be treated as deferred income where there are specific requirements in the terms of the grant that the income recognition is dependent on certain activities being completed in a future accounting period.

Investment income relates to interests receivable from bank accounts and dividends receivable. These are recognised in the year they are earned.

Other income includes property rental income, training income, data licensing income and miscellaneous income. Revenue is recognised when the obligation is fulfilled. Capital grants and Institutional Funding are recognised in the consolidated statement of financial activities ("SoFA") when entitlement passes.

e. Expenditure

Charitable activity expenditure represents the full cost of the research performed. It includes the cost of direct staff, consumable and indirect costs apportioned on the basis of use. Raising funds represents the cost of business development and communications. Governance costs represent the necessary cost of compliance with statutory and constitutional requirements. Support costs have been allocated to charitable activity expenditure, costs of generating funds and governance costs on a basis consistent with the use of resources.

f. Restricted funds

Where research at UKCEH is funded by grants with conditions attached to them, these are shown as restricted. Capital grants received and receivable together with other restricted funds received and receivable and used to purchase tangible assets are included within restricted funds. A restricted capital reserve has been established representing the net book value of fixed assets purchased from capital grants and the remaining committed but unspent capital funding.

g. Unrestricted funds

Research grants that do not contain conditions for the final receipt of funds have been treated as unrestricted. Funds received for non-specified purposes have also been included as unrestricted. The designated capital fund within unrestricted reserves represents the funds that have been set aside by the trustees following transfer of assets from UKRI-NERC on independence and internal investment in capital.

h. Tangible assets and depreciation

Tangible assets are shown at cost or valuation less accumulated depreciation. The cost of tangible assets is their purchase cost, together with any incidental costs of acquisition. Items over £5,000 are capitalised. Depreciation is calculated using the straight line method to write off the cost or valuation of assets, less any estimated residual value, over their estimated useful lives at the following rates:

- Improvements to buildings - to the lower of the life of the improvement and the term of the associated building lease.
- Plant and machinery - 8 to 10 years
- Fixtures and fittings - 5 to 10 years
- Major equipment - 8 years
- Motor vehicles - 5 years
- IT equipment - 3 years

Assets under the course of construction are included at cost, and will be depreciated to their estimated residual values over their expected useful lives on a straight-line basis once the asset is available for use. An assessment is made at each reporting date of whether there are any indications that a fixed asset may be impaired or that an impairment loss previously recognised has fully or partially reversed.

i. Fixed asset investments

Investment in the subsidiary undertaking is included at cost. Other investments are stated at fair value which is determined by reference to market value.

j. Stocks

Stocks relates to the CEH DELTA (Denuder for Long-Term Atmospheric sampling) system manufactured under contract in the subsidiary entity UK Centre for Ecology & Hydrology Enterprise Ltd.

Stocks are stated are the lower of cost and net realisable value, being the estimated selling price less costs to sell. Cost is based on the cost of purchase on a first in, first out basis.

At each balance sheet date, stocks are assessed for impairment. If stock is impaired, the carrying amount is reduced to its selling price less costs to sell. The impairment cost is recognised immediately.

k. Debtors

Debtors are non-interest bearing and are stated at their nominal value, as reduced by appropriate allowances for estimated irrecoverable amounts.

l. Trade creditors

Trade creditors are non-interest bearing and are stated at their nominal value.

m. Staff and Pensions

UKCEH staff that joined before 1 December 2019 were employed by UKRI-NERC up to 1 December 2019, when they transferred employment to the Institute under TUPE. Transferred employees retain their membership of the Research Councils Pension Scheme (RCPS), where applicable, with UKCEH becoming an admitted employer in the scheme. The RCPS is a defined benefit scheme funded from annual grant-in-aid on a pay-as-you-go basis. The RCPS Pension Scheme is a multi-employer scheme and UKCEH is unable to identify its share of the underlying assets and liabilities. UKCEH therefore accounts for the scheme as if it were a wholly defined contribution scheme. As a result, the amount charged to the income and expenditure account represents the contributions payable to the scheme in respect of the accounting period. Liabilities for the payment of future benefits are the responsibility of the RCPS and accordingly are not included in these Financial Statements. UKCEH has recruited all new staff from December 2019 on its own terms and conditions, covering basic pay and allowances, contractual payments, tax, NI, and liabilities for pension contributions and redundancy. Such staff are eligible to join a defined contribution scheme.

n. Termination payments

Termination payments are payable when employment is terminated before the normal retirement date or end of employment contract. Termination costs are recognised when the offer of the benefits can no longer be withdrawn.

o. Operating leases

Rental costs are charged to the statement of financial activities on a straight line basis over the life of the lease.

p. Foreign currency transactions

The functional and reporting currency is pounds sterling. Transactions in foreign currencies are recorded at the rate of exchange ruling at the date of the transaction. Assets and liabilities denominated in foreign currencies are translated at year end exchange rates. All gains and losses are taken to the statement of financial activities in the year to which they relate.

q. Judgements in applying accounting policies and key sources of estimation

Preparation of the financial statements require management to make significant judgements and estimates. The items in the financial statements where these judgements and estimates have been made include:

- Depreciation, which has been charged in line with the accounting policy above. The amount of depreciation charged and net book value of the assets is included in Note 7.
- Grant income is estimated based on future payment profiles and expenditure incurred to date.

r. Donated goods, services and facilities

These are included at the value to the charity where this can be quantified. In accordance with the Charities SORP (FRS 102), no amounts are included in the financial statements for services donated by volunteeers.

2. Analysis of incoming resources

	Research activities	Education and training activities	Other activities	Total 2024	Total 2023
	£000	£000	£000	£000	£000
Donations	**1**	-	-	**1**	-
Income from charitable activities					
Grant and contract income					
UKRI	34,802	183	320	**35,305**	33,125
Other government departments and public sector	19,336	81	-	**19,417**	14,997
European Commission	2,395	-	-	**2,395**	1,288
Universities	1,369	90	-	**1,459**	1,596
Charities	1,438	34	-	**1,472**	1,410
Private sector	4,811	-	-	**4,811**	3,887
Total grant income	**64,151**	**388**	**320**	**64,859**	56,303
Capital and maintenance grants					
UKRI					
Repairs and maintenance	1,342	-	-	**1,342**	1,200
Capital expenditure	850	-	-	**850**	1,390
Total capital grants	**2,192**	**-**	**-**	**2,192**	2,590
Total income from charitable activities	**66,345**	**387**	**320**	**67,052**	58,893
Income from other trading activities					
Trading income	-	-	947	**947**	788
Rental income	-	-	67	**67**	97
Training income	-	135	-	**135**	107
Other income	-	-	130	**130**	122
Total income from other trading activities	**-**	**135**	**1,144**	**1,279**	1,114
Income from investments	**-**	**-**	**609**	**609**	471
Total income	**66,345**	**522**	**2,073**	**68,940**	60,478

3. Analysis of resources expended

	Research activities	Education and training activities	Other activities	Total 2024	Total 2023
	£000	£000	£000	£000	£000
Direct charitable expenditure:					
Science staff cost	25,295	1,471	-	**26,766**	23,659
Science direct costs	17,461	101	-	**17,562**	15,845
Depreciation	1,990	-	-	**1,990**	2,113
Expenditure on charitable activities	**44,746**	**1,572**	**-**	**46,318**	41,617
Governance costs	-	-	80	**80**	80
Support costs	18,633	568	-	**19,201**	18,365
Raising funds	-	-	1,711	**1,711**	1,315
Trading expenditure	-	-	402	**402**	302
Expenditure on other activities	**18,633**	**568**	**2,193**	**21,394**	20,062
Total expenditure	**63,379**	**2,140**	**2,193**	**67,712**	61,679

Allocation of support costs, governance and raising funds

	Research activities	Education and training activities	Raising funds	Governance costs	Total 2024	Total 2023	Basis of allocation
		£000	**£000**	**£000**	**£000**	£000	
Senior management and other central costs	1,189	36	-	80	**1,305**	1,185	**Chargeable hours**
Facilities (including rent and maintenance)	7,794	237	-	-	**8,031**	7,786	**Chargeable hours**
Business development and engagement	-	-	1,711	-	**1,711**	1,315	**Activity**
Finance, procurement and project support	2,482	76	-	-	**2,558**	2,423	**Chargeable hours**
IT	3,959	121	-	-	**4,080**	3,916	**Chargeable hours**
People & skills	1,637	50	-	-	**1,687**	1,687	**Chargeable hours**
Research contracts, licensing and info services	1,433	44	-	-	**1,477**	1,297	**Chargeable hours**
Science support	139	4	-	-	**143**	151	**Chargeable hours**
Total support costs	**18,633**	**568**	**1,711**	**80**	**20,992**	19,760	

Analysis of governance costs

	Total 2024	Total 2023
	£000	£000
Audit of the financial statements	**28**	27
Other assurance services	**25**	25
Trustees remuneration and expenses	**27**	28
	80	80

4. Employee information

The monthly average number of persons employed by the group and charitable company during the year, analysed by category, was as follows:

Group and Charitable Company	2024	2023
	Number	Number
Science	**529**	473
Infrastructure	**180**	168
Total	**709**	641

The aggregate payroll costs of these persons were:

Group and Charitable Company	2024	2023
	£000	£000
Wages and salaries	**28,489**	24,980
Social security costs	**2,923**	2,555
Pension costs	**4,831**	4,574
Total	**36,243**	32,109

An analysis of the number of staff who fall within staff cost bands (excluding pension cost) from £60,000 upwards is provided below:

Group and Charitable Company	2024	2023
£60,000 - £69,999	**33**	24
£70,000 - £79,999	**11**	11
£80,000 - £89,999	**3**	5
£90,000 - £99,999	**2**	1
£100,000 - £109,999	-	2
£110,000 - £119,999	**1**	1
£120,000 - £129,999	**1**	-
£130,000 - £139,999	**1**	1
£180,000 - £189,999	**1**	-
Total	**53**	45

Staff that joined prior to 1 December 2019 were employed by UKRI-NERC, when these employees transferred employment to the charity under TUPE.

Transferred employees retain their membership of the Research Councils Pension Scheme, where applicable, with UKCEH becoming an admitted employer in the scheme.

Staff that joined after 1 December 2019 are employed under UK Centre for Ecology & Hydrology terms and conditions.

The key management personnel of the group comprise of the Executive Committee, as listed on page 38.

The employment costs (salaries, social security costs and pension costs) of the key management personnel for the group and charitable company were £1,601,019 (2023: £1,571,732).

Redundancy and early termination payments in the year totalled £45,000 (2023: £nil). Nil were outstanding at 31 December 2024.

5. Remuneration of trustees

Group and Charitable Company	2024	2023
	£000	£000
Salary	**13**	14
Expenses	**12**	10
Total	**25**	24

Judith Batchelar was appointed as Chair of the Board of Trustees on 2 December 2024. She received remuneration of £1,128 (2023: £nil), including employer's national insurance contribution, covering work completed in this role. The remuneration was agreed and provided under a provision in the governing document of the Charity. Remuneration was provided due to the Trustee's role as the Chair of the Trustees, which requires a range of knowledge and experience and has a remit in terms of the role that the Trustee is required to provide. The trustee did not receive any employee benefits or pension contribution.

Lord Cameron of Dillington retired on 28 November 2024 from his role as Chair of the Board of Trustees. He received remuneration of £12,051 (2023: £13,539), including employer's national insurance contribution, covering work completed in this role. The remuneration was agreed and provided under a provision in the governing document of the Charity. Remuneration was provided due to the Trustee's role as the Chair of the Trustees, which requires a range of knowledge and experience and has a remit in terms of the role that the Trustee is required to provide. The trustee did not receive any employee benefits or pension contribution.

The Executive Director, Stuart Wainwright, appointed on 28 June 2023, is also a Trustee. He has received no remuneration for this role in the year. He received remuneration and benefits for his services as Executive Director of £219,347 including employer's national insurance and pension contributions (2023: £127,514).

Mark Bailey retired on 28 June 2023 from his roles as Executive Director and Trustee. He received no remuneration for his services as Trustee. He received remuneration and benefits for his services as Executive Director of £nil (2023: £81,702) including employer's national insurance contribution. No pension contributions were made by the charity.

UK Centre for Ecology & Hydrology articles of association provide legal authority for these payments to be made.

The total reimbursement of travelling and subsistence expenses incurred by 13 trustees (2023: 11 trustees) amounted to £12,024 (2023: £10,334).

6. Taxation

UK Centre for Ecology & Hydrology (UKCEH) is an exempt charity within the meaning of the Charities Act 2011 and as such is a charity within the meaning of section 506(1) of the Income and Corporation Taxes Act 1988 and is not subject to corporation tax in respect of its charitable activities.

The trading activities of the trading subsidiary company are subject to corporation tax; however profits in the year are gifted to the charitable company resulting in a £nil tax charge payable.

7. Tangible assets

Group and charitable company:	Improve-ments to buildings	Plant equipment	Fixture & fittings	IT equipment	Transport	Assets under construction	Total
Cost							
As at 1 January 2024	732	11,634	254	3,541	187	1,740	18,088
Additions	-	705	-	44	-	944	1,693
Transfer	-	1,449	-	291	-	(1,740)	-
As at 31 December 2024	732	13,788	254	3,876	187	944	19,781
Depreciation							
As at 1 January 2024	(57)	(5,454)	(172)	(2,478)	(187)	-	(8,348)
Charged in the year	(33)	(1,233)	(20)	(704)	-	-	(1,990)
As at 31 December 2024	(90)	(6,687)	(192)	(3,182)	(187)	-	(10,338)
Net book value							
As at 31 December 2024	642	7,101	62	694	-	944	9,443
As at 1 January 2024	675	6,180	82	1,063	-	1,740	9,740

8. Investments

Group	Cash	T Bills	Unit Trusts	Total
	£000	£000	£000	£000
Valuation at 1 January 2024	31	4,059	1,059	5,149
Additions	1,000	-	-	1,000
Purchases	(27,277)	26,774	503	-
Disposals	28,369	(28,369)	-	-
Interest receivable	22	-	-	22
Dividend receivable	24	-	-	24
Investment management fee	(14)	-	-	(14)
Realised gain on maturity/sale	-	215	-	215
Revaluation (loss)/gain	-	(29)	18	(11)
Valuation at 31 December 2024	2,155	2,650	1,580	6,385

The investments have been revalued to reflect their market value at the year end.

Company	Investment in Subsidiary Company	Cash	T Bills	Unit Trusts	Total
	£000	£000	£000	£000	£000
Valuation at 1 January 2024	50	31	4,059	1,059	5,199
Additions	-	1,000	-	-	1,000
Purchases	-	(27,277)	26,774	503	-
Disposals	-	28,369	(28,369)	-	-
Interest receivable	-	22	-	-	22
Dividend receivable	-	24	-	-	24
Investment management fee	-	(14)	-	-	(14)
Realised gain on maturity/sale	-	-	215	-	215
Revaluation (loss)/gain	-	-	(29)	18	(11)
Valuation at 31 December 2024	50	2,155	2,650	1,580	6,435

The investment in the subsidiary company is valued at cost. All other investments have been revalued to reflect their market value at year end.

The wholly owned subsidiary company is UK Centre for Ecology & Hydrology Enterprise Limited (company no 12251749). The registered office of the subsidiary is Maclean Building, Crowmarsh Gifford, Wallingford, Oxfordshire, OX10 8BB. The results for the year ended 31 December 2024, which are included in the consolidated financial statements, are set out below:

	2024	2023
	£000	£000
Turnover	**947**	788
Expenditure	**(644)**	(535)
Profit for the year	**303**	253
Gift aid distribution	**(303)**	(253)
	-	-
Net assets at 1 January	**50**	50
Net assets at 31 December	**50**	50
Being:		
Current assets	**1,473**	501
Current liabilities	**(1,423)**	(451)
Net assets at 31 December	**50**	50

UK Centre for Ecology & Hydrology Enterprise Limited's principal activity during the year was commercialisation of UK Centre for Ecology & Hydrology (UKCEH) intellectual property and the delivery of research contracts and commercial services in support of UKCEH's ambition and charitable purpose.

UK Centre for Ecology & Hydrology International Limited is a private company limited by guarantee without share capital. It remained dormant at 31 December 2024 and has therefore not been included in the consolidation.

9. Stocks

	2024	**2024**	2023	2023
	£000	**£000**	£000	£000
	Charity	Group	Charity	Group
Work in progress	**-**	41	-	-

Stock relates to the CEH DELTA (Denuder for Long-Term Atmospheric sampling) system manufactured under contract in the subsidiary entity UK Centre for Ecology & Hydrology Enterprise Ltd. No stock has been expensed in the year, and no provisions have been made against the stock at year end.

10. Debtors

	2024	**2024**	2023	2023
	£000	**£000**	£000	£000
	Charity	Group	Charity	Group
Trade debtors	3,235	4,146	2,267	2,306
Amounts owed from subsidiary undertakings	473	-	375	-
Prepayments and accrued income	9,100	9,200	8,131	8,234
Other debtors	126	126	66	66
Total	**12,934**	**13,472**	10,839	10,606

11. Cash and cash equivalents

	2024	**2024**	2023	2023
	£000	**£000**	£000	£000
	Charity	Group	Charity	Group
Cash at bank	7,641	8,045	4,304	4,663
Notice deposits	5,022	5,022	10,406	10,406
Total	**12,663**	**13,067**	14,710	15,069

12. Creditors

	2024	2024	2023	2023
	£000	**£000**	£000	£000
	Charity	Group	Charity	Group
Trade creditors	1,134	1,135	1,052	1,052
Accruals and deferred Income	18,927	19,711	19,117	19,174
Payroll & expense	723	723	716	716
Taxation (VAT payable)	852	1,017	590	609
Other creditors	-	-	623	623
Amounts owed to subsidiary undertakings	17	-	-	-
Total	**21,653**	**22,586**	22,098	22,174

13. Deferred income

	2024	2024	2023	2023
	£000	**£000**	£000	£000
	Charity	Group	Charity	Group
Opening balance at 1 January	14,331	14,331	14,383	14,434
Deferred income released from previous year	(8,477)	(8,477)	(10,711)	(10,762)
Amounts deferred in year	8,585	9,307	10,659	10,659
Carried forward at 31 December	**14,439**	**15,161**	14,331	14,331

Deferred income relates to grant income, including research grants, which are received in advance of specific conditions being met. The income is shown as deferred until those conditions are fully satisfied.

14. Capital commitments

	2024	2023
Group and Charitable Company	**£000**	£000
	Total	Total
Contracted capital commitments at the end of the financial year not otherwise included in these accounts	**322**	484

15. Funds

Analysis of net assets between funds - current year

	Unrestricted funds	Restricted funds	Unrestricted designated capital funds	Restricted capital funds	Total 2024
	£000	**£000**	**£000**	**£000**	**£000**
UKCEH Group					
Fixed assets	6,385	-	1,141	8,302	15,828
Current assets	3,209	21,462	1,531	378	26,580
Current liabilities	(1,124)	(21,462)	-	-	(22,586)
As at 31 December 2024	**8,470**	**-**	**2,672**	**8,680**	**19,822**

Analysis of net assets between funds - prior period

	Unrestricted funds	Restricted funds	Unrestricted designated capital funds	Restricted capital funds	Total 2023
	£000	**£000**	**£000**	**£000**	£000
UKCEH Group					
Fixed assets	5,149	-	1,509	8,231	14,889
Current assets	1,582	22,098	1,543	452	25,675
Current liabilities	(76)	(22,098)	-	-	(22,174)
As at 31 December 2023	**6,655**	**-**	**3,052**	**8,683**	**18,390**

Analysis of funds movements - current year

	Unrestricted funds	Restricted funds	Unrestricted designated capital funds	Restricted capital funds	Total 2024
	£000	£000	£000	£000	£000
UKCEH Group					
At 1 January 2023	6,655	-	3,052	8,683	**18,390**
Total income and expenditure for the year	6,885	(4,313)	(417)	(723)	**1,432**
Restricted funds transfers	(5,070)	4,313	37	720	-
As at 31 December 2024	8,470	-	2,672	8,680	19,822

Analysis of funds movements - prior period

	Unrestricted funds	Restricted funds	Unrestricted designated capital funds	Restricted capital funds	Total 2023
	£000	£000	£000	£000	£000
UKCEH Group					
At 1st January 2022	8,415	-	3,758	7,281	19,454
Total income and expenditure for the year	2,375	(2,604)	(706)	(129)	(1,064)
Restricted funds transfers	(4,135)	2,604	-	1,531	-
As at 31 December 2023	6,655	-	3,052	8,683	18,390

Unrestricted funds are available for use at the discretion of the trustees in furtherance of the general objectives of the Group and which have not been designated for other purposes. Designated funds comprise unrestricted funds that have been set aside by the trustees following the transfer of assets from UKRI-NERC on independence and internal investment in capital.

Restricted funds are funds which are to be used in accordance with specific restrictions imposed by donors or which have been raised by the Group for particular purposes. These are largely for environmental science research activities including funding from UKRI-NERC for our major national capability programmes. The largest of these are 'NC-UK', which includes delivery of integrated monitoring, modelling and data on the UK environment; and the Floods and Droughts Research Infrastructure (FDRI) programme. The costs of raising and administering such funds are charged against the specific fund. Restricted capital funds are funds provided from third parties for sole use of purchasing capital items. The expenditure is the subsequent depreciation of these assets. Many projects classified as restricted are not funded at full cost. UKCEH decides to undertake these projects because of their scientific importance and deliberately 'co-fund' them using unrestricted funding. The fund transfer between unrestricted funds and restricted funds represents the allocation of co-funding to support these projects. The fund transfer between restricted funds and restricted capital funds represents the transfer of the capital cost of assets purchased as part of a restricted project.

16. Pension schemes

UKCEH staff that joined before 1 December 2019 were employed by UKRI-NERC up to 30 November 2019, when they transferred employment to the Institute under TUPE.

Transferred employees retain their membership of the Research Council Pension Scheme (RCPS), which is administered by the Joint Superannuation Services (JSS).

The RCPS Pension Scheme is a multi-employer scheme. UKCEH accounts for the scheme as if it were a wholly defined contribution scheme. As a result, the amount charged to the income and expenditure account represents the contributions payable to the scheme in respect of the accounting period. Liabilities for the payment of future benefits are the responsibility of the RCPS and accordingly are not included in these Financial Statements. The employer contribution rate during the year was 26% (2023: 26%).

UKCEH employees that joined after 30 November 2019 are eligible to join a defined contribution scheme.

The total pension charge for the year was £4,831k (2023: £4,574k). £3,330k (2023: £3,470k) relates to the defined benefit scheme and £1,501k (2023: £1,104k) relates to the defined contribution scheme.

17. Related party transactions

UK Centre for Ecology & Hydrology has 2 subsidiaries: UK Centre for Ecology & Hydrology Enterprise Limited (number 12251749) and UK Centre for Ecology & Hydrology International Limited (number 15670898).

UK Centre for Ecology & Hydrology Enterprise Limited is a wholly owned subsidiary with which the following transactions took place during the year:

	2024	2023
Paid to UKCEH:	**£000**	£000
Management charge to cover licencing staff costs and intellectual property charge	242	233
Science staff cost for research project	73	59
Gift aid donation	303	253
	618	545

At 31 December 2024 UK Centre for Ecology & Hydrology Enterprise Limited owed UKCEH £472,705k (2023: £375,322) and UKCEH owed UK Centre for Ecology & Hydrology Limted £16,836 (2023: £nil).

UK Centre for Eccology & Hydrology International Limited (number 15670898) is a private company limited by guarantee without share capital, incorporated on 23 April 2024 to help undertake international activities in support of the Charity's goals. The registered office is at the Maclean Building, Benson Lane, Crowmarsh Gifford, Wallingford, Oxfordshire, OX10 8BB, UK. It remained dormant at 31 December 2024.

Judith Batchelar was appointed as Chair of the Board of Trustees on 2 December 2024. She is also a Non Executive Director of the Environment Agency. In the period 2 December 2024 to 31 December 2024, UK Centre for Ecology & Hydrology received £355,126 from the Environment Agency in relation to scientific work/research provided. £197,908 was outstanding for payment at 31 December 2024.

Ian Reid is a director of the subsidiary entity UK Centre for Ecology & Hydrology Enterprise Ltd. He is also a director of the company Trace Element Associates Ltd which received payment of £6,197 (2023: nil) in relation to consultancy work performed for the Charity. Nil was outstanding for payment at 31 December 2024.

UKRI-NERC

UKCEH is strategically funded, by UKRI-NERC. UKRI-NERC supports UKCEH via strategic funding programmes, competitively won project grants and funding for infrastructure and technology investments. Funding for the year was £37,497k as shown in note 2 (2023: £35,715k).

18. Agency arrangements

The charity acts as an agent in performing repairs and maintenance on the buildings leased from UKRI-NERC.

	2024	2023
	£000	£000
Amount included in deferred revenue at 1 January	1,000	946
Grants received from UKRI-NERC	1,026	1,254
Expenditure on repairs and maintenance	(1,342)	(1,200)
Amount included in deferred revenue at 31 December	**684**	1,000

19. Operating lease obligations

	2024	2023
	£000	£000
Less than 1 year	1,982	1,594
1-5 year	7,881	6,347
More than 5 year	27,690	23,800
Total	**37,553**	31,741

These amounts relate to rent on land and buildings.

	2024	2023
	£000	£000
Lease expenditure in the year:		
Hire of equipment	18	23
Rent of land and buildings	1,554	1,524
Total	**1,572**	1,547

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