EARTHWATCH®
INSTITUTE

Earthwatch Europe
Mayfield House
256 Banbury Road
Oxford OX2 7DE
United Kingdom

Cover image: Steve O'Gorman

EARTHWATCH EUROPE ANNUAL REVIEW 2015

EARTHWATCH® INSTITUTE

WELCOME...

2015 was another exciting year for Earthwatch. Across our partnerships and projects – from the woods of Oxfordshire to the deserts of the UAE – we engaged teachers, students, communities, young scientists and business leaders in science. Working alongside world-class experts, we inspired almost 4,000 people from all walks of life to think and act differently for a sustainable future.

The importance of our model of citizen science is greater than ever before. This year, the United Nations announced the 2030 Sustainable Development Goals. These have brought specific issues into sharp focus, many of which are already a core part of Earthwatch's work. These include ensuring availability and sustainable management of fresh water, taking urgent action to mitigate the impacts of climate change, and conserving the health and productivity of our marine resources. We are proud of the work featured in this review, and the genuine contribution made to these critical issues. We are also acutely aware of the scale of the challenge that remains in the years ahead.

The year contained many highlights, beginning with one of our most successful public debates ever, when we convened a top panel of speakers to discuss the topic of rewilding. Chaired by Kate Humble, the event was packed out and sparked lively exchanges of views. We issued a call for new ideas for citizen science projects in the UK, and we received a phenomenal response. Watch out for more details in 2016 as we launch a range of exciting new projects offering you the opportunity to get directly involved in vital science here in the UK – around our coasts, in our countryside, and in the heart of our towns and cities.

On a personal note, after 13 years with Earthwatch I was thrilled to step into the role of Chief Executive in October. I am inspired on a daily basis by our partners, supporters and staff around the world. A huge thank you to everyone who worked with us in 2015 – without your commitment and support none of the achievements highlighted in these pages would have been possible.

STEVE GRAY

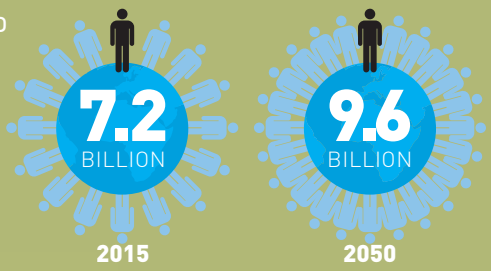
CHIEF EXECUTIVE
EARTHWATCH EUROPE

WHY EARTHWATCH?

Citizen science plays a critical role in providing scientific understanding to address environmental issues.

WORLD POPULATION

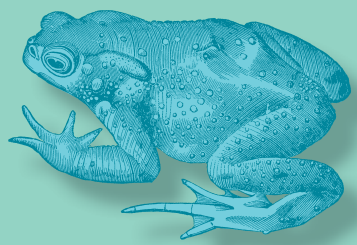
THE CURRENT WORLD POPULATION OF 7.2 BILLION IS PROJECTED TO INCREASE BY 1 BILLION OVER THE NEXT 12 YEARS AND REACH 9.6 BILLION BY 2050.



The United Kingdom was once covered in forests.

NOW **75%** OF WOODLAND IS WITHIN 100 METRES OF THE FOREST EDGE

Since 1950, a **300% RISE IN PHOSPHATES** has increased **ALGAL BLOOMS** in fresh water, destroying biodiversity and damaging human health

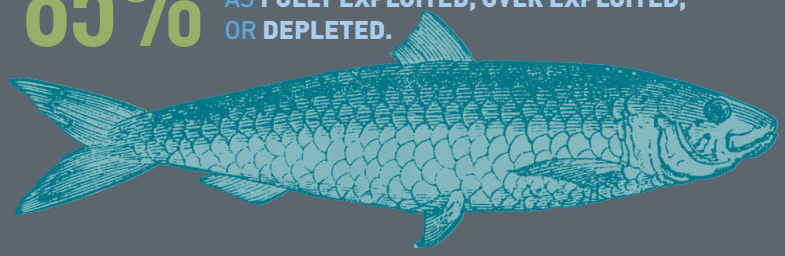


1,910 of the planet's 6,312 amphibians are in danger of extinction, making them the most threatened group of species known to date.

THE UN GENERAL ASSEMBLY HAS IDENTIFIED SUSTAINABLE DEVELOPMENT GOALS INCLUDING:

- ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL
- MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE
- CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT
- TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS

85% OF OCEAN FISHERIES ARE CATEGORISED AS **FULLY EXPLOITED, OVER EXPLOITED,** OR **DEPLETED.**



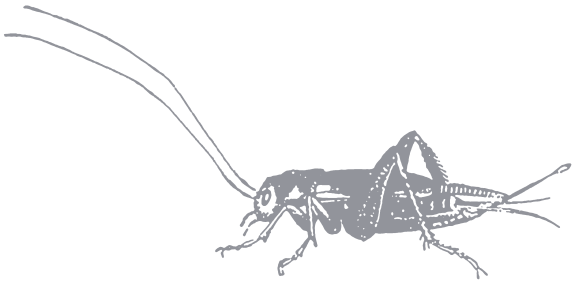
GLOBAL SEA LEVEL ROSE

17cm

IN THE LAST CENTURY

The rate in the last decade, however, is nearly double that of the last century.

OUR IMPACT



REDUCING THE THREAT TO PREDATORS

A Community Engagement Officer has been appointed in South Africa to work with local landowners to reduce the number of predators, such as leopards, being killed as they are seen as a threat to livestock.

Philip Faure has been appointed to work with Dr Russell Hill on the Primate and Predator project which hosts our Earth Skills Network programme (see page 14).

Philip's role is sponsored through the partnership between Earthwatch and Shell as part of new work to engage communities in conservation projects and provide tangible benefits locally.

Workshops and a new call-out service provide hands-on support and practical guidance on alternative methods of animal husbandry, reducing conflict with wildlife and strengthening relationships with the Earthwatch research team.

The project also engages young people and the wider community to build local pride in the biodiversity of the region, challenge perceptions that leopards, primates and hyenas are pests, and increase support for conservation.

Philip, who studied nature conservation at Nelson Mandela Metropolitan University, has experience of working in Limpopo at the Zingela Game Reserve and researched brown hyenas in the Cape.

Philip said: "I was interested in this role by the idea of being able to make a change for the better by mitigating human-wildlife conflict and through raising awareness of environmental issues.

"I have worked with farmers and communities from numerous provinces in South Africa. Many of them face social or ecological challenges and sometimes turn to drastic measures to keep their livestock or crops protected.

"To me, the need for successful agricultural and farming systems is equally important to protecting natural biodiversity and I would like to build bridges between the two."

EATING CRICKETS FOR LUNCH

A group of dedicated citizen scientists were so inspired by what they learnt on our FreshWater Watch programme they came up with a unique idea to highlight the issue of embedded water – eating insects.

The HSBC employees from Vancouver took part in FreshWater Watch as part of the HSBC Water Programme.

The idea behind the event was to highlight the concept of "embedded water". Beef has a huge water footprint – one 150g burger contains 2400 litres of embedded water, whereas insects have almost none.

Ruth Legg, one of the HSBC employees who enjoyed the cricket meal, said: "I liked how a serious topic - global freshwater challenges, was transformed into something fun, entertaining and educational."

100 people attended, with more than 40 enjoying an insect snack. In just one day the team saved 70,000 litres of water – the equivalent to 1,000 baths.

OUR IMPACT

NEW FINDINGS IN OMAN

Many successes have been recorded as part of the partnership between Earthwatch and the National Field Research Centre for Environmental Conservation (NFRCEC).

Under the Oman Earthwatch Programme, the Mobile Environmental Research Unit has completed rapid biodiversity assessments of five areas of the Hajar Mountains.

Discoveries have included:

- The largest known population of gazelle in Oman, in the Al Salil Reserve
- Six potentially new insect species
- The previously unknown high ecological importance of the network of holes and tunnels created by the spiny-tailed lizard (known locally as the Dhub) in Al Salil Reserve. These tunnels provide vital available refuge for small mammals, other reptiles and invertebrates in this vast, open and unsheltered landscape. The tunnels are currently under threat from unregulated four wheel driving across the reserve.

OUR IMPACT

> **This demonstrates the important role that citizen scientists can have as stewards of their local environment...**

MANAGING MANGROVES AND CAPTURING CARBON IN KENYAN COMMUNITIES

For coastal communities, such as those living around Gazi Bay in Kenya, mangrove ecosystems provide key services such as firewood and building poles, fish nurseries, coastal protection and opportunities for tourism.

Mangrove forests are also recognised for their role in mitigating climate change, due to their exceptional ability to capture and store significant amounts of carbon dioxide from the atmosphere.

Despite these benefits and services, the continued destruction of these forests has become a huge cause for concern. Unsustainable use as firewood and the undervaluing of carbon storage has contributed to the rapid removal of mangroves in recent decades. Finding new ways to value these services offers the potential to engage stakeholders in their long-term conservation.

Since 2004, Earthwatch has worked with Professor Mark Huxham of Edinburgh Napier University and his team on a community-led mangrove research and restoration project at Gazi Bay. The project has engaged a range of stakeholders in pioneering mangrove plantation experiments that measure ecosystem functions, including carbon stocks held within.

These data have not only informed understanding of how best to restore mangroves, but also allowed the team to pioneer use of carbon credits as a way to fund mangrove conservation and social development. This year, the project reached its target for the sale of carbon credits, raising $14,000 for a community fund, which has been allocated to new clean-water wells in the surrounding villages.

Building on the research and restoration work at Gazi Bay, a new project has recently begun just south of Gazi to explore how fish use mangrove forests as nursery sites, with the aim of understanding the best ways of managing these ecosystems.

HIGH NITRATES EMERGENCY AVOIDED THANKS TO CITIZEN SCIENTIST

Data gathered by a citizen scientist has prevented a potential nutrient release in one of our FreshWater Watch cities in South East Asia.

The citizen scientist discovered the extreme rise in nitrate levels and the findings were immediately shared with the local water authority. Nitrate levels were found to have increased to more than 10mg/l – ten times higher than deemed normal by guidelines for good water quality.

Excess nutrients pose a serious risk to the health of the river, which eventually flows into local catchment basins and the city's drinking water supply. These conditions can cause algal blooms which can release toxins with potential impacts on human health and can also use up all dissolved oxygen in the water, leading to massive loss of biodiversity in the ecosystem.

Water authority officials investigated the findings after we reported them in the summer and the situation has been resolved. Recent readings showed that the nitrates have returned back to normal (less than 1mg/L N-NO3). For legal reasons we are unable to give the precise location.

However, the local authority thanked the citizen scientists for their superb work and diligence, helping them to improve the water quality.

Professor Steven Loiselle, Earthwatch's Global Freshwater Research Manager, said: "This demonstrates the important role that citizen scientists can have as stewards of their local environment, in this case as an early warning to a potentially compromising situation.

"We have trained more than 6,000 FreshWater Watchers around the world and their observations and measurements are helping us to protect freshwater supplies now and build conservation plans for the future."

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OUR SCIENCE

10,000 UPLOADS BRING SCIENCE TO THE FORE

FreshWater Watch – one of our flagship citizen science projects – has seen more than 10,000 datasets uploaded around the world from more than 1,100 water bodies since its launch in March 2013.

FreshWater Watch is a global citizen science project investigating the health of freshwater ecosystems and promoting freshwater sustainability.

The project was begun as part of the HSBC Water Programme and our participants now include teachers, students and employees from HSBC, Shell, Aramco and Heathrow Airport.

Some of the preliminary findings confirmed the scientists' assumptions, while others were more surprising.

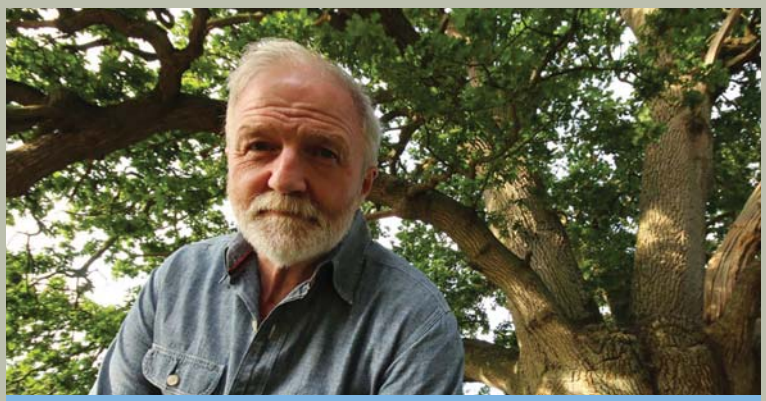
Highlights:

- *Algal blooms starve water bodies of oxygen, reducing biodiversity and releasing toxins dangerous to humans and animals. They are created by excessive nutrients such as nitrates and phosphates and our citizen scientists' observations are being used to help create an 'early warning system' to prevent algal blooms from spreading.*

- *Together with the Global Environmental Centre and the Indonesian Agency for Agricultural Research and Development, scientists at Earthwatch are exploring the impact of land cover on two major rivers in Southeast Asia, the Klang and Ciliwung. Both rivers pass through major urban areas, and are severely impacted by expanding urbanisation and agricultural activities. Citizen scientists are collecting key water quality data from sites in different areas of the catchment. Interestingly, while sediment load increases from the upper to the lower catchment in both rivers, phosphate concentrations have opposite trends in each river, suggesting that this important nutrient comes from a different source.*

- *Findings so far show that, based on data from 35 study areas on five continents, nitrate levels tend to be higher in running water bodies, while turbidity – water cloudiness – is higher in still water bodies. This consistency across different eco-regions is an interesting finding which our scientists aim to study further.*

OUR SCIENCE



TECHNICAL SUPPORT FOR HIT TV SHOW

Earthwatch Research Manager Alan Jones assisted in the production of the BBC 4 documentary, **Oak Tree: nature's greatest survivor**. The programme, presented by Dr George McGavin (pictured), followed a year in the life of an ancient oak in Wytham Woods. Sap flow rates were used to calculate how much carbon had been captured and oxygen released by the tree throughout the year.

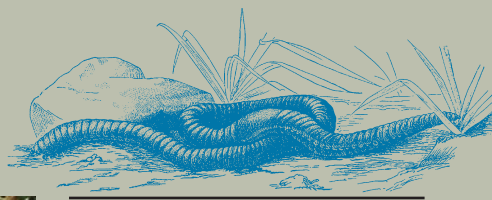
PREDICTING A RAINLESS FUTURE

Earthwatch has begun a unique experiment in Europe to study the effect of drought conditions on forests forecast for the UK by 2080.

Some scientists predict the UK will receive 50% less rainfall in summer as climate change results in more extreme weather conditions by 2080. Earthwatch scientists have developed the Dri-wood research project in Wytham Woods, Oxfordshire, to study how drier conditions may affect the carbon cycle.

Dr Alan Jones and Dr Martha Crockatt have created summer drought conditions on 24 test areas, half on a north-facing and half on a south-facing forest edge. They have built 2x2m shelters which exclude and collect up to 50% of rainfall that would otherwise have fallen on the ground below.

Woodlands are a key component of the carbon cycle as they remove CO_2 from the atmosphere. The Earthwatch scientists will be studying soil respiration, wood and leaf decomposition and 'green-ness' of the central $1m^2$ under the shelters to determine the likely impacts of lower rainfall in the future.



EARTHWORMWATCH

The humble earthworm is often overlooked but a new Earthwatch project seeks to map exactly what impact earthworms have on soil health in gardens and urban green spaces across the UK.

The project is being developed in partnership with the Natural History Museum in London. It will include experiments, carried out by citizen scientists, to test how these spaces can be managed to promote earthworm populations and enhance the benefits they provide, such as carbon storage, soil productivity and flood mitigation. There will be a full launch in spring 2016.

Victoria Burton, of the Natural History Museum's Department of Life Sciences, said: "Participating in citizen science projects as a child inspired me to pursue a career in science, so it is exciting to now be doing my very own project with Earthwatch.

"This project will go beyond data collection and encourage participants to run experiments."

Dr Alan Jones, Earthwatch Research Manager, added: "Earthworms are the key to soil fertility and healthy soils.

"By monitoring earthworm diversity across the UK, this Earthwatch citizen science project will shine a light underground - and map for the first time how soils and earthworms are affected by land use change and other environmental pressures."

OUR SCIENCE

IN PROFILE: **DR JENNY COUSINS**

Jenny's commitment to a career in conservation science was confirmed whilst she was studying for an MSc in Biodiversity and Conservation at the University of Leeds. It was during two stints of overseas research, firstly in Kenya, and then in the Cook Islands, that her path towards engaging people in science also began.

Jenny said: "The Cook Islands was an incredible experience – living alongside the local people, being invited to community gatherings, hiking up into the tropical forests each night to count fruit bats. What I thought would be a study of bat populations, also developed into a rich and complex journey of understanding local culture and politics around fruit bats and their role in society. I experienced the importance of engaging with local people and including local perspectives in any conservation science project." Jenny went on to publish her findings in the journal *Oryx*.

Jenny's next research experience took her to Botswana to support fieldwork with the newly formed Cheetah Conservation Botswana.

Fuelled by her interest in understanding complex conservation challenges, Jenny embarked on a PhD at the University of Birmingham, funded by NERC-ESRC. The project examined the role and impacts of market-based approaches to conservation, including the wildlife ranching industry in South Africa and international conservation tourism.

Research findings highlighted the importance of understanding human drivers around conservation issues, and of building

environmental knowledge and collaboration across stakeholder groups. Findings were published across five journal papers.

Jenny joined Earthwatch nearly six years ago and her role evolved to cover a wide range of programmes spanning multiple countries, subjects, and stakeholders. She has been at the forefront of developing new partnerships, including new UK citizen science projects.

She added: "Citizen science is such a powerful tool for engaging individuals and companies on environmental issues, for developing stewardship, building local capacity, and promoting positive application of research results on the ground."

A TRIBUTE TO **DR KATE BARLOW**

Earthwatch lost a valued colleague and scientist in late 2015. Kate Barlow became Head of Engagement and Science in June and made an immediate impact on the organisation and her new colleagues.

Kate's journey to Earthwatch spoke volumes about her independent spirit and commitment to conservation. While Kate was studying Natural Sciences at the University of Cambridge, she joined their Expedition Society and secured funding from the Royal Geographical Society to study bats in the Colombian Amazon.

That experience sparked a lifelong fascination with bats, leading to a PhD at the University of Bristol on a new species of pipistrelle. During the research, Kate contacted bat groups across the UK asking for help with visits to roosts and the overwhelmingly positive response opened her eyes to the potential of citizen science. It was perhaps only natural that she came to work at Earthwatch and, as she put it herself, Kate took a winding route to get here. This included two years studying penguins on Bird Island working for the British Antarctic Survey, and seven years as Head of Monitoring at the Bat Conservation Trust.

Her input to Earthwatch was invaluable. She laid the foundations of partnerships that will allow us to deliver high-quality citizen science and inspire and connect thousands of people with nature in the years ahead.

Kate died on 23rd November 2015 after a short illness. Our thoughts remain with her family and friends.

OUR PEOPLE

REACHING OUT

Our events at the Royal Geographical Society have featured experts from a diverse range of backgrounds and reached more than 2,500 people in the last year.

KATE HUMBLE

The series, supported by the Mitsubishi Corporation Fund for Europe and Africa, started in fine style with a packed auditorium to hear a debate titled *Rewilding the UK: Living in the Past or Preparing for the Future?*

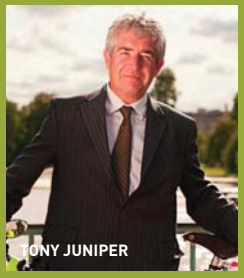
TV presenter and farmer Kate Humble chaired the event. Contributions to the debate came from Andrew Bauer, Deputy Director of Policy for the NFU Scotland; Dr Christina Eisenberg, forest ecologist, wildlife tracker and Earthwatch scientist; Jonathan Hughes, CEO of the Scottish Wildlife Trust, Dr Paul Jepson from the University of Oxford; and Professor William Megill from the Rhine Waal University and Earthwatch scientist on the *Tracking Beavers Through German Waters* project.

This evening was followed in spring by a lecture, *Meeting the Freshwater Challenge*, which was chaired by author and conservationist Tony Juniper and featured, amongst others, Earthwatch scientist Professor Steven Loiselle.

A second lecture in summer, *Turning the tide: coastal communities and conservation*, chaired by Professor Martin Atrill, Director of the Marine Institute at the University of Plymouth, featured an inspiring introduction from explorer and conservationist Emily Penn followed by Earthwatch scientists presenting their novel approaches to conserving coastal ecosystems.

PROFESSOR DAVID SMITH

DR PAUL JEPSON


TONY JUNIPER

EMILY PENN

OUR PEOPLE

INSPIRING EXPERIENCES SHAPING FUTURES

17-year-old Bethany Nagle spent two weeks in Malaysia as part of a student expedition on the *Climate and Landscape Change in Borneo's Rainforest* project.

She was part of a team collecting data for one of the largest scientific investigations into forest ecology and restoration – the Sabah Biodiversity Experiment.

Bethany describes the experience as something that "changed my view of many things forever".

She added: "Getting to see and experience a rainforest first-hand was incredible. We saw the effect that decades of logging had had on the landscape and learnt how vital it was to study the impact it was having.

"Before I went I didn't really believe that one person – especially a young student – could make a difference but once I was there I knew that I could. I knew that the data I was collecting and the measurements I was taking would help to protect the forest.

"They were simple tasks like measuring soil erosion or measuring seedlings to see how they are growing, but I saw how my simple measurements could affect policy to protect Sabah for future generations.

"I know that I made friends for life on this project. Being away from technology and escaping everyday life meant there was a great spirit in the camp and we were all motivated to work together.

"I always planned to study Geography at university and now I feel I know about much more that I can achieve with that degree once I have earned it."

OUR PEOPLE

> **I chose to do this because of the global aspect of this programme and the chance to contribute easily at my own local level.**

REIGNITING A LOVE FOR SCIENCE

Steve Irvine took the milestone 10,000th sample in our FreshWater Watch Project.

Steve, 46, completed his data collection training in September in Sheffield, where he works at HSBC in IT as a Development Specialist. He has been interested in science since school, but hadn't found a way to be involved since completing his A-levels.

He said: "I chose to do this because of the global aspect of this programme and the chance to contribute easily at my own local level.

"Everyone thinks of Sheffield as being this big, industrialised city, but there are a number of streams and rivers. It's quite a green city so you don't have to go far from your front door to get to the country and see all the catchments feeding into the bigger rivers."

Earthwatch trains participants in how they can take an active role in scientific data-gathering, supervised by experts, and join a global community of citizen scientists working together to promote freshwater sustainability.

"It was fantastic. Not only the practical water testing and being out in the woods but also understanding the wider picture of water around the world and impact of citizen science study."

SUPPORTING YOUNG SCIENTISTS

Malaysian student Kogila Vani Annammala completed her PhD in 2015 after seven years of support from Earthwatch and has already secured a job.

The topic of her PhD was the impact of forest disturbance, fragmentation and restoration on erosion and sedimentation within the Segama river catchment of Eastern Borneo.

Her research has shown that land-use change, especially logging and land clearance for agricultural plantations like oil palm, is causing high rates of soil erosion, which deposits large amounts of sediment into rivers. Sediment and nutrients washing into the sea is a major threat to coastal ecosystems such as mangroves and coral reefs.

When she began her studies it was suggested that it could take over a decade to collect the amount of data that she needed. But through partnership with Earthwatch and the volunteers who have worked with her, she has achieved significant results in considerably less time.

"In my heart I know this would not have been achieved without my 'Magical Pixies' – the Earthwatch volunteers. They gathered a huge amount of data and also kept me motivated, suggested improvements to make my work more efficient – it has really been a two-way process.

"I came across many professionals who were in executive and very senior positions in their work environments – from business leaders, professors, doctors, engineers, lawyers – but none demanded special attention.

"I learnt from them a lot as my personal development."

"I now have a role as senior lecturer in at Universiti Teknologi Malaysia, I am also continuing my collaborative work with Dr Glen Reynolds and taking my research from my PhD to the next level."

OUR PARTNERSHIPS

BUILDING NEW PARTNERSHIPS IN A CLEAN SPACE

This year, former science minister, Chairman and CEO of Drayson Technologies, Lord Drayson released a pollution monitor that he hopes will drive efforts to improve air quality around the world.

Starting in London, the CleanSpace tag is designed to be carried in a pocket and works with a mobile phone app to record and display local air pollution levels. Data is pooled to create a detailed and up-to-date map of pollution hotspots and areas where the air is cleaner.

This innovative technology gives people live readings of local air pollution, highlighting the worst air quality they encounter, encourages healthy, clean travel and alerts councils and governments of the need to clean up the air in their regions.

Given our joint commitment to the public understanding of environmental challenges, Earthwatch has been named as one of the three charity partners in the Cleanspace movement and the app is a great resource to engage people in environmental learning programmes.

Lord Drayson said: "The Clean Space movement and Earthwatch are natural partners. We both put actionable information into the hands of the public so they can understand how our choices impact the environment and give people new and easy ways to change.

"This will be the beginning of a long partnership that prospers the planet."

OUR PARTNERSHIPS

> **It's a life changing programme as it creates awareness and a sense of ownership towards the environment.**

PARTNERSHIP WITH HSBC BRINGS RICH EMPLOYEE EXPERIENCES

Our programme with HSBC continues to provide impactful hands-on experiences to employees around the world.

Having worked with HSBC for almost 15 years we have several major employee engagement programmes including the HSBC Water Programme.

H_2O – also known as the Global Finance Development Programme – finished this year after seeing 233 people trained at locations in the UK, India, Hong Kong, New York, UAE and Vancouver.

Designed and delivered by Earthwatch, the programme is structured with interactive, indoor classroom learning, and outdoor field research.

Employee teams learnt about fresh water and the environment, HSBC's approach to sustainability, and discovered how local communities have shown leadership in responding to freshwater challenges in their region. They use this opportunity to develop their own understanding of leadership and to identify ways to approach their own leadership challenges.

Participants became citizen scientists; taking an active role in scientifically measuring water quality and tackling the global freshwater challenge. They also participate in a series of learning sessions designed to explore leadership and team-working competencies that are vital to their business.

SUSTAINABILITY LEADERSHIP PROGRAMME

The Sustainability Leadership Programme moved into its sixth year and HSBC employees from around the world contributed almost 2000 research hours for projects in the UAE, Hong Kong, UK, US and Borneo.

In the UAE participants worked with Dr Jacky Judas at Wadi Wurayah National Park to collect data for population monitoring of key species and hydrological surveys.

This data will feed in to a research project which aims to protect existing wildlife and plants through securing the survival of the water pools and streams in the wadi on which they are dependent. One member of the team was lucky enough to spot and

photograph a species of damselfly that has never been recorded in the wadi before.

In Hong Kong the participants joined Dr Derrick Lai of Chinese University Hong Kong to support research determining the amount of carbon stored in the vegetation and soils of wetland ecosystems and examining the distribution of earthworms in forest ecosystems, and their effects on soil carbon and greenhouse gas dynamics.

Matthew Robinson, Sustainability Engagement Head, HSBC Operational Sustainability, said: "The programme deeply engages Senior Managers at HSBC, and this year our key strategic suppliers and clients. It's in its sixth year and having graduated over 1,000 HSBC employees, we are seeing the output through the delivery of real actions that are driving the achievement of HSBC's operational sustainability goals. Together we are aiming to build a sustainable business for the future."

OUR PARTNERSHIPS

ENGAGING EMPLOYEES AND SHARING SKILLS

This year 100 Shell employees supported Earthwatch research projects which address environmental issues of business relevance to Shell.

To date a total of 806 employees have joined the programme from 49 countries, contributing nearly 40,000 hours of data collection.

Employees joined research projects in France, Brazil, India, Malaysia and the UK. Some joined the Enhanced Learning Programme (ELP). This provides a tailored curriculum of discussion and learning, facilitated by Earthwatch and supported by a sustainability professional from Shell. It helps staff to understand key environmental issues for Shell, such as climate change and environmental stewardship, and to plan specific actions within the business that will contribute towards sustainability objectives.

Through the Earth Skills Network, Shell and Earthwatch are training senior staff to mentor and coach Protected Area managers in business planning and organisational management. This is helping to address a key skills gap in Africa, which can limit the ability of Protected Area staff to deliver effective conservation.

Skill sharing also works both ways, by establishing constructive dialogue between Shell and Protected Area organisations, which helps staff to understand the need to conserve the environment.

To date, 40 business mentors have supported 39 protected areas to address key organisational challenges at their site.

'The ELP programme was nothing short of inspirational. It helped in realising sustainability and the importance of having a sustainable mind set.'

2015 ELP Participant

This is the only leadership programme that forces you to step outside your comfort zone and professional understanding of the world. In my role I deal with government as well as not-for-profit organisations. This experience allowed me to submerge myself in their world, learn about their challenges and constraints and identify common ground and areas for collaboration.

Maria Paloma, Government Relations Adviser at Shell and ESN Mentor 2015

CAPTURING OUR COAST

Building on our strengths in marine research, Earthwatch is supporting a new UK citizen science project, *Capturing our Coast: marine citizen science making a difference.*

The project explores how the marine environment is responding to global climate change. More than 3,000 citizen scientists will be trained to monitor and protect coastal life, making it the largest UK marine citizen science project ever undertaken.

Led by Newcastle University's Dove Marine Laboratory and funded by the Heritage Lottery Fund, Capturing Our Coast is a UK-wide collaboration of the key organisations involved in marine science today.

As well as Earthwatch, this includes the universities of Hull, Portsmouth, Bangor and the Scottish Association for Marine Science. Other partners are the Marine Biological Association in Plymouth, the Marine Conservation Society, the Natural History Museum, Northumberland Wildlife Trust, Durham Heritage Coast, NW Coastal Forum, Thanet Coast and Cefas.

Our contribution to the project will help to bring together the experiences of participants in the project from around the country and to maximise the impact of the project and their commitment to protecting our vital coastal habitats.

FUNDRAISING

To find out more about fundraising for Earthwatch email fundraising@earthwatch.org.uk or call 01865 318292

LIFE'S A DRAG FOR INSPIRING FUNDRAISER

Rima Chang is an ultra-runner – she runs in events longer than 50 miles – but, not content with that challenge, she also races dragging a tyre behind her.

Rima – also known as Tyre Girl – has been raising money for Earthwatch for six years. For all charitable causes she has raised more than £5,000 since she started down this path and her challenge is to complete 100 marathons/ultras by 2020.

She said: "I wanted to go to the North Pole. Part of the training was learning about endurance and pulling stuff. Many "polar adventurers" in the UK drag a tyre due to lack of snow! I dislike training, so I decided to enter a marathon with my tyre to help provide an incentive to myself.

"I have been campaigning since 2008 for us to reduce our trash – particularly single-use plastic – and I wanted to support a charity that looks at our impact on the world and then uses that to guide policymakers to make wiser decisions.

"The reactions I get are great when people see me running with my tyre. They tend to be incredulous and some people think I am awesome, others think I am mad and a few people even view me with pity!"

FOLLOWING THE FEATS OF OLYMPIANS

Simon Le-Fevre raised £450 by completing the 100 mile Ride London cycle challenge – based on the 2012 Olympics Road Race route.

Simon said: "It was an amazing experience to be with so many other riders. The training was hard at times, but when it came to the day, I was so carried along by the atmosphere and the adrenaline, that it didn't feel like 100 miles. "

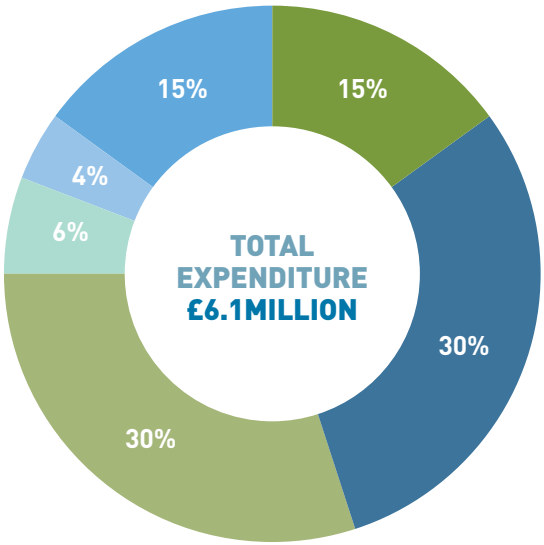
FINANCIAL SUMMARY

We are grateful to all our partners and donors who have helped fund our work over the past year. Your support provides critical funding that allows us to enhance the scope and impact of our projects and develop new ones.

Our innovative programmes have helped us fund research projects in the UK and around the world - including measuring water quality in 32 cities, investigating the impact of land use change in Borneo, and protecting coral reefs in the Seychelles. To support our mission, in each example we are providing immersive, first-hand experiences of crucial scientific research.

From business leaders, to emerging young scientists, to educators, to local communities - we continue to engage and inspire individuals and organisations to take action for a sustainable environment.

We try to stretch our resources as far as possible. Last year we spent £6.1m in the following way:



Creating sustainability leaders	15%
Engaging people in research	30%
Funding new science	30%
Capacity development for educators, communities, young people and scientists	6%
Partnership development and fundraising	4%
Support and running costs	15%

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Earthwatch Europe
Mayfield House
256 Banbury Road
Oxford OX2 7DE
United Kingdom