



Natural
Environment
Research Council

NERC Delivery Plan

Overview of Progress 2021/22

Approach to Reporting

This report covers the period April 2021 to March 2022 inclusive. It is reported through two frameworks (lenses):

1. The first is focused on assessing whether NERC has met its ambitions as set out in the 2019 Delivery Plan, and identifying the learning from the delivery period and actions to improve our performance.




Slides 3–6 set out a summary dashboard of progress towards meeting NERC Delivery Plan ambitions, with each research and innovation priority and operational commitment given a Red, Amber, Green (RAG) rating. This is based on an assessment using quantitative and qualitative indicators (including what the indicator tells us about progress); and learning and action (plans to maintain or achieve a Green rating). Quantitative indicators use data selected to add value to assessment of progress and potential to indicate a direction of travel, in many cases establishing a baseline for future reporting. We also include a financial summary slide (Slide 5) as a key part of this performance assessment.

Slides 15 and onwards are the detailed reporting that inform the summary dashboard.

2. The second uses the UKRI Balanced Scorecard approach.

Slides 7–13 provides highlights of our activity against the Balanced Scorecard categories. This report draws on the same underlying data and indicators as (1).

1. Delivery Plan: overall summary tracker

Key:  maintaining the ambition
 progress towards ambitions
 backwards step








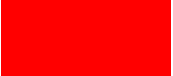













RAG definitions

RED – Significant gaps in the portfolio with significant activity required to achieve research priority / operational commitment.

AMBER – Activity towards achieving the ambitions is progressing but further activity is required to build the portfolio.




GREEN – Well balanced portfolio of activity with the potential to deliver the ambitions of the research priority / operational commitment assuming adequate portfolio management.

Delivering research & innovation priorities

	March 2020	Forecast March 2021	March 2021	Forecast March 2022	March 2022	Forecast March 2023
<u>Environmental solutions</u>						
<u>Pushing the frontiers of understanding</u>						
<u>Productive environment</u>						
<u>Healthy environment</u>						
<u>Resilient environment</u>						
<u>Digital environment</u>						
<u>Global environment</u>						
<u>Best environment for research and innovation</u>						

*Forecast to March 2023 based on successful delivery of activity currently in train and identified plans.

Delivery Plan: overall summary tracker

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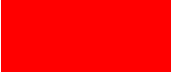





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Delivering operational commitments

	March 2020	Forecast March 2021	March 2021	Forecast March 2022	March 2022	Forecast March 2023
<u>Embed UKRI Transformation</u>						
<u>Work to the Responsibility framework</u>						
<u>Develop inclusive, professional workforce</u>						
<u>Deliver independence for NOC and UKCEH</u>						CLOSED
<u>Demonstrate impact of NERC research</u>						
<u>Undertake evaluation</u>						

*Forecast to March 2023 based on successful delivery of activity currently in train and identified plans.

Financial overview

2021/22 saw a reduced impact of COVID-19, moving towards an acceptable variance between expected and actual spend. The underspend in the discovery science portfolio is largely a consequence of grant holders making use of the additional flexibility offered in start dates (extended from 3 to 6 months after award).

Funding Line	Budgeted Spend (£m)	Actual Spend (£m)
Discovery Science	52.9	46
Strategic Research & Innovation	66.5	67.8
Postgraduate Training	27.4	26.6
Fellowships	7.8	6.7
National Capability	112.5	111
Public Engagement	1.1	0.9
Enabling Change	8.5	8.3
World Class Labs (Capital)	25.8	23.6

Note that these figures exclude collective funding from UKRI, large capital projects and the Antarctic Logistics & Infrastructure partition. Figures are subject to audit before actual spend is finalised.

Summary of progress against the Delivery Plan

- Overall, NERC has delivered a year-on-year improvement, with Pushing the Frontiers, Productive Environment and Digital Environment all improving their RAG status; 8 of our 14 reporting areas maintained a green rating.
- Our research portfolio has been a clear strength this year, with the refresh of the discovery science portfolio, informed by the *Pushing the Frontiers* pilot, and maintaining the pipeline for strategic themes.
- Of those that remain amber, Undertake Evaluation, an Inclusive, Professional Workforce, and Productive Environment are amber to reflect the fact that they are undertaking new initiatives which are not yet fully embedded; Embed Transformation depends upon work at a UKRI level.
- Forecasts of amber for Digital, Global and Healthy environment largely reflect the difficulties of establishing a pipeline of calls in the context of continued budget uncertainty, especially over UKRI collective funds and Official Development Assistance (and broader international) funding.
- Our forecasting was predominantly accurate, demonstrating a good understanding of the pipeline of activities and their potential impacts across NERC. For those that overestimated, an Inclusive, Professional Workforce saw their ambitions on Diversity and Inclusion increase, and UKRI-level projects run slower than hoped. Productive Environment and Undertake Evaluation carried out their ambitions but, as above, their outcomes cannot yet be fully assessed. Digital outperformed their forecast, in part due to a major investment which was not anticipated in last year's forecast.

2. Reporting against the UKRI Balanced Scorecard



Assessment frequency based on available measures: * Assessed annually ** Assessed quarterly

Outcomes and Impacts

- To ensure we are funding the most ambitious and adventurous science, and respond to significant unmet demand, we have refreshed our Discovery Science portfolio. We will uplift the budget by £15m (ramping up to FY 25/26), including uplifting the Large grant scheme and raising the upper limit of the Urgency scheme.
- We have retired our Standard grant scheme and have launched a new *Pushing the Frontiers* scheme as well as piloting a further scheme called *Exploring the Frontiers*. This improves the flexibility of our awards, allowing researchers to design projects more tailored to their needs as they explore new and exciting areas of environmental science.
- NERC-funded research papers have continued to outperform the UK environmental science average*
- NERC has catalysed the development of new interdisciplinary solutions to key environmental issues, breaking down barriers to interdisciplinary working at an institutional level through four HEI-led interdisciplinary awards worth £40M as part of the *Changing the Environment* Programme.
- NERC coordinated the UKRI presence and engagement with government over the role of science and technology at COP26. Ahead of the Conference, the *RRS Sir David Attenborough* made a visit to Greenwich as part of a three-day public celebration hosted by the British Antarctic Survey and Royal Museums Greenwich. NERC co-hosted a series of international workshops with strategic partners, and through our National and Public Good funding enabled NCEO to support UK negotiations at COP26.
- After opening the Glasgow site, the [UKGEOS](#) project has secured a site in Cheshire to expand the experimental infrastructure and essential data needed to optimise the design and operation of subsurface energy storage and geothermal systems.

**Based on analysis covering 2015-19, citation impact for NERC papers is 1.9, UK average for environmental science is 1.5; Highest cited papers - NERC 4.3%, UK environmental science 3.0%. Analysing over a longer time period, with a delay to allow the full range of NERC-funded papers to be reported, ensures that our analysis and the normalised citation score is robust.*

Protecting global data flows: scientific breakthrough increases reliability of seabed cables

Undersea cables carry over 99% of the world's data traffic including internet, financial and cloud data storage services but can be damaged or broken by powerful seafloor flows of sediment, called turbidity currents. In early 2020 turbidity currents in the Congo Canyon off the west coast of Africa broke two telecommunications cables and set adrift sensors – funded by NERC discovery science – that had been installed to capture such events. Despite the challenge of international Covid-19 lockdowns, swift action by NERC, the National Oceanography Centre (NOC) and project teams at Durham and Hull Universities with partners in Germany and France ensured that the sensors were retrieved and provided additional funding to identify the precise trigger of the cable-breaking avalanche.

The findings have transformed understanding of the risks to underwater cables and identified measures to reduce future breakages. In a world first, NERC scientists in collaboration with cable companies were able to show how deep-sea cable breakages are linked to major river floods. Based on this data, leading cable companies are re-routing planned new cables, and investing in longer cable to avoid potentially hazardous areas of seabed.

Nature or nurture: evidence of rapid evolution in the context of climate change

Since 1972, NERC has funded the long term study of wild, unmanaged deer populations on the Isle of Rum. These decades have seen rapid environmental changes due to climate change, and in turn, shifts have been observed in the behaviour and traits of the wild animals. In 2019, NERC-funded researchers uncovered permanent genetic changes over the past 50 years, providing rare evidence that rapid evolution through natural selection is contributing to a shift in birthing times. Understanding the consequences of climate change on wild animal populations is vital to inform conservation and management efforts at a time of unprecedented environmental change.

Communities and Partners

- Mindful of the impact of lockdown on our relationships with Higher Education Institutes and Research Centres, we have renewed our effort to engage with our research community through a mixture of in-person and virtual visits.
- Starting with the *Changing the Environment* award holders, NERC is refreshing its approach to strategic relationships with HEI investments, working closer together to share insights and learning to maximise the impact of our funding.
- We ran a series of [Collaborative Inclusivity](#) roundtables with 60 participants from a range of organisations and career stages and have used the findings to inform our approach to Diversity & Inclusion, including our [Living Action Plan](#) and four in-year targeted D&I investments: Making environmental science equal, diverse and inclusive; Digital technologies to open up environmental sciences; Research the Hidden Histories of environmental science; health inequalities.
- We piloted a new eligibility approach on a portfolio of public engagement grants. 44% of the successful applications were from applicants that would usually be ineligible, including PhD students, artists, art gallery employees, and community organisations. The assessment panel commented on the high quality of the bids received and recommended 16 projects across 11 regions of the UK, engaging with 7 distinct audience demographics on 7 different areas of NERC-remit science.
- NERC sponsored the British Science Association's *For Thought* thought-leadership programme in 2021. The event supported our engagement programme, allowing us to better understand the national challenges of prominent institutions at Board level, to help inform the design of future research and innovation programmes.

Our Organisational Structures and Processes

- Through focused training and toolkits, we have made progress in embedding high-quality evaluation procedures into the design process and business case drafting for new investments. Training has been well received, and NERC's latest business case (Antarctic Modernisation) was commended for its monitoring and evaluation plans. We will do more to ensure that outcomes of evaluation are shared across NERC and the lessons learned used to inform future plans.
- As part of our refreshed approach to evaluation, the British Geological Survey were assessed against five objectives connected to its MoU and was found to be achieving an 'excellent' level of service against one of these with the other 4 rated 'good'. BGS and the NERC team will work together to refine the process for the next evaluation cycle.
- NERC has now established its pathway to the 2025 carbon reduction targets and a climate change adaptation plan, as well as a fund to support biodiversity across the NERC estate, with 13 programmes funded this year. Sustainability guidelines developed by NERC for UKRI's presence at COP26 are estimated to have saved approximately 5 tonnes CO₂e through low carbon travel choices.
- Through our executive and specialised teams, NERC has provided leadership for UKRI on: COP26 (including support for government activity on science and innovation); developing the UKRI Strategic Theme of *Building a Green Future*; the Simpler Better Funding programme; and Environmental Sustainability.
- Continued to work closely with UKRI on change programmes, and adapted our own structures accordingly; for example, we have prepared for anticipated changes under Simpler Better Funding by moving responsibility for grant processing into Corporate Services.

Our resources, learning and growth

- To ensure progress against our delivery plan ambitions, we have boosted investment in Digital Environment. Taking advantage of our strength in data and analytics, we launched the *Digital Solutions* programme, integrating environmental data with wider social, economic, and health datasets to improve decision-making in key sectors including health, transport, and urban planning.
- The evaluation of the *Pushing the Frontiers* pilot scheme showed that it had reduced paperwork by 61%, and the community welcomed the flexibility and reward for risk that the scheme offers. The evaluation informed the refresh of the DS portfolio.
- We are participating in the [10,000 black interns](#) scheme, the greatest number of interns across UKRI (4 placed within Head Office and 3 placed at BAS). We have also maintained our commitment to apprenticeships with 7 placements this year
- We have improved our Diversity, Equity and Inclusion data, creating a dashboard covering ethnicity, age, disability, sexual orientation, gender, gender identity and trans identity. We have committed to publishing D&I data and are working with UKRI to harmonise reporting.
- We rolled out training for NERC Head Office staff in the new evaluation policy, improving the knowledge and skills required for effective evaluation was diffused across all directorates. 38 staff members were trained, and 11 programmes are now using the new evaluation templates.

Summary Report against the Balanced Scorecard

- As with the Delivery Plan report, assessing NERC outcomes against the balanced scorecard demonstrates continued good progress against UKRI measures.
- In particular, we have improved our ability to understand our community, and evaluate our programmes. Ensuring the outcomes of our insight and evaluations are useful and informative will be a key activity in the coming year.
- We revitalised our community engagement after COVID, resuming our university visits and building focused strategic partnerships; piloting a public engagement programme with wider eligibility, and delivering a series of events and activities at COP26.
- We have ensured our community continues to have access to world-class infrastructure by preparing a new subsurface infrastructure in Cheshire, submitting a proposal for new floods and drought monitoring infrastructure, performing mid-life upgrades to the Facility for Airborne Atmospheric Measurement, and the RRS *Sir David Attenborough* undertaking her maiden voyage to Antarctica.

Metrics and Indicators

2021/22 progress	Reporting area	Quantitative indicator	Qualitative indicator
Research Priority	Environmental Solutions	Investment Leverage	Testimonial Strategy impact
	Pushing the frontiers of understanding	Investment Publications Process Improvement	Testimonial
	Productive Environment	Investment Leverage	Testimonial
	Healthy Environment	Investment Leverage	Testimonial
	Resilient Environment	Investment Leverage	Testimonial
	Digital Environment	Investment Community events	Testimonial
	Global Environment	Investment	Testimonial Comms impact
	Best Environment for Research and Innovation	Investment Carbon savings	Testimonial/policy impact
Operational Commitment	Embed UKRI Transformation	UKRI survey results Governance	Change Board Employee engagement
	Work to the Responsibility Framework	Investment Environmental improvement	Grant process Compliance and standards
	Develop an inclusive, professional workforce	D&I data Apprenticeship	Survey results Employee engagement
	Deliver independence for NOC and UKCEH	Actions closed	
	Demonstrate impact of NERC research	Number of case studies Honours outcomes	Insights generated Testimonial
	Undertake evaluation	Training Use of new template	Testimonial



Narrative

Building on progress in 21/22, the Environmental Solutions (ES) portfolio has been strengthened with significant new investment, the maturation of existing investments, as well as development of new programmes including those cutting across themes:

- NERC has catalysed the development of new interdisciplinary solutions to key environmental issues, breaking down barriers to interdisciplinary working at an institutional level. Four *HEI-led* interdisciplinary awards worth £40M were announced in early 2022 as part of the Changing the Environment Programme. These awards, led by the Universities of Cambridge, Exeter, Glasgow, and Oxford will work to develop solutions to biodiversity loss; achieving net zero cities; helping rural communities adapt to climate change; and providing timely data, analysis, and evidence for policy decisions.
- NERC has continued to "*champion the importance of ES across UKRI*" via the RISE, Plastic Research Innovation Fund (PRIF) and Smart Sustainable Plastic Packaging (SSPP) programmes. PRIF activities have already resulted in approximately: 7,121 tonnes of plastics being diverted from landfill and incineration, or ending up as pollution; and, 5.7 million kg of reduced CO2 emissions. The Green Finance portfolio (see also Productive Environment) has continued to grow: with pilot funding to link academics with the finance sector to understand their evolving priorities and the development of a new research programme to catalyse the integration of biodiversity into financial decision making
- Two new research programmes were developed and launched with a focus on *creating new interdisciplinary communities* to solve complex environmental challenges: Molecules to Landscapes with BBSRC to build the capability and capacity required to find innovative solutions to the competing need for food and ecosystem services; and a £3.6M Sustainable Urban Systems and Infrastructure programme co-funded in partnership with EPSRC and AHRC that will focus on addressing and solving complex economic, social and sustainability challenges facing urban environments around the UK. In addition, a pilot initiative (Discipline Hopping project) with 40 HEIs funded by NERC aims to facilitate working across disciplines in these institutions to address environmental challenges. Institutions were particularly encouraged to look beyond the more traditional relationships between NERC, and BBSRC and ESRC communities.

Quantitative indicators

Indicator 1: Investment

In the three-year period 2019/20 to 2021/22 NERC has funded 92 projects to the value of £110M within the Environmental Solutions theme.

Indicator 2: Leverage

In the three-year period 2019/20 to 2021/22 the Environmental Solutions theme has leveraged £10.1M of project partner contributions with 382 different organisations.

Indicator 3: Breadth of engagement

In the three-year period 2019/20 to 2021/22 the Environmental Solutions theme has made awards to 56 different Research Organisations showing the breadth of engagement across the theme.

Learning and Action:

A Green status has been maintained in the last year in meeting objectives as outlined in the narrative. A key focus in the next year is a new approach to strategic relationships with HEI investments - particularly those made as part of the Changing the Environment awards – to ensure co-development and delivery, maximisation of impact, insights and influence (two way) and shared learning across the breadth of the programme. This will require new governance and management practices, and upskilling of the HEI leads and associated NERC staff, and is a new way of working for NERC. To maintain strength of the area, and embed the solutions orientated approach that this delivery plan ambition has catalysed, stakeholder engagement is key; teams are networking internally (Corporate Affairs and Research and Skills) and engaging with policy and business users to inform development of planned and prospective research programmes. This includes improving monitoring and analysis of existing investments, demonstrating impact as part of the drive to support interdisciplinary solutions orientated activity.

Qualitative indicators

Indicator 1: Press and briefings

The Changing the Environment announcement in Feb 2022, received good coverage in national and regional press, TV and radio. Programme leads were invited to present at the weekly Senior Civil Service update (73 participants) and as a result of this further information was requested for the BEIS Permanent Secretary briefing.

Indicator 2: RISE Case study

The £17M **Regional Impact from the Science of the Environment** Programme has been used as a case study of best practice in the developing UKRI Place strategy to illustrate high-quality place-based investment and UKRI's contribution to the Government's 'Levelling up' agenda.

Indicator 3: Testimonial

At the 'Integrating biodiversity into financial decision making' webinar Ian Simm, CEO Impax Asset Management said "...congratulations to Finance for Biodiversity (F4B) and NERC for getting this call set up...it's a very exciting moment for thought leadership and for new ways of thinking for new partnerships and crucially for forward looking science, which is where this call comes in"



Narrative

We have pressed ahead with investing in excellence, challenging researchers to be ambitious and adventurous in their scientific endeavours through the Discovery Science funding stream.

Our Pushing the Frontiers pilot has informed introduction of a refreshed portfolio structure for the Discovery Science funding stream. To redress the effect of decreased spending across our most heavily subscribed schemes over recent years, as budgets remained fixed in the face of inflation, we have uplifted the budget by 25% by adding a further £15m ramping up to FY25/26, retired the Standard grant scheme, introduced two new schemes, uplifted the Large grant scheme and raised the upper limit of the Urgency scheme.

The introduction of the Pushing the Frontiers (PtF) scheme to replace Standard grants is accompanied by the piloting of a further flexible, smaller value scheme called Exploring the Frontiers (EtF). Both schemes will seek to support researchers to be adventurous and ambitious with PtF focused on high-reward larger scale projects and EtF focused on supporting dynamic exploration of ideas that advance the discipline or lead to future paths of discipline-shifting discovery. In the next period, our focus will be challenging our processes to be simpler and better and continue to reduce unnecessary bureaucracy, enabling researchers to focus on exciting, frontier pushing discovery.

Quantitative indicators – as of 31/03/22

Indicator 1: Investment

In the three-year period 2019/20 to 2021/22 £190.3M has been authorised for 367 projects within the Pushing the Frontiers of Understanding theme. £9.9M cross cuts Global Environment; £3.2M Best Environment for Research & Innovation. Project partner contributions of £195M reported on awarded applications from 568 different partner organisations.

Across the responsive mode/Discovery Science schemes (Pushing the Frontiers, Standard grants, Large grants and Independent Research Fellows) in FY 20/21 we have received 1,375 applications from 86 Research Organisations (ROs).

Indicator 2: Publications

4817 unique papers were matched to Pushing the Frontiers investments in the five-year period (2017-2021). These data show an year on year increase publications from 2017 to 2020, rising from 367 papers to 1350 papers in 2020. Research supported by funding in this theme is published in journals across 21 research areas.

Indicator 3: Reduced paperwork

Paperwork in the Standard Grant call JAN-22 was reduced from 18 pages to 7 pages amounting to a 61% reduction in paperwork for applicants.

Qualitative indicator – as of 31/03/22

Indicator 1: PtF pilot review panel comments

“This is an excellent scheme, and much needed. It gives risk and freedoms that other schemes do not offer. It has great potential to change research in the future.”

“It is a brilliant scheme. NERC was really missing this [innovative science area]. Anything innovative was kicked out of Standards calls. It’s very important NERC runs this.”

Indicator 2: Testimonials

At a recent webinar, Prof Josephine Pemberton, University of Edinburgh, said:

“it is wonderful news that a new scheme for smaller discovery science grants has come to pass, and also the cutting down of the paperwork for all types of discovery science grants is just great”

Prof Jon Blundy, University of Oxford, said:

“I, for one, think this is a great new development, because the threshold for research funding is no longer several hundred £k. Lots of great science can (and will) be done under the Exploring Frontiers scheme.”

Learning and Action:

The focus for the next period will be the implementation of the refreshed Discovery Science portfolio. We will undertake a review of the pilot EtF call, with a particular focus on the effectiveness of the streamlined review process. It will be important to continue to monitor success rates across all aspects of our communities. It will also be important to continually seek new ways to review excellence to reduce burden on the expert review community and working with the approaches across UKRI to enable this.

Research & Innovation Priority

Productive Environment

Current
RAG rating

2022/23



Narrative

Strong progress against a major gap and good progress elsewhere support an improved rating of amber.

The ambition to **build understanding of the coupled economic and environment systems** has made strong progress through the launch of the '[Improve understanding of the economics of biodiversity](#)' programme (£5m NERC, £1m ESRC) and the capacity building '[Incorporating nature into decision making in the finance sector](#)' call (£300K NERC, £100K Finance for Biodiversity), and approval of £5m for 'Integrating biodiversity into finance – Building a nature positive future' 2022-2025. These will deliver fundamental research whilst ensuring its translation into financial systems and operations to change the way society perceives and values biodiversity and natural processes.

The ambition of **delivering systems and solutions towards a more circular economy that reduce consumption whilst maximising productivity and minimising environmental degradation** has made good progress. Two new programmes started this year. The [Sustainable mining in the Philippines programme](#) funded two awards to joint UK and Philippine research teams to understand and reduce the environmental impact of past and future mining operations. Six awards were made to address [Sustainable Management of UK Marine Resources](#). Additionally, [UKGEOS](#) has planning approval for investment in the Cheshire site to build an infrastructure that will support research into subsurface options to achieve a Net Zero future.

Quantitative indicators

Indicator 1: Investment

In the three-year period 2019/20 to 2021/22 £52.4M has been authorised for 75 projects within the Productive Environment theme, of which: £20.4M cross cuts Environmental Solutions; £16.2M Best Environment for Research & Innovation; £2.7M Global Environment; £0.5M Healthy. This comprises 119 awards to 46 different Research Organisations, demonstrating the breadth of the productive environment community supported.

Indicator 2: Leverage / end user interest

Project partner contributions at the grant level totalled £18.2M from 159 unique organisations. The largest contributions came from UK Seabed Resources, VNIIOkeangeologia, Nautilus Minerals (International), La Rochelle University, Fathom Global, NORCE Norwegian Research Centre AS, University College Cork, BP International Limited, University of Aberdeen, Satellite Applications Catapult, United States Geological Survey (USGS), Baillie Gifford & Co, University of the Philippines Rio Tinto plc, Clyde & Co LLP

Qualitative indicators

Indicator 1: Testimonial

UK Government Minister for Scotland David Duguid, said of the 'Sustainable Management of Marine Resources' investment: "Climate change is already impacting ecosystems in our waters and livelihoods in coastal communities. These UK government funded research projects will help support a sustainable future for Scotland's and the wider UK's marine economy, which is crucial for jobs, businesses and livelihoods."

Indicator 2: Testimonial

Dr Enrico Paringit, Executive Director at the Department of Science and Technology at the Philippine Council for Industry, Energy and Emerging Technology (DOST-PCIEERD) said: 'The extractive industry remains one of the biggest contributors to the economy in many parts of the world. Through active collaboration, we expect research efforts to shed light on the impacts of mining activities to the environment and find viable solutions and alternatives as we march forward to sustainability goals.'

Learning and Action:

Currently rated as amber as a transition to green is dependent on continuing to develop a strong pipeline of ideas that address both ambitions, as well as the outcomes from recent programme calls, specifically, the balance of interest that the Integrating biodiversity into finance initiative will attract. We remain optimistic of a good outcome as this initiative was developed in consultation with the business sector and has academic/business collaboration built in from the outset. Programme design and development across the portfolio has benefitted from cross and inter Directorate working, and we plan to maintain this approach of codesign and codevelopment of strategic investments into the future.



Narrative

NERC investments to **tackle pollution and degradation** leveraged £2.3m partnership funding from DHSC to [link research on indoor and outdoor air pollution](#) and £0.5m from BEIS to explore [UK-China partnerships to optimise carbon neutrality policies for air quality and health](#). Outcomes of the [AMR in Real World](#) programme have built knowledge on the impact of antimicrobials in the environment. It showed even trace concentrations of antimicrobials in the environment are highly selective for genes that confer resistance and drive their persistence in the environment, and strong evidence that biocides in polluted urban waterways further drive environmental selection of resistance. The business case to invest £8m to understand the contribution of chemical pollution to the deterioration of UK freshwaters was approved.

NERC will **increase understanding of the health benefits of a healthy environment** through £6m in new highlight topic grants and approving the business case for a new Centre for Doctoral Training (in partnership with MRC and BBSRC)* exploring environmental solutions to the emergence and spread of zoonotic diseases, delivering on the community ideas developed at the June 2020 COVID-19 ideas series. A £6m food systems project started to explore the [role of healthy soils in preventing diet-related illness](#). Co-benefits for wellbeing, equity, climate and wildlife are explored through new projects exploring the [value of UK Treescapes, and engaging with nature in urban environments](#).

**not currently in the public domain*

Quantitative indicators

Indicator 1: Investment

In the three-year period 2019/20 to 2021/22 £74.6M has been authorised for 55 new projects within the Healthy Environment theme through 13 funding opportunities in strategic research and innovation and talent and skills funding streams. 103 awards were made to 49 different research organisations, demonstrating wide engagement and participation across the community.

Indicator 2: Leverage

Project partner contributions at the grant level totalled £12.5m from 226 different organisations, in addition to programme-level leverage reported in the narrative. Key project partners were business and trade organisations related to air quality, local government and public health authorities, health charities, and wildlife trusts.

Qualitative indicators

Indicator 1: Testimonial

Announcing the funding for [new Clean Air projects](#) in August 2021, then-Environment Minister Rebecca Pow said: “Indoor air pollution is a critical public health issue. Building our understanding and evidence base around it is essential so that any future action is appropriately targeted and effective. These projects will help add to our evidence base, building on the forthcoming report from our Air Quality Expert Group and guidelines published by Public Health England to help us all better understand this issue.”

Indicator 2: Testimonial

Announcing [six funded UK Treescapes projects](#) in August 2021, then-Forestry Minister Zac Goldsmith said: “I am delighted to be supporting this new research programme, which will emphasise the importance of treescapes and help deliver our tree planting ambitions. In the run up to COP26 this is an exciting opportunity to showcase how the UK’s cutting-edge science can deepen our understanding of the health and environmental benefits provided by trees while ensuring they are protected for future generations.”

Learning and Action:

Delivery of healthy environment research was strong across both ambitions in 21/22, although some outcomes are delayed by pandemic-related disruptions. New NERC funding secured for healthy environment research was relatively small and time limited in 21/22, especially for the second ambition, meaning that delivery in future years could be at risk. Actively supporting the pipeline of healthy environment ideas will be needed to maintain the green status. The innovative approaches developed to deliver efficiently at pace were a success that can be more widely implemented in the future.



Narrative

Agreement for new programmes, and outcomes from research ending contribute to steady progress against **both ambitions** (highlighted below).

NERC will continue to **increase understanding of environmental hazards, environmental change and plan for risk and recovery** through the a 'Multi-hazards and Systemic Risk' programme (Jan. 2021 – Dec 2023) and a series of new programmes that will: enhance understanding of how the West Antarctic ice sheet will respond to a 2°C increase in global temperature, provide data with which to test climate and ice sheet models used to predict the consequences of these changes; increase knowledge of the declining quality of UK freshwaters*; investigate the processes that affect carbon storage by the global ocean.

NERC funded research is continuing to **protect lives and livelihoods and to increase resilience of infrastructure, supply chains, businesses and financial markets to environmental hazards and environmental change**. For example: i) Co-funding of £500k from the Crown estate has been leveraged to seek to understand ecosystem responses to the cumulative pressures of large-scale deployment of offshore wind; ii) research has developed techniques to predict the behaviour of storms in Kenya using satellite data; iii) the SPF Climate Resilience Programme led to a resilience section of the Manchester Climate Change Framework being developed to 'adapt the city's buildings, infrastructure and natural environment to the changing climate'; iv) A proposal for £38-£45m has been submitted to the UKRI infrastructure fund to create a floods and droughts infrastructure to increase resilience at a national level.

**not yet in the public domain*

Quantitative indicators

Indicator 1: Investment

In the three-year period 2019/20 to 2021/22 **£118.7M** has been authorised for 77 projects within the Resilient Environment theme, of which: £41.5M cross cuts Global Environment; £18.5M Environmental Solutions; £18.5M Best Environment for Research & Innovation; £13.8M Healthy Environment. 171 awards were made to 55 different Research Organisations demonstrating the breadth of the environmental science community supported by programmes linked to the Resilient Environment theme.

Indicator 2: Leverage

Project partner contributions reported on authorised applications under the Resilient environment theme totalled £37.8M from 244 different organisations demonstrating NERC's commitment to encouraging innovative and meaningful engagement with partners beyond academia. The biggest contributions from 3rd sector organisations came from the Galapagos conservation trust, Clifton Suspension Bridge Trust, Badan Restorasi Gambut, Borneo Nature Foundation. The largest contributions from government bodies came from the Met Office, European Space Agency, The National Centre for Atmospheric Research and the Woods Hole Oceanographic Institute. The largest contributions from business and Trade organisations came from UK Seabed Resources, Wm Morrison Supermarkets, Unilever UK & Ireland, PacTec Ltd, Giraffe Innovation Consultants and Client Earth.

Learning and Action:

Progress has been good in 21/22 against both objectives in the Resilient Environment theme, however several projects have experienced delays starting, or difficulties related to the completion of fieldwork due to the pandemic. Some International programmes have experienced significant cuts to budget as a result of ODA cuts which poses a risk to delivery of intended outcomes. We have successfully forged new partnerships within the UK and internationally and set up new programmes of work (refer to narrative section) which will enable us to continue delivering against our objectives for this theme.

Qualitative indicators

Indicator 1: Testimonial

Announcing the funding for ECOWind in August 2021, then-Environment Minister Rebecca Pow said: "The UK is a leader in marine protection and this pioneering research programme will ensure that we continue to work towards achieving clean and biologically diverse seas. This collaboration will build on the work of the Offshore Wind Evidence and Change Programme and inform plans to develop more clean energy while ensuring we protect our precious marine life."

Indicator 2: Testimonial

Wendy Morton, Minister for European Neighbourhood and the Americas on FATHUM project research funded through SHEAR programme: "World-leading science is now supporting our humanitarian effort, taking the UK's disaster response to the next level. Using the latest weather mapping and flood forecasts, we can now quickly send aid to the worst hit areas. During the horrific hurricanes in Central America we've seen families forced from their homes and at risk of rising flood water. Alongside the UK's £1 million to the Red Cross and military support from Royal Fleet Auxiliary ship Argus, our scientists are helping pinpoint those most in need."



Narrative

We have made clear progress on delivering our Digital Environment Delivery Plan ambitions, including:

- The development of the first NERC Digital Strategy, and its approval by NERC Council in December 2021. This strategy will be the foundation for transforming environmental science through the use of data and digital technologies.
- The launch, in October 2021 of the £7m Digital Solutions Programme led by the University of Manchester. This investment will act as a digital hub to enable the integrated use of environmental and other data (social, economic & health) by stakeholders across and beyond the NERC community, to realise economic, societal and environmental benefits across the UK.

We have also laid the foundations for further progress against our Digital Environment ambitions in 2022/23 and beyond, by:

- Consulting on and shaping plans for the recommissioning of the Environmental Data Service (EDS), through consultation with the centres and key experts from the UK and international environmental science community
- Putting in place new governance and advice structures for digital infrastructure and research, to strengthen our engagement with key community members, and to support effective and transparent decision-making.
- Supporting a number of activities to test new ways of working, and stimulate partnerships around key strategic areas, including:
 - Embedded Digital Researchers applying transformative technologies in host public, private, or third sector organisations
 - Support for inclusivity in digital research through creative new ways of working called 'Digital Sprints'
 - Working in partnership with the Met Office to explore the requirements which might be needed to underpin future work in digital twins of the natural environment
- Leading, in collaboration with the Centre for Environmental Data Analysis, a critical project to scope how UKRI might move towards sustainability goals in our digital research infrastructure portfolio.

Quantitative indicators

Indicator 1: Investment

In the 3-year period between 2019/20 and 2021/22 £11.3M has been invested in 30 projects (excluding Digital Solutions), with 63 institutions and 57 project partners. This includes the £10.4M Constructing a Digital Environment programme, the Surface Water and Ocean Topography (SWOT) project [funded with the UKSA] and pump priming activities that supported 4 Embedded Digital researchers, 4 Diversity, Equity and Inclusion digital sprints, 3 digital twin projects and a joint project with the Met Office on the requirements for an information management framework to underpin future activities around digital twins of the natural environment.

Indicator 2: Engagement

A webinar series to engage and inform the community on a number of topics, tools and platforms in the Digital Environment area began in November 2020. Since this time 18 webinars have been delivered and attended by 964 participants.

Indicator 3: Investment

In the 3-year period between 2019/20 and 21/22 £21.5M plus £8.5m capital has been invested in Digital Research Infrastructure, including the NERC Environmental Data Service, JASMIN and NERC's contribution to ARCHER/ARCHER2 and Monsoon2. Through the UKRI Digital Research Infrastructure Fund a further £1.5M was invested in JASMINx and £1.86M in a scoping project around Net Zero DRI.

Qualitative indicators

Indicator 1: EDS and recommissioning testimonials

NERC convened a Strategic Needs Advisory Group to provide an independent view on evidence from the community regarding the needs of an Environmental Data Service going forwards. The Group commended NERC on the ambition to improve integration of the data centres and for engaging a broad range of stakeholders and expertise within the SNAG.

Indicator 2: Constructing a Digital Environment testimonial

At the recent Constructing a Digital Environment (CDE) Steering Committee meeting in January, members of the Committee commended the CDE programme for laying the groundwork for the community to build a more digital view.

Learning and Action:

Our new Digital Strategy sets out an aspiration for change, positioning data and digital technologies centrally within our vision for the environmental science of the future, and this aspiration will not be delivered passively. Delivering and leading this change will require close engagement and collaboration with our community and stakeholders, to explore opportunities and barriers, and to develop collaborations to deliver on our digital strategy. It will also require working across NERC and the environmental research community.

Our current RAG rating reflects the improved delivery against the specific delivery plan ambitions following the successful launch of the Digital Solutions Programme. It should be noted however that it is likely this situation will be downgraded and progress will be lost if the anticipated status quo is maintained, due to the current weakness in the pipeline of digital environment-specific research, exacerbated by the narrowness of the current investment portfolio.

Research & Innovation Priority

Global Environment

Current RAG rating

2022/23



Narrative

Positive progress made against long-term ambitions with new relationships established at both funder and researcher levels. Global Environment continues to make key contributions to NERC-funded environmental science, informing business as well as regulation that open up opportunities for sustainable growth. Our scientific community also brings its considerable expertise to the development of environmental responses across the globe (Fig. 1) through our resilient, productive and healthy environment ambitions.

International have maximised investment opportunities and leveraged additional funding through the BEIS-led Global Research and Innovation Programme to secure £1.5M for UK-China and UK-India-Zambia collaborations seeking to identify sustainable routes to net zero through tackling air pollution and phytoremediation of contaminated land.

As part of the UKRI COP26 offer, NERC on behalf of UKRI co-hosted a series of international workshops with partners in 12 countries. This has **strengthened and maintained international partnerships** as well as provided intelligence for potential future research programme development. We secured funding via UKRI India for the 'COP26 Adaptation and Resilience Project Scoping Call'. (£1.7M total investment).

European Research Infrastructure Consortia (ERIC) – NERC international worked with BGS and BEIS to facilitate the delivery of the European Plate Observing System (EPOS) ERIC, a partnership of 15 European countries. EPOS will provide open access to a large pool of solid Earth science integrated data, data products and facilities for researchers. BGS will lead a group of three organisations, from UK, France and Denmark, to provide the Integrated Core Services delivering and developing the access to data and data products. EOS beneficiaries include the University of Keele, Liverpool, and Leeds

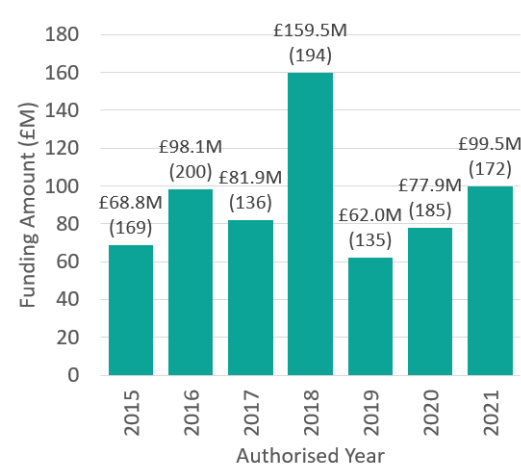
ODA awards have been hardest hit by the COVID-19 and restrictions on no cost extensions are limiting the time for grant holders to complete projects. Many of these grants have been additionally affected by the government decision to reduce ODA spend to 0.5% GNI in 21/22 (leading to 65% cuts to grants in FY21/22).

Responsible director: SW

Qualitative indicators

Indicator 1: Extent of International Funding

Our international partnerships (marked in green) demonstrate the global reach of NERC funding



Indicator 2: Awards with International Interest per authorised year showing value and number (in brackets)

The graph demonstrates that the overall value and of new awards have increased year on year from 2019/20 to 21/22 despite fewer awarding starting.

Qualitative indicators

Indicator 1: Testimonial

Dame Caroline Wilson DCMG, British Ambassador to China said "I discovered amazing British and Chinese scientists deep in the rainforest here who impressed upon me the importance of collaboration. They are working to establish how ancient climate change (on what is now the Qinghai Tibetan plateau) affected plants and believe nature can provide us with clues if not solutions to today's challenges"
<http://www.betr-palaeo.org/>

Indicator 2: Publication

BEIS published the latest in a series of conversations on climate change which featured a NERC funded project about sustainable fruit farming in Peru

Indicator 3: COP26 Workshops

NERC ran a series of events and launched an Adaptation and Resilience call as part of UKRI's activities at COP26 to build international dialogue on climate adaptation and resilience using a set of core questions specially formulated by a group of IPCC experts. The events underlined the urgent need for research able to build cross-stakeholder collaborations and transplant or scale outputs to a range of locations. The series and call has helped to identify shared interests and potential collaborations, building the pipeline of international projects which NERC could pursue as a legacy of COP26

Learning and Action:

- Working directly with BEIS to reprofile the ICF funded South East Asia Plastics Programme has provided valuable lessons in managing programmes set up under direct MoUs with BEIS and will help expedite future opportunities.
- The ODA Review has resulted in a suspension of some research. Our Adaptation and resilience events series helped to mitigate this funding uncertainty through enabling ongoing dialogue with both researchers and funders globally.
- RAG rating amber -currently awaiting the spending review outcome for ODA and non-ODA funding opportunities and funding is uncertain.
- We have been able to utilise additional funding and react in an agile manner to support our communities

Research & Innovation Priority

Best environment for research & innovation

Current
RAG rating

2022/23



Narrative

NERC continues to lead across UKRI on environmental sustainability including: guidelines to minimise the environmental impacts of UKRI's presence at COP26; engagement with HEIs to embed environmental sustainability into R&I practice; supporting Defra's review of the Government Buying Standards; embedding sustainability into the UKRI Infrastructure Fund and business case processes (the 2021 Capital call was the first NERC call to use sustainability as an investment criterion)

Revision of the NERC National Capability definition to advance the culture of diversity, inclusivity and environmental responsibility in UK environmental science; development and implementation of D&I Best Practice guidelines in recruitment and training.

An independent evaluation of the 'Added Value' of NERC Services and Facilities (S&F) rated 7 out of 9 as good or excellent. 21 facility ideas to meet future needs have been shortlisted for scoping in 2022.

A programme of activities to keep NERC Centres at the cutting edge has begun, including rewarding the best new Multi-Centre Science proposals, which will align more closely with NERC's delivery plan.

NERC's £20m pa National and Public Good (NPG) funding enabled NCEO to support UK negotiations at COP26 in the context of the Paris Agreement and the global stocktake that it mandates

Quantitative indicators

Indicator 1: Investment

Over the last 12 months NERC has invested ~£185m in delivering the Best Environment for Research and Innovation. We have commissioned an additional £7.3m of short projects that will have substantive scientific and capability building outputs whilst meeting key commitments across NERC's delivery plan ambitions. Projects included pump priming of future strategic research, championing diversity and inclusion, delivering on digital environment ambitions and supporting existing strategic investments. (as at 16/03/22)

Indicator 2: Sustainability

Sustainability guidelines developed by NERC for UKRI's presence at COP26 are estimated to have saved ~5 tonnes CO2e through low carbon travel choices.

Qualitative indicator

Indicator 1: Testimonial

The Ocean Policy Unit in the Foreign, Commonwealth and Development Office commented that: "Without access to the broad range of ocean science expertise held by NOC, our understanding of ocean science issues would be significantly poorer and therefore UK government policy positions would be much less well informed by scientific evidence. The strength of the UK influence in the Intergovernmental Oceanographic Commission of UNESCO is overwhelmingly attributable to the work of the delegation staffed by NOC. NOC provides critical support to the Ocean Policy Unit... [which is] critical to delivering the UK government's ambition to protect at least 30% of the world's ocean globally by 2030" (as at 16/03/22)

Learning and Action:

NERC ships and aircraft and Centre estates are major contributors to UKRI emissions. Action taken by NERC in setting its Carbon Pathway programme to identify decarbonisation options, test solutions and initiate projects in line with UKRI 2040 Net Zero is leading by example and developing solutions that can be adapted for application across UKRI. In the coming year we will undertake a series of deep dives to understand priorities for future investment in S&F.

Operational Commitment

Embed UKRI Transformation

Current
RAG rating

2022/23



Narrative

NERC is fully engaged across the breadth of UKRI Transformation and Reforming Our Business (RoB) Programme. There has been substantial work to establish a portfolio of projects and programmes that align with five pillars: digital; working together; making UKRI a better place to work; integrating our HR and finance systems and Simpler Better Funding. NERC is at the forefront of engaging with key change programmes in our HR and finance systems, as well as the new funding service, including key governance roles. However, there is more to do for this portfolio to operate effectively especially in relation to interdependencies between projects and resource management for delivery of the change management into the business.

A new HR Operating Model has been implemented across UKRI to deliver the People and Culture Strategy, better support staff, and strengthen expertise services. We have strong relationships with the business partners to support NERCs employees and future people activities.

We have continued to communicate the impacts and value of UKRI-NERC projects and engage with NERC staff via a number of different strands such as staff surveys. As we move past the pandemic, we are trialling ways of working to ensure we are working in a more efficient and inclusive way whilst maintaining the benefits of collaboration and hybrid working.

Quantitative indicators

Indicator 1: UKRI surveys

Responses from NERC to UKRI & Hybrid surveys, networks and advisory groups show staff are well engaged with UKRI activities:

Workwell survey May 21 – (all stats above national benchmarks)

81% of staff feel valued

77.61% of staff appreciate a good relationship with their manager

75.68% of staff appreciate the vision our leadership has

Future Workspace survey – Sept 2021

92% of respondents stated they had all the information needed to do their job

98% of respondents stated that they were able to collaborate with colleagues

Indicator 2: Governance & Engagement

Participation in NERC Change Network, EEG & Change Board ensures representation across HO and encourages proactive participation and cascade of change activities. Members have a clear responsibility to provide two-way communication.

Qualitative indicators

Indicator 1: Change Board

A Change Board with representatives from key functions across Head Office and BGS and BAS with responsibility for the change management strategy across NERC has been established. Early development of dashboards has provided visual representation for the Change Board to identify and mitigate risks. These have resulted in the ability to understand the breadth of change, and to better prioritise and resource change activities.

Indicator 2: Pulse Surveys

Recent pulse surveys are providing useful data on hybrid experiences so that we work collaboratively within UKRI to develop the approach to future ways of working that takes into account operational requirements across the breadth of NERC. Executive teams in Head Office, BGS and BAS have set and communicated clear direction for how hybrid working should operate at each site and are testing the approaches through the experimental phase.

Staff are proactively contributing to Future Workspace incentives such as the usage and requirements of digital tools and model offices; Future Workspace Leadership training is available to support staff through changes and hybrid working.

Learning and Action:

Drawing all evidence gained so far, develop a long term approach to managing change with NERC by:

- Improving the interdependencies in programmes such as Reforming our Business and the new UKRI Operating Model to deliver the efficiency requirements that are being set by BEIS.
- Redefining the remit of the Change Network and set out expectations for members
- Analysis of Future Workspace surveys (over the course of 2022) – comparing to 1st survey (pre-hybrid trial)
- Enhancing the work to capture change and using the information to prioritise work and resources
- Using the experimental phase to shape long term ways of working



Narrative

Social responsibility

NERC led on an series of community diversity round table events in 21/22 which have informed the adoption of 4 year ambitious Diversity, Equity and Inclusion plan. NERC has also embedded equality impact assessment into its funding processes and fostered new partnerships to deliver diversity enhancement across the environmental sciences e.g. the [Many faces campaign](#) & [racial diversity in environmental professions report](#).

Environmental responsibility

In 2021/22 in response to the UKRI Environmental Sustainability Strategy NERC:

- Adopted two interim science carbon reduction targets and established it pathway to meet its first 2025 target.
- Provided direct support to NCAS and NCEO to development and adoption their own environmental sustainability policies
- Developed and agreed NERCs first climate change adaptation plan
- Established a fund to enhance biodiversity across its estate

Responsible Decision Making

NERC has developed new guidance and policy to support decision makers apply the principles of the responsible business statement including in light of our colonial past.

Responsible Research

In 2021/22, consideration for responsible research, modern slavery, reputational risk and equality impact assessment was integrated into our funding call development process.

The NERC Culture Forum was also established to share good practice and support common approaches enhancing research culture e.g. the 2021 NERC Research Integrity workshops to support UKRI implementation of the R&D Research and Culture Strategy

Quantitative indicators – as of 31/03/22

Indicator 1: Carbon Pathway Projects Master plan

In close collaboration with its Centres, NERC has defined a master plan of over 140 projects and activities which will support delivery of NERCs carbon pathway. We have also provided direct support to centres applying for government carbon funds. £1.2m secured in 20/21.

Indicator 2: NERC investment

NERC invested £2.38m in carbon and wider sustainability projects with the onward potential to save over 10,000 tonnes of carbon over project life time. These enabling projects support the established pathway to the first NERC carbon target.

Indicator 3: Biodiversity enhancement

70% of the BGS Keyworth grassland was left no-mow between March–October 2021, which increased wildflowers (including over 200 orchids, including bee orchids) and encouraged insects, and larger animals on site.

Qualitative indicators – as of 31/03/22

Indicator 1: Responsible research pilots

NERC has created and piloted responsible research questions within capital, international and national capability calls. NERC questions have been adopted by other research councils in complementary pilot activity and the outputs from these pilots will inform the UKRI approach to environmental sustainability.

Indicator 2: External sustainability standards

NERC has maintained ISO14001 and Carbon Trust certification across its operations. NERC adopted LEAF, the lab sustainability standard across all its lab operations at BGS and BAS (including polar lab sites) NERC was awarded the CEEQUAL sustainability quality assurance mark for the completion of Rothera wharf.

Indicator 3: Considering Modern Slavery in Funding

Calls Delivery of custom ‘modern slavery in research awareness training’ to programmes managers in close collaboration with the cabinet office. Consideration of Modern Slavery is now included in funding processes.

Learning and Action:

- Further develop the carbon pathway and initiate the cultural change programme to support this.
- Support UKRI to embed carbon accounting into existing processes to inform decision making.
- Establish the future leaders council to support a pathway to leadership and inform senior level decision making.
- Update to the responsible business statement to reflect continual improvement and the increase in ambition of D&I and Environmental activities.

Operational Commitment

Develop an inclusive, professional workforce

Current
RAG rating

2022/23



Narrative

Our focus in the last year has continued to be on staff well-being, with our connectivity being well received as a way to support colleagues through the challenges of the pandemic. Staff feedback (via surveys, through teams, and NERC's Employee Engagement Group) is positive, reporting greater connection with and visibility of the leadership teams.

We have made a significant commitment to improving the inclusivity of our own workforce, developing a set of actions focused on enhancing Diversity, Equity and Inclusion within NERC.

During the year we started to look at strategic workforce planning across Head Office, developing our people analytics to provide us with insight into our workforce. We will be able to build on this as we consider future business needs and priorities.

With likely pressure on our Operational Expenditure for the coming year NERC recognises the heightened need to develop the flexibility and agility of our workforce in order to adapt to these challenges.

Quantitative indicators

Indicator 1: Attracting Talent (Early careers)

We are participating in the 10,000 black interns scheme and are taking 7 interns (4 placed within Head Office and 3 placed at BAS). The interns will make a significant and valuable contribution to our work.

Apprenticeships

2020-2021 BAS 7, BGS 2, HOST 2/2021-2022 BAS 2, BGS 3, HOST 2

Indicator 2: Line Management Capability

The Line Manager Toolkit has been developed and supplemented this with a dedicated line manager newsletter and monthly drop-in sessions to improve the support for line managers.

Workwell survey results indicate that our employees enjoy good working relationships with their line manager – 77.61% of respondents (+6.33% on the national benchmark)

Indicator 3: Equality & Discrimination

Workwell survey results indicate that 83.66% of respondents (+11.18% above the national benchmark) do not appear to suffer from discrimination.

Qualitative indicators

Indicator 1: Safe Space Survey completed

The first UKRI and NERC anonymous safe space survey has been completed – purpose to gather information from staff about whether policies, procedures and processes for providing a safe workplace are effective across NERC. Senior leaders engaged with the development and delivery of proposed actions resulting from the feedback received.

Indicator 2: The Listening Project

Number of new starters who took part in Listening project. 2021: 45/ 2022: 17

Outcomes: COO advised managers that all new starters should be offered a 'buddy'. The project has influenced HR processes and now analyses NERC exit interview answers. The work of the project has been advertised to wider UKRI and as a result of this, MRC are launching their own Listening Project.

Indicator 3: Workforce Data

The HR Scorecard and D&I dashboard have improved by reliability, visualisation and monitoring enabling us to better target D&I and people related activities. Monitoring of D&I training has been implemented with monthly non-compliance followed up through Ops and ADs.

Learning and Action:

- Development of a Strategic People Plan for NERC Head Office.
- Analysis of the safe space survey and creation of an action plan in response.
- D&I learning to be incorporated across key operational aspects e.g. induction
- Build on the initial workforce planning work to prepare us for the future UKRI landscape and efficiency drives from BEIS; talent management and recruitment and retention.
- Responding to the 2022 UKRI people Survey.

Operational Commitment

Deliver independence for NOC and UKCEH

Current
RAG rating

2022/23
CLOSED

Narrative

NOC and UKCEH became independent companies, Limited by Guarantee, with charitable status in November and December 2019, respectively.

Covid continues to have an impact on closing a few of the remaining actions, mainly due to slowing down data migration and IP handovers. These are due to complete over the next couple of months.

A Programme Board meeting is being planned to finalise and officially close down the project, action status depending. The purpose of the closing down meeting will be to officially close the Programme, and tie off any remaining loose ends, ahead of the Gateway 5 review this summer.

Seven implementation actions remain open, but are being actively worked on to complete.

Quantitative indicator

Indicator 1: Milestone accomplishment

Since March 2021, 5 of 12 remaining implementation actions have been closed, which support the establishment of NOC and UKCEH as independent organisations.

The remaining implementation actions mainly relate to the following:

- (IP) Ensuring patent asset transfer has been completed
- (Property) Finalising lease agreements for UKCEH sites
- (IT) Data migration activities

These actions should conclude during 2022.

Learning and Action:

Covid and third party delays have slowed down the closure of some actions, however little can be done to avoid these.

The remaining Gateway 4 actions are under review ahead of the Gateway 5 beginning in Summer 2022.

Operational Commitment

Demonstrate impact of NERC research

Current RAG rating

2022/23



Narrative

NERC has a healthy pipeline of evidence and insight demonstrating the impact and outcomes of our funding and improving understanding of our community.

This year we have innovated our methods to enhance our capability and efficiency, using new technologies and data sources and learning from best practice. Examples include linking together grant, facilities, co-authorship and impact data to trace impact pathways, text mining our impact database and of company annual reports, and combining qualitative and quantitative (bibliometric) methods to identify and investigate scientific breakthroughs facilitated by NERC for the first time.

We have built the infrastructure for a new Insight Hub to share evidence on impact and insight across NERC, and starting preparing visual summaries of NERC's impact for high-level and visually-driven audiences. A NERC climate impact timeline, for example, was showcased at COP26 and has received positive feedback from the Chief Scientific Advisers of BEIS and Department for Transport.

Over the next year we will work with the Associate Director of Strategic Advocacy to increase the use of our evidence to ensure that it generates maximum value for NERC and UKRI.

Quantitative Indicators

Indicator 1: volume of new evidence and insight

- 3 Impact Series instalments completed, demonstrating the economic and societal benefits delivered through NERC's investments in offshore wind, climate and biodiversity.
- 3 added value case studies completed, describing how the scientific advances and impact delivered through NERC's leadership in tropical convection, undersea cables and sustainable plastic packaging.
- 2 case studies of scientific breakthroughs facilitated by NERC in quantitative genetics and volcanology. The first two produced in this new workstream, supported by new bibliometric analysis methodologies

Indicator 3: Honours outcomes

7 Honours were awarded to NERC nominees for 2021 Queen's Birthday Honours and 2022 New Year rounds. Over the past decade, the proportion of women in NERC's nominations increased from 26% to 40%, and for our successful awardees from 19% to 36%. Improving the gender balance ensures the impact of excellent research across the field is recognised.

Qualitative indicators

Indicator 1: new evidence and insight

- Evidence produced this year demonstrated that:
- Climate: Decades of NERC climate science underpins international climate negotiations and drives the UK's journey to net zero.
 - Biodiversity: NERC science enables government, business and society to protect nature effectively, which strengthens our economic security, propels our journey to net zero and benefits our health and wellbeing.
 - Offshore wind: NERC science has enabled the UK to lead the world in offshore wind energy and enjoy its benefits while protecting key marine species and habitats.
 - Discoveries: long-term NERC funding delivered rare evidence of rapid evolution through natural selection in the context of climate change, and a new model of volcanic processes that is now widely accepted.

Indicator 2: Testimonial

James Harper (UKRI Communications team) reflected on the work of the team that "The Impact and Outcomes function is not only vital for NERC generally, but also a crucial element in delivering communications activity that is rooted in real-world impact. I am enormously grateful to [the team] for being so proactive in demonstrating how the wider NERC family can play a direct role in delivering important communications ambitions"

Learning and Action:

Learning: new methods and linked datasets can deliver valuable new insight and evidence. More targeted use of our evidence could deliver greater value for NERC and UKRI.

Action:

- Continue to innovate in methodology and formats for presenting evidence.
- Develop more effective ways to communicate evidence directly to key audiences, and across Head Office through the Insight Hub.
- Build insight of how our evidence is used at the highest levels and within NERC.

**Narrative:**

Significant progress was made in 2021 towards moving evaluation activity into business as usual for NERC HO. The piloting stage of applying the evaluation policy (Jan 2021 – Jan 2022) included a diverse range of programmes and investments at different scales from individual projects to Centre level across NERC Head Office. This breadth enabled NERC HO to test the evaluation policy and approaches through a range of inputs, training and guidance.

Key outcomes from the piloting period include:

- The majority of NERC investments supported in the evaluation period lacked clear and specific aims and objectives. Training 38 members of NERC HO staff in the new evaluation policy ensured that design approaches included these requirements so filling an important gap and providing greater opportunity for learning, process improvement and increased impact generation’.
- NERC HO created M&E Plans suitable for use in developing business cases for investments in excess of £20 million that were reviewed by BEIS Analytics Director and UKRI’s evaluation team and deemed suitable for passing through the BEIS Executive Committee (ExCo) Project and Investment Committee (PIC).
- The first cycle of the NERC designed British Geological Survey Evaluation concluded that, overall, BGS provided a ‘good provision of requirements’ against the NERC/BGS Memorandum of Understanding across the period 2016 – 2021.

Quantitative indicators

Indicator 1: Number of teams provided evaluation training and support

38 members of NERC HO Staff trained, across 14 teams; 5 from Strategic Partnerships, 8 from Research & Skills and 1 from Corporate Affairs.

Indicator 2: Number of NERC-led programmes using NERC Evaluation templates

11 programmes are using NERC evaluation templates, including Highlight Topics, RISE, Treescapes and National Capability Single Centre Awards.
6 Business cases are using NERC’s Outline Monitoring & Evaluation, including Antarctica Modernisation and FAAM.

Indicator 3: British Geological Survey operating against its MoU

BGS were assessed against five objectives connected to its MoU and was found to be achieving a ‘good’ level of service against 4 of the objectives and 1 where BGS was achieving an ‘excellent’ level of service.

Qualitative indicators

Indicator 1: Feedback from NERC Evaluation training

Quotes from participants on the evaluation training:

- ‘Really useful’
- ‘The resources are really well thought out and I can see that I will be using them in the future’
- ‘Well delivered and interesting, and I can see how this applies to the programmes I look after’

Indicator 2: Feedback on NERC M&E plans

BEIS Analysis Director suggesting the M&E documents for Antarctica Modernisation business case will ‘likely pass the PIC review’ and UKRI’s evaluation team saying, ‘it’s definitely a well-developed M&E plan so well done to you and the team for setting this up so effectively!’

Indicator 3: British Geological Survey operating against its MoU

The Senior Management Board at BGS extended their thanks, saying “We would also like to thank the team at NERC who have helped navigate the process of the first BGS evaluation, and we look forward to continued collaboration as we refine and improve the process for the next evaluation period that has already begun.”

Learning and Action:

- The NERC evaluation policy operated well through the trial period, with no significant ‘in flight’ changes made to the wording or operation of the policy itself. We will need to review if a purely financial threshold (currently set at £10m) is appropriate to require an extended evaluation; and harmonise with other teams who perform evaluation such as D&I or Sustainability.
- We will continue evaluation training for NERC HO teams in 2022
- In response to stakeholder and award holder feedback, we will develop and test a cost effective and robust approach to gathering feedback from stakeholders associated with NERC investments;
- Continue leading and supporting the evaluation of NERC investments planned for 2022
- Improve the sharing of outcomes across HO and implementation of lessons learned