NERC SCIENCE OF THE ENVIRONMENT

Natural Environment Research Council

Annual Report and Accounts 2015-16

HC 70

Natural Environment Research Council
Annual Report and Accounts 2015-16

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Overview

The science of our changing world
The Natural Environment Research Council (NERC) is the driving force of investment in UK environmental science. Our researchers, in universities and research centres, study and monitor the physical, chemical and biological processes on which life on our planet depends – from pole to pole, from the deep Earth and oceans, to the atmosphere and space.

Understanding our changing planet is fundamental to our future economic prosperity and wellbeing. NERC supports world-leading research, postgraduate training and innovation that pushes the boundaries of our knowledge. Through collaboration with other science disciplines, with UK business and with policymakers, we use that knowledge to deliver innovation and growth with responsible management of the environment – to help us better prepare for tomorrow's challenges and shape how we live today.

Our strategic goals
To fund excellent, peer-reviewed environmental science that helps us:

- understand and predict how our planet works
- manage our environment responsibly as we pursue new ways of living, doing business, escaping poverty and growing economies.

With our researchers and stakeholders, we develop the priorities that provide focus for the environmental science community. Our research is often multidisciplinary and designed and delivered in collaboration with national and international partners. NERC is committed to developing UK and international capability across the environmental sciences. We fund centres and universities to carry out research and to train and support a world-class community of environmental scientists.

NERC has six major environmental research centres:

British Antarctic Survey (BAS)

British Geological Survey (BGS)

Centre for Ecology & Hydrology (CEH)

National Centre for Atmospheric Science (NCAS)

National Centre for Earth Observation (NCEO)

National Oceanography Centre (NOC)

Where their names appear in this report, they have been abbreviated.

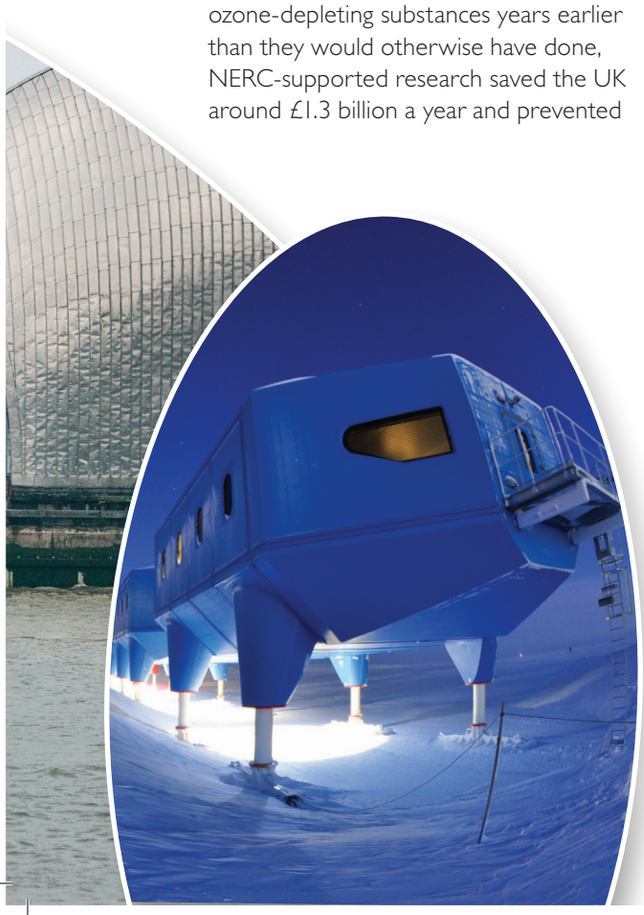
NERC runs a fleet of research ships and scientific aircraft. We have bases in some of the world's most hostile environments and we invest in satellite technology to monitor environmental change on a global scale.

Introduction

2015 was the 50th anniversary of NERC's creation. Over the year we took time both to recognise what we achieved in our first half-century and to look forward to continuing our legacy of high-quality, high-impact environmental science.

Over NERC's lifetime we have funded innumerable pieces of world-leading research that have created profound benefits both in the UK and worldwide. A recent independent analysis* provides fresh evidence of the extent of this impact. For example, the EU and UK policies to control air pollution that our science helped shape have created benefits to the UK worth an estimated £31 billion to £82 billion since 1990 – at least £1.2 billion a year.

Perhaps the best-known achievement by NERC-funded scientists is the discovery of the ozone hole over Antarctica, which led to the adoption of the Montreal Protocol in 1987 – arguably the most successful international environmental agreement of all time. The independent analysis estimates that by spurring policymakers to control ozone-depleting substances years earlier than they would otherwise have done, NERC-supported research saved the UK around £1.3 billion a year and prevented nearly 300 premature deaths annually from skin cancer, alongside many other benefits.



The research we support continues to provide essential support for government policy on a wide range of issues, from managing flood risk to enabling effective, science-based regulation for UK unconventional fossil fuel extraction.

Our work also plays a pivotal role in international environmental negotiations. Well over 100 NERC-funded scientists contributed to the UN COP21 climate change conference in Paris last year, many of them serving as authors on the Fifth Assessment Report that brings together the latest evidence on the subject. Their expertise underpinned the eventual agreement reached in Paris, which will form the basis for efforts to control greenhouse gas emissions and limit climate change over the coming decades.

Throughout 2015 we held a series of special events to mark our anniversary, culminating in RRS *Discovery*'s first ever visit to London. The UK's newest and most advanced oceanographic research vessel left her home port of Southampton to sail up the Thames and spend several days moored next to HMS *Belfast* near Tower Bridge in order to build understanding of, and support for, NERC's mission among key stakeholders.

In that time she received visitors including parliamentarians, civil servants, business people, scientists, local schoolchildren, the media and members of the public. The event was a great success, letting us engage with important stakeholders in government and industry while also communicating the excitement and benefit of UK environmental science to a much broader audience.

The future of ocean science

At the end of *Discovery*'s spell in the capital, the Minister of State for Universities and

*www.nerc.ac.uk/about/perform/evaluation/evaluationreports/deloitte-report

Science Jo Johnson MP came aboard to see the array of world-class science and equipment on display and to announce the next big step forward for UK marine and polar science – the construction of its next-generation polar research vessel.

The new ship will enter service in 2019 and be built by Cammell Laird in Birkenhead. The UK shipbuilder overcame intense international competition to win the contract, which will secure around 500 local jobs and provide a boost to the whole region's economy. The £200m vessel will be operated by BAS and will help maintain Britain's position at the forefront of climate, polar and ocean science.

In 2016 our Name Our Ship campaign to seek ideas for the new vessel's name attracted huge public interest. By the time it ended in April 2016, the campaign had attracted more than 7,000 suggestions, been covered extensively by local, national and international media and reached hundreds of millions of people over social media. This engaged the public with our science and raised awareness of the vital research the ship will carry out. In May it was announced that the new ship will be named RRS *Sir David Attenborough*, after the world-famous naturalist and broadcaster.

Another important development – again attended by the Minister – was the official opening of NOC's new Marine Robotics Innovation Centre. It forms a hub for businesses working in this dynamic field, connecting them with researchers and stimulating the development of new autonomous platforms and sensors. Gathering data cost-effectively from the world's oceans may be the greatest observational challenge facing environmental science today; addressing it is vital for solving many of the challenges facing society.

This will require investment in highly-skilled people as well as in technology. Alongside the Engineering and Physical Sciences Research Council, we have put £2.5m into a new Centre for Doctoral Training in smart and autonomous observation systems, which will train the next generation of researchers to design, build and use innovative sensor platforms such as unmanned aerial vehicles and autonomous submersibles. The move underscores our commitment to supporting training that safeguards the UK's world-class research capabilities and helps secure a future of high-quality, high-impact environmental science.

Great science for a great future

NERC-supported researchers have carried out a great deal of excellent science over the past year. For example, scientists at NOC published a review in *Science* of what we have learned from a decade of observations from the RAPID array – a pioneering set of instruments stretching across the Atlantic, funded by NERC to make continuous measurements of the Atlantic Meridional Overturning Circulation (AMOC).

This is an essential part of the global climate system, bringing warmer water north from near the Equator and returning cold water from the Arctic. It gives Britain its unusually mild climate. Yet until recently, we have had limited detailed knowledge of how it works and varies over time, because data could only be gathered with slow and expensive research ship cruises. This gap in our knowledge was a problem because some models suggested that under global

warming the AMOC could slow, potentially causing dramatic changes to northern Europe's climate.

The RAPID array has enabled many new and surprising discoveries since it became operational in 2004. For instance, researchers have found that the flow of the AMOC varies far more from year to year than previously suspected, that it does indeed seem to be declining over time, and that between late 2009 and early 2010 it temporarily declined by around 30 per cent – an unexpected discovery that may be linked to that year's exceptionally severe winter.

More investigation is vital to establish what these findings mean. NERC is providing continued funding for the RAPID array as well as working with the US National Science Foundation, National Oceanic & Atmospheric Administration and many other international partners to complement its observations with a permanent monitoring system further north, between Greenland and Iceland – the £20m Overturning in the Subpolar North Atlantic Program (OSNAP).

Working together to tackle global challenges

One common theme over the last twelve months has been our work's increasingly global scope, with a strong emphasis on collaborating with other research funders, and with organisations that put research to use, to make sure UK knowledge and expertise has the greatest possible impact on the most pressing global problems.

In this context, we are building strong new relationships with Chinese scientists and funding bodies, enabling us to work together on challenges common to both societies. One recently-announced programme will bring UK and Chinese researchers together to improve understanding of atmospheric pollution and its effects on human health in a Chinese megacity.

Co-funded with the Medical Research Council and the National Natural Science Foundation of China, this will help address China's air-pollution problems, which cause around 1.3 million premature deaths a year and impose annual costs worth an estimated £0.9 trillion. It will also support wider efforts to improve air quality elsewhere – including in the UK, where atmospheric pollution still leads to some 29,000 early deaths a year.

We are also working closely with partners in India to address some of their key challenges – for instance, our atmospheric research aircraft is currently participating in a major new observational campaign aimed at improving our ability to predict the South Asian monsoon. If successful, this could vastly improve the lives of the hundreds of millions of Indian farmers who depend entirely on the monsoon for their livelihoods.

In a very different scientific field, we have joined forces with the Biotechnology and Biological Science Research Council (BBSRC) and India's Department for Biotechnology to investigate the effects of nitrogen fertilisers on the wider environment – an important investment that will provide crucial support for efforts to increase crop production to feed growing populations while reducing the serious ecological problems that current farming methods create.

NERC-funded researchers have also worked with NASA to put cutting-edge UK-designed atmospheric science instruments on the unmanned Global Hawk research aircraft. The instruments are shedding new light on questions such as exactly where greenhouse gases are being emitted and taken up on the Earth's surface, and what part airborne particles such as dust or ice crystals play in the global climate system.

We have strengthened our existing strategic partnerships with Arup and Shell, launched new ones with Dŵr Cymru Welsh Water and Marks & Spencer and continued to build relationships with policy organisations including Defra. We hope to announce further long-term partnerships with research users over the coming months and years.

Our innovation programmes continue to attract enormous interest from industry. The Sustainable Agriculture Research & Innovation Club, run in partnership with BBSRC, now has 12 industry members which contribute to designing and funding research. The more recent Environmental Risks to Infrastructure Innovation Programme also has 12 industry members and has funded 14 projects under its first full call for proposals. They deal with topics that include protecting ports and the supply chains they feed from sea-level rise and assessing the risk extreme rainfall poses to Scotland's roads. Such initiatives form a key part of our strategy to ensure our research can be absorbed by the private sector and contributes to sustainable economic growth.

Making our thousands of terabytes of environmental data available so that it can be used to create innovative new products and services is another priority, For instance, BGS has developed software that lets users visualise the vast amounts of geological data it holds in 3D, helping pioneer ways to apply this data to problems such as reducing flood risk.

In 2015 we partnered with Innovate UK and the Economic and Social Research Council to make awards that will allow researchers to address urban challenges with big data, in collaboration with the private sector. NERC provided funding for 11 projects, including a partnership between Swansea University and O2 that aims to develop new, smarter ways to deliver healthcare in cities by drawing on environmental, telecommunications and health data.

In December 2015, we launched our Environmental Science Impact Programme, which will invest around £37.5m in awards worth up to £5m over five years to top research organisations to help the UK's regions benefit from its world-class science. The initiative will bring together scientists, business, policymakers and other regional stakeholders to translate cutting-edge research into action. It aims to benefit regional economies while also making a positive impact on society more broadly.

Adapting to a changing research landscape

Our Governance, Responsibility and Ownership programme continues, with confirmation in summer 2015 of NERC Council's earlier decision to move ahead with plans for CEH and NOC to move towards becoming independent non-profit companies limited by guarantee with charitable status. With BGS we are pursuing the option of a government-owned company. We are now working with colleagues in BIS to get approval to move to preparing full business cases.

The environment we operate in remains challenging, but it also holds opportunities for NERC. The outcome of the Comprehensive Spending Review was positive for UK research and will safeguard

the nation's first-class capabilities in environmental science. Announced at the same time was the Global Challenges Research Fund, which will have spending power of some £450 million by the end of the decade, investing in cross-disciplinary work designed to address the problems faced by developing countries. Environmental science has a particularly important role to play in doing this, and in helping resolve the tension between improving living standards and sustaining the environment that lies at the heart of the United Nations Post-Millennial Development Goals.

The Nurse Review of Research Councils broadly recognised the excellent work the seven councils do and endorsed their continued operation, though it proposed a new independent body to co-ordinate their activities. The government has now confirmed its intention to enact these recommendations, with the new co-ordinating organisation known as UK Research and Innovation (UKRI).

It is vital that we continue our efforts to make the way we fund science more efficient and effective. We are working hard to do this, taking steps to streamline our internal processes and to find areas where we can do better work with fewer resources. The improvements we have made have shortened the time it takes to move from an idea for a new research programme to an announcement of opportunity to six months. This is an improvement on the situation a few years ago, and one that makes it far easier for us to work with other funders and users of research, and to respond quickly to changing priorities and emerging situations.

A notable milestone this year has been the announcement of the first projects funded under the highlight topics route– a new funding mechanism designed to give the science community a bigger role in identifying areas in need of strategic research funding. The projects, which have received around £11m in total, address some of the key challenges facing society; they will shed light on topics ranging from why the climate is warming at an uneven rate, with pronounced pauses and surges, to what happens to nanoparticles as they move through the environment and break down.

As well as reforming our own operations, we are working ever more closely with our fellow research councils, looking for areas where we can combine expertise and share resources to work more efficiently. The process is still in its early stages, but we hope to reduce the overall cost of administering research funding in the UK substantially.

All this demonstrates how quickly the UK research environment is changing; the research councils need to work hard to adapt. Yet no matter what organisational structure the UK settles on to fund research, events over the past year have underscored that high-quality environmental science is certain to remain vital to our continued national wellbeing and prosperity.

Professor Duncan Wingham
Chief Executive
28 June 2016

Sir Anthony Cleaver
Chairman

Going Concern Assessment

NERC's statutory financial statements have been prepared using accruals accounting in accordance with the UK Government's Financial Reporting Manual (FReM) for 2015-16 and the accounts direction issued by the Secretary of State. The 2014 Triennial Review of the Research Councils confirmed that the current 7 Research Councils should continue to exist in their current format. The 2015 Nurse Review supported the preservation of individual Research Councils with continued focus on disciplinary specific communities and science strategies. NERC has received its budget allocation from BIS for 2016-17 and 2017-18 with further indicative funding levels to 2019-20. The financial statements have thus been prepared on a going-concern basis.

Financial summary

NERC concludes the accounting period with a balanced financial position with a 0.1% variance compared to available budget for near cash and capital. There is a non-cash surplus of £1.6m. A comparison with the previous accounting period is shown in Table 1.

The reconciliation between NERC's outturn with its annual accounts for 2015-16 is shown in Table 2.

Table 1: NERC outturn 2015-16 and 2014-15 comparison

	2015-16 £000	2014-15 £000
Science budget	390,523	390,758
Other BIS funding	10,026	6,146
Earned income	72,537	68,735
Total funding	473,086	465,639
Expenditure	471,037	461,428
Surplus	2,049	4,211
Variance (%)	0.4%	0.9%
Surplus/(deficit) excluding non-cash	478	(310)
Variance (%) excluding non-cash	0.1%	-0.1%

Table 2: NERC outturn and annual accounts reconciliation 2015-16

	2015-16 £000
Net expenditure[1]	355,955
AME changes[2]	(3,351)
Other BIS funding[3]	(10,026)
Direct Capital	46,042
NBV capital disposals[4]	(146)
Outturn	388,474
Science budget (DEL)	390,523
Reported surplus[5]	2,049

Notes:
1. Taken from the Statement of net expenditure for the year ended 31 March 2016.
2. Provision utilisation, movements, unwinding of discount and change in discount factor score as AME and are outside the scope of DEL, as are price movements in investments; figures taken from Note 7. Other operating costs (allowance for trade receivables) and Note 12 Provisions.
3. Taken from note 3 Grant-in aid and other BIS funding.
4. In accordance with Financial Reporting Manual.
5. Reported surplus of £2,049k comprises of £478k near cash surplus and £1,571k non-cash surplus.

Forward Look

Recognising that science is vital to our country's prosperity, security and wellbeing, Government is providing stable funding for research, increasing in real terms, from 2016 to 2020.

Each year NERC will invest around £324m in world-class science, plus additional capital in large research infrastructure. It will focus this investment where environmental science enhances prosperity, security and wellbeing, both in the UK and globally.

The new Global Challenges Research Fund (GCRF), worth £1.5bn over five years, combines UK aid or official development assistance (ODA) and research objectives. As a new budget outside the Research Councils, GCRF provides a powerful and exciting opportunity for the UK's environmental scientists, in partnership with other disciplines, to address major challenges facing the developing world.

Within NERC's own annual resource budget of £290m, investment in ODA will rise from £8m to £13m per year. NERC will manage its budget to support an environmental science base that achieves balance between UK and international priorities; between single-disciplinary and multi-disciplinary research; between discovery science and strategically-directed research; and across environmental science disciplines, sectors and research centres. To achieve these balances, NERC will review and develop budget processes and allocations as the implications of GCRF emerge.

NERC has launched numerous exciting new research initiatives in the past year. For example, NERC is investing £16m in a new five-year programme – the Changing Arctic Ocean: Implications for Marine Biology & Biogeochemistry. Its goal is to understand how changes in the physical environment (ice and ocean) will affect the large-scale ecosystem structure and biogeochemical functioning of the Arctic Ocean, and how this may affect the ecosystem services it provides. The programme will be delivered in partnership with international scientists and institutions, including funders in Germany and the US.

NERC is also working with the Met Office to build the first UK Earth System Model. This will maintain the UK's world-leading position in Earth system modelling and science, while also providing robust support to the UK government in international climate negotiations.

Other new projects being funded through the new highlight topics route aim to improve our understanding of the integrity of potential carbon capture and storage sites in the North Sea, and of the impact of nanomaterials on whole ecosystems.

The research councils will continue to participate actively in a suite of government reforms involving BIS partners across the UK research and innovation funding landscape. These reforms aim to deliver the best return on public investment while ensuring that the UK is the best place in the world to do research, to innovate and to grow businesses. They include:

- government reform of higher education
- implementation of the Nurse Review recommendations
- BIS 2020 organisational and efficiency reform
- BIS common technology platform
- BIS grants programme.

Government has published a white paper and bill proposing the creation of UK Research and Innovation (UKRI), including the seven research councils, Innovate UK and parts of HEFCE. Subject to Parliament, NERC will work with government and BIS partners to implement these reforms. This new organisation will take responsibility

for national research strategy, simplify operations and reduce administration costs. NERC will also work with Innovate UK to address the recommendations of the Dowling Review to simplify public support for innovation.

In April 2016, RCUK launched the RCUK Change Programme, a complex set of activities that aims to make the research councils more cost-effective. The programme also focuses on how we can simplify, share, streamline and standardise our core functions, making them more effective, more efficient and easier to access.

Its mission is to deliver research and national capability that enables discovery, innovation, growth, resilience and sustainability, and to allow the research councils to work efficiently and effectively together with common operations at our core while ensuring the strength of our diverse disciplines. The programme aligns closely with RCUK's ambition under the Research Councils Together initiative. NERC will continue to work with its fellow research councils, BIS and other partners to ensure that projects, proposals and existing change programmes in individual councils align with the Nurse Review recommendations.

In July 2015, NERC Council reaffirmed its decision to proceed to the next stage of a process considering changes in the ownership and governance of two of its research centres, CEH and NOC. In January 2016 NERC with BIS considered a full range of options for the future ownership and governance of BGS. There are no plans to change the status of BAS.

Any changes to the centres' ownership and governance will respect their unique roles, and ensure their long-term sustainability and contribution to world-leading UK environmental science and innovation. NERC Council affirms the importance of sustaining long-term funding to its research centres. This will remain the case, regardless of changes in ownership and governance.

No final decision to change the status of the centres out of NERC has been taken; this needs Ministerial approval. We are working with colleagues in BIS to get approval for the next stage, which is to prepare business cases for BGS, CEH and NOC.

NERC continues to consider the full range of options for the future ownership and governance of BGS. There are no plans to change the status of BAS. NERC Council affirms the importance of sustaining long-term funding to its research centres. This will remain the case, regardless of changes in ownership and governance.

NERC is changing the way it commissions National Capability – the element of UK scientific capability that NERC procures directly due to its scale and complexity – from its research centres. The new process is designed to enable more ambitious multi-disciplinary research to address major scientific and societal challenges.

Finally, in October 2015, the Minister of State for Universities and Science announced that Cammell Laird on Merseyside had been selected to build the UK's £200m next-generation polar research vessel. The ship will maintain the UK's leading position in climate and ocean research. It will operate in both Antarctica and the Arctic, and be able to endure up to 60 days in sea ice to enable scientists to gather more observations and data. It will be operated by BAS and be available to the whole UK research community, including for postgraduate training.

Performance analysis

NERC regularly monitors, evaluates and reports on progress against our Royal Charter, strategy and Delivery Plan, to inform our decision-making and to demonstrate that we are investing public funds effectively and efficiently to make economic and social contributions both in the UK and internationally.

The 2015-16 Delivery Plan identifies seven priorities, sets out how NERC's programme budget supports these priorities, and outlines benefits to the UK. Details of the impact of NERC funding are published in the 2015 Impact Report, available at **www.nerc.ac.uk/about/perform/reporting/reports/impactreport2015.**

Environmental science for a changing world

NERC fosters UK and international partnerships so that business, government, civil society and scientists can work together to address the challenges and opportunities of managing the environment; co-design and co-deliver new environmental science; find and apply existing scientific knowledge; and drive UK innovation, jobs, economic growth and societal wellbeing.

The Algal Bioenergy Special Interest Group (co-funded with Innovate UK) co-organised a very successful Microalgae Mission to the USA in March 2015 for 12 UK industry and academic experts. This resulted in new contacts, equipment sales, provision of services from UK to US partners and vice-versa, student exchanges, collaborative projects and licencing deals.

The UK has become the newest member of the International Institute for Applied Systems Analysis (IIASA). Professor Duncan Wingham represents the UK on IIASA's governing council.

Strategic research programmes

Strategically-directed research provides the knowledge needed to meet the greatest challenges facing society. NERC funds programmes that help business, government and society benefit from natural resources and ecosystem services, build resilience to environmental hazards and manage environmental change. NERC works with national and international partners to co-design, co-fund and co-deliver programmes that meet UK stakeholder needs and leverage additional funding, drawing upon the world-leading excellence and creativity of the UK researcher base.

This year NERC has launched new funding mechanisms to strengthen its ability to support the most important strategic research. Joint Strategic Response is aimed at enabling NERC to respond quickly to opportunities to partner with research funders such as other research councils and government departments. Strategic Programme Areas are major activities that address complex scientific questions in which research is expected to be large-scale and complex and logistically challenging, and where there may be significant opportunities for partnership development. Highlight topics focus strategic research on defined areas and can be worth up to £4m and last up to five years.

Council has approved the first strategic programme on 'The Changing Arctic Ocean: implications for marine biology and biogeochemistry'. Grants have been awarded for the first tranche of highlight topics. The first year of operation of Joint Strategic Response has successfully demonstrated this funding route's agility and capacity to help NERC leverage its funding.

Discovery science

Discovery science – research that is driven by curiosity rather than by high-level strategic priorities – leads to fundamental advances in our knowledge of how the Earth works – past, present and future – and underpins the world-leading position of UK environmental science. It has repeatedly delivered lasting benefits to our economy, society and wellbeing that were unforeseen when the research began.

NERC and the US National Science Foundation (NSF) have agreed to work together to make it easier for environmental scientists to collaborate on discovery science projects tackling global environmental challenges. The agreement will mean researchers can submit a single collaborative proposal to either NERC or NSF that will be reviewed by a single panel, avoiding duplication of effort for applicants and peer reviewers.

Postgraduate training

Doctoral training equips the next generation of researchers with essential knowledge and skills for UK science, business and government across all sectors of the economy. NERC invests around £23m a year in postgraduate training funding, with nearly 1000 students at any time in universities, research institutes and industrial partners.

In October 2015, NERC announced investment alongside the Engineering and Physical Sciences Research Council in a Centre of Doctoral Training in smart observation. The CDT will provide specialised training in the use of smart and autonomous observation systems in the environmental sciences, and will give future environmental scientists the skills needed to develop and deploy ambitious new unmanned systems.

Twenty-seven Advanced Training Short Courses and 36 CASE students were funded through the 2015 competitions.

The former support postgraduate training aimed at providing individuals with particular, specialist skills and training within the NERC science remit. CASE (Collaborative Awards in Science and Engineering) studentships provide doctoral students with a first-rate, challenging research training experience in the context of a mutually-beneficial collaboration between academic and non-academic partner organisations.

Fourteen fellowships were funded through the Independent Research Fellowships competition. This scheme is designed to develop scientific leadership among the most promising early-career environmental scientists. It gives all fellows five years' support, which will allow them sufficient time to develop their research programmes and to gain international recognition.

National capability

National Capability (NC) funding describes the element of UK scientific capability that NERC procures directly because of its scale and complexity. NC comprises major long-term science observation programmes; large-scale research infrastructure such as ships; smaller-scale data, services and facilities that underpin the environmental science community; and the provision of advice to government departments and the public. Much of this capability is provided by NERC's research centres, enabling strategic and responsive environmental research, training and innovation across the entire UK research base, and providing vital services to government including rapid response to national emergencies. Achievements in 2015-16 include:

- During 2015-16 NERC challenged its research centres to develop a set of multi-disciplinary programmes that draw on centre expertise covering the breadth of NERC's remit. This led to the commissioning of five ambitious new programmes, worth £34m in total, that will see the centres working together

to tackle major scientific and societal challenges such as making agriculture more sustainable and improving our understanding of Southern Ocean's role in the global climate.

- All six of the Shelf Sea Biogeochemistry programme's cruises were completed successfully.
- The new Facility for Airborne Atmospheric Measurements laboratory was completed, providing a state-of-the art facility for scientists and engineers to work on airborne atmospheric technology and science alongside NERC's atmospheric research aircraft.
- Construction of the new £20m Lyell Centre at Heriot-Watt University's Edinburgh campus has been completed, and all BGS staff based in Edinburgh have now moved into their new Scottish headquarters, with an official opening ceremony scheduled for October. The relocation has been delivered on time and within budget. The Centre will be a major joint BGS/Heriot-Watt research centre for geological, petroleum and marine sciences.

Innovation and impact

NERC plays an important role as a funder and broker in the wider UK 'innovation ecosystem'. We work with research providers, translators and users – both directly and in partnership with Innovate UK – to support knowledge exchange and speed up innovation across the whole UK economy.

In April and May 2015, NERC's Oil and Gas Innovation Programme held two scoping workshops: one on decommissioning energy infrastructure (1 April 2015, Aberdeen); and another on extending the life of mature basins in the UKCS and west of Shetland (13 May 2015, Edinburgh). The programme then launched a £1m initial call focusing on decommissioning and its environmental management.
NERC funded £2.4m in research-translation projects addressing the themes of the Environmental Risk to Infrastructure Programme and the issues and opportunities around green infrastructure in helping decision-makers in government and industry improve the built environment.

NERC contributed £1m to a £6m Innovate UK-led call for collaborative R&D and feasibility studies to stimulate innovation in conventional fossil fuels, with the aim of improving efficiency, reducing costs and minimising the environmental impact of coal, natural gas and oil. NERC also invested £1.5m in the solutions £7m Solving Urban Challenges with Data initiative, which will create innovative, commercial to increase the resilience, quality of life and economic performance of urban areas by integrating environmental, social and/or economic data with data from other sources.

Working in partnership, NERC and the Biotechnology and Biological Sciences Research Council have launched the UK Aquaculture Initiative to support high-quality, innovative research and research-translation in developing a healthy, safe and sustainable UK aquaculture system. £6m of joint funding will support projects that incorporate both the environmental and biological sciences and bring together diverse knowledge, skills and facilities to deliver innovative approaches to solving industry challenges.

Two NERC fellowships were appointed to work with the Scottish and Welsh governments, with an important remit to link NERC science with policymaking at the highest level.

In January 2016, NERC announced a three-year strategic partnership with Dŵr Cymru Welsh Water to help tackle future environmental challenges in managing water supply, and to provide vital data to decision makers.

Enabling change

To deliver our strategic goals for excellence, impact and efficiency NERC has been involved in activities to reshape the organisation, skills and funding mechanisms. NERC continues to work with other research councils, BIS and other partners to ensure that projects, proposals and existing change programmes are aligned with Nurse Review recommendations. For more information, please refer to the Forward Look section on p11-12.

Communications and public engagement

NERC has recognised the need for a more active approach to communicating with the public and other stakeholders. The organisation's 50th anniversary year has provided an opportunity to try new ways of engaging people with NERC science and innovation.

Over the year, the communications and external affairs teams delivered a wide variety of events, publications and activities aimed at raising NERC's profile among key stakeholders and the public, building support and advocacy for the science it funds.

The most prominent event was RRS *Discovery*'s trip to London, which provided a unique opportunity to engage with a variety of audiences, from policymakers and industry to the general public. As well as touring the ship and her facilities, they could explore exhibits of some of the most exciting research that NERC supports. Specialised briefings and receptions targeted particular audiences such as policymakers and the marine industry, allowing us to strengthen existing relationships and lay the foundations for new ones.

The ship's presence attracted significant media attention, reaching several million people through appearances on programmes and channels including BBC Breakfast, Newsround and London Live. The NERC communications team also carried out a highly successful social media campaign around the event, reaching more than a million people in the first two days, and partnered with the Natural History Museum to engage with the public.

The following spring, the campaign to engage the public with the process of naming the new polar research vessel attracted enormous attention worldwide. The campaign was covered in numerous local, national and international media outlets and reached hundreds of millions of people over social media. This raised NERC's profile to an unprecedented degree, allowing us to engage with many people for the first time to communicate the importance of the science that the new ship will enable, and of the research NERC supports more generally.

The communications team continues to enjoy frequent success in placing NERC science news into major media outlets through media releases, exclusives and social media. NERC scientists have regularly appeared in print and broadcast media. Planet Earth magazine remains a popular channel for communicating NERC-funded science accessibly to a broad, non-specialist audience; it is being re-launched with a tighter focus on topical environmental issues and how NERC-funded science is helping address them. Meanwhile, NERC's social media presence has never been stronger, with more than 22,000 Twitter followers and a growing presence on other platforms including Facebook, Instagram, Flickr, LinkedIn, YouTube and Scoop.it. This allows the organisation to engage directly with a significant part of the population.

As well as improving engagement with the outside world, NERC is transforming its internal communications with staff, instituting a new fortnightly Head Office newsletter and putting in place several other initiatives aimed at improving

the flow of information around the organisation.

NERC's Royal Charter makes it responsible for encouraging public engagement and dialogue. Recent reviews challenged NERC to strengthen its approach to public engagement and dialogue, which will now be guided by three objectives:

- To convene informed public debate about contemporary issues in environmental science, including the ethical and social implications.
- To inform, inspire and interest members of the public and future researchers in environmental science and the processes of research, in a way that is accessible and relevant.
- To carry out public dialogue on complex and controversial issues. Actively listening to members of the public allows NERC to make decisions that are relevant to society.

The communications and public engagement teams are now planning annual showcase events that will let NERC build on the success of RRS Discovery's trip to London to engage with varied audiences around the UK.

NERC will continue to support project-specific public engagement through Pathways to Impact. From 2016-17, it will also establish a dedicated funding line to commission public engagement activities.

Grants, Fellowships and studentships

In 2015 NERC implemented new demand management measures for its discovery science standard grants. These are designed to reduce the number and size of proposals from research organisations and to raise the grant success rates, ensuring research excellence, efficiency and value for money for the taxpayer.

We continue to monitor the success rates of grant and fellowship applications to ensure fairness. Trend data have shown that the proportion of women applying for research grants, and their subsequent success rate, remain relatively constant.

As the tables overleaf show, grant and fellowship applications from women broadly succeed at the same rate as those from men – in other words, NERC grant processes appear to treat women and men equally fairly. Although there are yearly fluctuations, on average 50 per cent of studentships are awarded to females. 48 per cent of current PhD students are female.

NERC continues to offer unconscious bias training to our award-holders and to our own staff. We will continue to review the overall effectiveness of our approaches to funding.

Discovery science grant applications and success rates

	2014-15	2015-16
Number of proposals	1,064	740
Number of grants	141	110
Total £k	46,559	41,320
Success rate	13%	15%

Success rates for grants by gender

	Men	Women
Number of proposals	1,192	349
Number of grants	272	98
Success rate	23%	28%

Success rates for fellowships by gender

	Men	Women
Number of proposals	107	57
Number of grants	7	7
Success rate	7%	12%

Directly employed staff by gender as at 31 March 2016

	Men	Women
Directly employed staff	1,502	1,003
%	60%	40%

Staff, students and fellows

	2014-15	2015-16
Directly employed staff	2,489	2,505
Staff in research organisations[1]	2,768	3,002
Fellows	86	84
PhD[2]	1,063	1,255

1. Headcount of all academic and research staff named on research grants that were active at the end of the financial year.
2. PhD data is based on number of students directly funded by NERC. These do not include co-funded studentships where another funder administers the award. PhD data are recast annually to include studentships that had not previously been entered into the system, by award holders, at the time of publication. The figures for 2015-16 are higher than those for previous years; this reflects the increased numbers of co-funded studentships following the adoption of the Doctoral Training Partnership and Centre for Doctoral Training models for delivering postgraduate training and the increasing number of students being funded through these mechanisms each year as old training schemes conclude.

Science budget expenditure in research organisations (£000)

	Total
University of Leeds	17,634
University of Oxford	8,687
University of Bristol	7,615
University of Edinburgh	7,278
University of Exeter	6,237
University of Reading	5,694
University of Leicester	5,551
University College London	5,270
University of Southampton	5,212
University of Manchester	5,074
Imperial College London	4,991
University of Cambridge	4,921
University of East Anglia	4,219
Biotechnology & Biological Sciences Research Council	3,570
University of Sheffield	3,490
Engineering & Physical Sciences Research Council	3,458
University of Birmingham	3,451
University of Aberdeen	3,259
Lancaster University	3,142
University of York	3,080
Science & Technology Facilities Council	3,014
University of Liverpool	2,951
University of Durham	2,420
Plymouth Marine Laboratory	2,057
University of Newcastle Upon Tyne	1,825
Bangor University	1,680
University of St Andrews	1,670
Cardiff University	1,500
Cranfield University	1,420
Scottish Association for Marine Science (SAMS)	1,348
Met Office	1,311
University of Warwick	1,286
Natural History Museum	1,131
University of Nottingham	1,063
Heriot-Watt University	919
University of Hull	908
University of Plymouth	858
Queen Mary University of London	837
University of Glasgow	803
King's College London	785
Swansea University	767
Aberystwyth University	722
Medical Research Council	677
University of Brighton	667
University of Dundee	664
Royal Holloway, University of London	663
University of the West of England	639
University of Sussex	617
Centre for Environment, Fisheries & Aquaculture Science (CEFAS)	605
University of Stirling	582
Other research organisations	14,055
Research Centre awards	12,489
Total	**174,766**

How we spent the science budget (£000)

National Capability	
Antarctic Logistics and Infrastructure Partition	29,748
British Antarctic Survey	5,436
British Geological Survey	18,113
Centre for Ecology & Hydrology	13,585
National Oceanography Centre	20,945
National Centre for Atmospheric Science	11,296
National Centre for Earth Observation	4,416
Plymouth Marine Laboratory	3,157
High-Performance Computing	2,524
International Activities	2,182
IODP Subscription	2,600
Scottish Association for Marine Science	1,100
Corporate Activities (including Head Office)	4,803
Sea Mammal Research Unit	937
Marine Biological Association	191
Sir Alister Hardy Foundation for Ocean Science	368
Other Head Office National Capability Activities	1,236
Sub-total	**122,637**

Discovery Science	
Standard Grants	49,653
Large Grants	7,741
Fellowships	6,353
Antarctic Funding Initiative	656
Urgent Grants	506
New Investigator	49
Small Grants	2
Sub-total	**64,960**

Strategic Research	
Aerosols & Clouds	40
African Groundwater (UpGro)	120
Air Pollution and Health in a Developing World Megacity	349
Algal Bioenergy Network	124
Analytical Science & Technology PhD Studentships	184
Arctic Ocean SPA	15
Arctic Programme	1,914
Biodiversity & Ecosystem Service Sustainability	2,777
Changing Water Cycle	868
Coastal Sediment Systems	512
Drivers of Variability in Atmospheric Circulation	712
Earth System Modelling Strategy implementation	525
Ecosystem Services for Poverty Alleviation (ESPA)	2,904
Environmental & Social Ecology of Human Infectious Diseases (ESEI)	789
Environmental DNA HT1	282
Environmental Exposure & Health Initiative (EEHI)	68
Environmental Microbiology and Human Health	939
Environmental Nanomaterials HT1	390
Environmental Nanotechnology	64
Flooding from Intense Rainfall	1,139
Freshwater Ecosystems HT1	318
Greenhouse Gas Emissions & Feedbacks	2,119
Human Modified Tropical Forests	2,854
Ice Sheet Stability	1,098
Increasing Resilience to Natural Hazards in Earthquake-prone & Volcanic Regions	1,270
Insect Pollinators Initiative	56
Joint Weather & Climate Research Programme	90
JSR AMR in the Environment	11
JSR Aquaculture	2,152
JSR Future Climate for Africa	903
JSR Science for Humanitarian Emergencies and Resilience (SHEAR)	231
JSR Understanding Atmospheric Convection across Scales	3
Land Based Renewables 2008	9

Living with Environmental Change	278
Long Term Co-evolution of Life & the Planet	80
Macronutrient Cycles	1,451
Managing RP Investments	552
Marine Ecosystems	1,303
Marine Renewable Energy	15
Mathematics and Informatics for 'omics	768
Mineral Resources	1,792
Minor Initiatives	237
Networks of Sensors	26
Next Generation unmanned aerial vehicles	557
Next Generation Weather & Climate Prediction	660
Ocean Acidification	408
Ocean Shelf-Edge Exchange	521
Probability, Uncertainty & Risk in the Environment	910
Radioactivity & the Environment	1,311
RAPID-AMOC (Atlantic Meridional Overturning Circulation)	1,655
RAPIDWATCH	952
Resource Recovery from Waste	2,112
Shelf Sea Biogeochemistry	3,788
Soil Security	1,214
South Asian Monsoon	1,045
Storm Risk Mitigation through Improved Prediction & Impact Modelling	90
Strategic Research Development Fund	55
Tree Health	496
Trends in Surface Temperature HT1	165
UK Droughts	2,110
UK Environmental Observation Framework (UKEOF)	120
UK Integrated Ocean Drilling Programme Phase II	281
UK Integrated Ocean Drilling Programme Phase III	517
Understanding & Predicting the Ocean Surface Boundary Layer	334
Valuing Natural Capital in Low Carbon Energy Pathways	220
Valuing Nature	376
Volatiles, Geodynamics and Solid Earth Controls on the Habitable Planet	1,627
Other Research Programme Activities – NERC	2,272
Other Research Programme Activities – Centre for Ecology & Hydrology	1,177
Sub-total	**57,304**
Post Graduate Training	
Studentships	**23,193**
Enabling Change	
Business restructuring	2,279
Scottish Association for Marine Science	313
British Antarctic Survey	50
British Geological Survey	400
British Geological Survey - Edinburgh estate	825
Centre for Ecology & Hydrology	348
Centre for Ecology & Hydrology – Transition and Integration	423
National Oceanography Centre	270
Sub-total	**4,908**
Innovation	
NERC Innovation Awards and Partnerships	10,607
British Antarctic Survey	1,008
British Geological Survey	2,649
Centre for Ecology & Hydrology	657
National Oceanography Centre	267
National Centre for Atmospheric Science	160
National Centre for Earth Observation	112
Plymouth Marine Laboratory	111
Scottish Association for Marine Science	92
Marine Biological Association	11
Sub-total	**15,674**

How we spent the science budget (£000)

Administration costs	
Head Office	10,077
British Antarctic Survey	762
British Geological Survey	785
Centre for Ecology & Hydrology	789
National Oceanography Centre	897
UK SBS	30
	Sub-total 13,340
Non-Cash	
Depreciation	37,743
Amortisation	355
Impairments	824
Foreign Exchange Gains	-343
	Sub-total 38,579
Capital Grants	
British Geological Survey	315
National Oceanography Centre	363
NERC – other	587
National Centre for Atmospheric Science	546
National Centre for Earth Observation	172
	Sub-total 1,983
Capital	
RRS *Ernest Shackleton*	1,035
RRS *James Clark Ross*	4,884
New Polar Research Vessel	16,251
Halley VI Relocation	3,393
Innovation Centre	777
Core Capital – British Antarctic Survey	1,824
Lyell Centre Edinburgh	7,631
Core Capital – British Geological Survey	1,627
Cosmos Soil Project	406
Core Capital – Centre for Ecology & Hydrology	1,832
MARS Innovation Centre	249
MARS SRL and Glider Lab	170
Ship Recertification	1,569
Core Capital – National Oceanography Centre	3,846
Corporate Capital	548
Asset Disposals	-146
	Sub-Total 45,896
TOTAL NERC EXPENDITURE	**388,474**

Comprises:	
Resource **	*342,578*
Capital	*45,896*
Total	**388,474**

Notes

* This table shows how NERC has spent the BIS science allocation. All figures are net of other income received.

** Resource figure differs from the net expenditure for the year by £13,377k, which is broken down as follows:

	£000
Other funding received from BIS (recorded as financing – see Note 3)	10,026
AME change in provisions	3,351
	13,377

Efficiency Programme

Since 2010 the research councils have been implementing an efficiency programme to drive down the costs and overheads associated with research. The efficiency savings derived from this programme are being re-invested in research.

Details can be found in the RCUK Efficiency Programme Annual Reports 2011-15, available at **www.rcuk.ac.uk/Publications/policy/Efficiency2011.**

Alongside these measures, the research councils also introduced changes to the requests for equipment on grants, including asking applicants to demonstrate how the usage of the equipment will be maximised. RCUK has worked with university partners to develop options to promote and assist equipment sharing, including exploring the issues around asset registers. There is good anecdotal evidence of significant progress by universities to promote sharing, and of very efficient usage of large pieces of experimental equipment.

Sustainability report

Overview and summary of performance

NERC has its head office in Swindon and operates four research centres across the UK with multiple sites. NERC also operates bases in Antarctica and the Arctic, works around the globe in many diverse locations and runs the UK fleet of research ships and research aircraft. NERC strives to minimise the adverse impact its research might have on the environment, but this research is also essential in establishing the scientific basis of climate change and illuminating other critical environmental issues. NERC has to balance the environmental impact of its work against the environmental value generated by helping address climate change without unnecessarily inhibiting its valuable contribution to environmental wellbeing.

Summary of activity

During 2015-16, NERC improved the environmental performance of UK activities and reduced its carbon emissions by the equivalent of 822 tonnes of CO_2, a 6% reduction compared to 2014-15.

NERC has set the following internal sustainability targets for achievement by 2019-20, against the baseline of 2014-15:

(a) Energy usage on the UK estate – a reduction of at least 10%

(b) Water usage on the UK estate – a reduction of at least 10%

(c) Business travel including fleet vehicles, hire vehicles, 'grey' fleet (staff using their own vehicles on NERC business), public transport (train, bus and taxi) – a reduction of at least 10% in travel excluding flights.

(d) Waste from UK estate – reduce proportion of waste going to landfill to 5% of total waste tonnage and increase proportion of waste sent for recycling to 60% of total produced.

Our sustainability performance for 2015-16 compared to 2014-15 shows:

- a 6% reduction in greenhouse gas emissions from UK operations (a real reduction of 2% with a change in conversion factors giving a 4% reduction)
- a 10% reduction in overall waste (although the proportion to landfill was unchanged at 21%)
- water consumption for whole UK estate increasing by 1 per cent
- a 58 per cent reduction in the number of domestic flights.

The NERC Chief Operating Officer has board level responsibility for environmental management. As part of its commitment to managing its environmental impacts NERC has held accreditation to the Carbon Trust Standard since 2010 and will be aiming to retain this for the period 2015-16 to 2016-17. All NERC Research Centres

Sustainability report 2015-16

Area		2015-16	Re-presented 2014-15
Greenhouse gas emissions (scopes 1, 2 and 3) (tCO_2e)[1]		12,272	13,094
Energy	Consumption (in million kWh)	33.7	33.8
	Expenditure (£m)	2.2	2.4
Travel	Expenditure UK business travel (£m)	2.0	2.1
Waste	Generation (tonnes)	522	579
	Expenditure (£k)	357	287
Water[2]	Consumption – whole estate (m^3)	45,667	45,346
	Expenditure (£k)	134	137

Notes:
1. Greenhouse gas emissions include direct (scope 1 - mainly from gas) and indirect (scope 2 - mainly from electricity) emissions from UK buildings and business related transport (scope 3). Emissions from ships, airplanes and overseas travel are not included.
2. Consists of water consumption for the whole UK - predominantly specialist non-office - estate. Water consumption for 2014-15 has been restated to include additional water consumption figures received after original publication.

hold certification to the ISO 14001:2004 Standard for Environmental Management and NERC participates in the Government Carbon Reduction Commitment Energy Efficiency Scheme.

An automatic meter reading system allows for remote monitoring of energy usage across the NERC estate, helping to identify opportunities for improvement. NERC continues to invest in new buildings and technologies to reduce energy usage, which has made a significant contribution towards meeting our target.

Recent examples of NERC's continued investment to improve our environmental performance include:

- replacement of corridor lighting with LED on PIR control at BGS Keyworth, giving an estimated annual reduction equivalent to 1.7 tonnes of CO_2
- installation of specialist plant growth LED lighting in glass rooms at CEH Wallingford
- installation of a free air cooling system at NOC Liverpool saving ≈30% of the total monthly building electrical load
- construction of the MARS Innovation Centre at NOC Southampton to BREEAM "Very Good" standard including a 50kW extension to the solar array.

NERC is developing its Biodiversity Policy and its associated requirement for Biodiversity Plans. NERC is committed to improving biodiversity in our estate and enhancing the biodiversity found at the centres by following good practice in grounds maintenance. NERC has created a variety of wildflower meadows, insect habitats and freshwater ponds, as well as installing nesting boxes. Our staff also get involved personally in helping enhance biodiversity on our sites.

Professor Duncan Wingham
Chief Executive and Accounting Officer
28 June 2016

Accountability Report

Corporate Governance Report

Directors' Report

Statutory disclosures
In accordance with the Companies Act 2006, the following statutory disclosures are presented for the accounting period 2015-16:

Pensions
NERC's pension schemes are discussed in the Remuneration and Staff Report.

Directors, governance and risk
Full details of NERC directors, management board, governance and risk are included in the Remuneration and Staff Report and Governance Statement. The NERC policy on risk is disclosed in Accounting Policy 1.5 Financial Instruments on page 61.

Significant interests
Potentially relevant significant interests of NERC Council members where they are affiliated to other organisations are presented in the Remuneration and Staff Report to the main accounts and in Note 14 to the Annual Accounts. No issues regarding conflict with their managerial responsibilities have materialised. NERC's Council Secretariat manages a Register of Interests which is available on request from SwindonGDSAdmin@nerc.ac.uk.

Overseas operations
NERC itself has no branches outside the UK, although its research centre BAS operates several bases in the Antarctic.

Auditors
NERC's accounts are audited by the Comptroller and Auditor General who has been appointed under statute and is responsible to Parliament. The cost of the audit was £80,000. No remuneration was paid to the external auditors in respect of non-audit work in 2015-16. Internal audit was provided independently by the Audit and Assurance Services Group (AASG). AASG reports annually to the Accounting Officer. The cost of internal audits undertaken during 2015-16 was £168,255. No remuneration was paid to the internal auditors in respect of non-audit work during 2015-16.

Public Sector Information
NERC has complied with the cost allocation and charging requirements set out in HM Treasury and Public Sector Information guidance, but is exempt from the requirements of The Re-use of Public Sector Information Regulations 2005.

Information assurance and security
The government's Security Policy Framework requires departments to submit an annual report to Cabinet Office. NERC has put in place policies and procedures to manage information risk, and reports annually on information security. Raising staff awareness of data protection obligations and rights has been a priority during 2015-16, with awareness sessions rolled out for all staff at NERC Head Office. Regular six-monthly reports on information assurance and cyber security are provided to the NERC Audit & Risk Assurance Committee. A new information security incident reporting system was rolled out in 2015-16 and this provided an opportunity to remind staff of the need to report incidents. The number of personal data loss incidents is recorded, and in 2015-16 there were no such incidents.

Openness and transparency
NERC is subject to the Freedom of Information Act 2000 and the Environmental Information Regulations 2004. During 2015 we answered 77 requests for information specifically under the legislation, which is an increase of 16% on the previous year. The requests covered

a broad variety of subjects, from business policy to research outputs. We answered all requests, some of which were complex and wide ranging, within the statutory time limits. Much of our information is readily available without making a Freedom of Information Act request. For details see our publication scheme at **www.nerc.ac.uk/about/policy/foi/publication**

Categories of requests made under the Freedom of Information Act/Environmental Information Regulations in 2015.

Research policy and operations	25
Contracts	1
Business policy and operations	42
Research outputs	3
Funding applications	1
Personal information	5

Payment policy

NERC observes the Confederation of British Industry Code of Practice regarding prompt payment, and in accordance with the Government direction, is committed to paying its suppliers within five days of receipt of a valid invoice or earlier if suppliers terms dictate. During 2015-16, 80% of payments were made within five working days (81% 2014-15) and 98% within 30 days (96% 2014-15). In accordance with the guidance of the Statutory Instrument 1997/571, trade creditor days for the period are 23 days (2014-15: 27 days).

Health and safety

During 2015-16 there was one reportable injury within NERC under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 2013, compared to two in the previous year. This is the lowest number of RIDDOR reportable events recorded in the last 18 years. The total number of accidents reported to staff in 2015-16 was 226 compared to 187 in 2014-15. The increase is believed to be due to improved reporting rather than a deterioration in performance.

After satisfactorily complying with the requirements of two improvement notices on precautions against legionella issued at the BGS Keyworth site in 2014, an extensive programme of work on the hot and cold water systems at the site is nearing completion. HSE continues to investigate the precautions in place prior to, and at the time of, the unexplained case of legionellosis involving a member of BGS staff. A statement under caution from NERC has been requested and thorough written response is being prepared to explain NERC's position. The basis of this response is that the site had effective precautions in place at the time via a chlorine dioxide chemical water treatment system.

It has been agreed that all NERC Research Centres will work towards achieving accreditation to BS OHSAS 18001 on Occupational Health and Safety Management. Two NERC centres already hold this and other centres can perceive the advantages in having a recognised assurance that safety is being well managed.

Following the serious incident in 2014-15 when an Antarctic research base suffered a power failure which led to it freezing up, an Assurance Board involving external experts was set up. The Assurance Board has now reported and was able to re-assure the Chief Executive on safety in Antarctic operations.

One recommendation of the Assurance Board was for an additional external review by suitably experienced external health and safety experts (preferably with regulatory and enforcement experience). The review was undertaken by two

experienced ex-HSE inspectors who also work closely with other research councils. Their conclusion was that '*Overall, the reviewers were impressed by the professionalism of all of the staff they met with. Fundamentally, the changes made since July 2014 were such that it was concluded that the chance of a similar event happening in the future was remote. If a similar event occurred again it is the reviewers' opinion that it would be dealt with quickly and effectively, thus ensuring minimal risk to the station, its science and its staff'.*

The total number of work related accidents and ill health cases reported across NERC showed a 17.3% increase from the total seen in the previous financial year. For incidents and near misses there was an increase of 18.6% to 349. This is not considered an indication of poorer safety performance and initial assessment suggests it is due to better reporting, although further investigation and explanation is required.

There were four occurrences reportable to the Marine Accident Investigation Branch, up from two the previous year. The most serious marine injury involved a crew member working on the deck of a ship being struck a glancing blow between a heavy sampling array and the bulwark of the ship. Fortunately, the result was heavy bruising rather than severe injury.

There were also two serious road traffic accidents. The first occurred when a NERC vehicle was in a head-on collision with a car that spun out of control onto the wrong side of the road after rounding a corner. The NERC driver suffered a fractured heel. The second involved a car running off the road and hitting a tree; no-one was injured.

Statement of Accounting Officer's Responsibilities with Respect to Financial Statements

Under Paragraph 3 of Schedule 1 to the Science and Technology Act 1965, the Secretary of State for the Department for Business, Innovation and Skills has directed the Council to prepare for each financial year a statement of accounts in the form and on the basis set out in the Accounts Direction. The accounts are prepared on an accruals basis and must give a true and fair view of the state of affairs of the Natural Environment Research Council and of its comprehensive net expenditure and cash flows for the financial year.

In preparing the accounts the Chief Executive as the Accounting Officer is required to comply with the requirements of the Government Financial Reporting Manual and in particular to:

- observe the Accounts Direction issued by the Department for Business, Innovation and Skills, including relevant accounting and disclosure requirements, and apply suitable accounting policies on a consistent basis
- make judgements and estimates on a reasonable basis
- state whether applicable accounting standards as set out in the Government Financial Reporting Manual (**www.hm-treasury.gov.uk/frem_index.htm**) have been followed, and disclose and explain any material departures in the financial statements, and
- prepare the financial statements on the going concern basis.

The Department for Business, Innovation and Skills has appointed the Chief Executive as Accounting Officer of the Natural Environment Research Council. The responsibilities of an Accounting Officer, including responsibility for the propriety and regularity of the public finances for which the Accounting Officer is answerable, for keeping of proper records and for safeguarding the Natural Environment Research Council's assets, are set out in the Non-Departmental Public Bodies' Accounting Officers' Memorandum issued by HM Treasury and published in 'Managing Public Money' (The Stationery Office).

The Accounting Officer has taken all reasonable steps to ensure that he is aware of any relevant audit information and to ensure that the Council's auditors are aware of that information. As far as the Accounting Officer is aware, there is no relevant audit information of which the Council's auditors are unaware.

The Accounting Officer has taken all reasonable steps to ensure that the annual report and accounts as a whole is fair, balanced and understandable and has taken personal responsibility for the annual report and accounts and the judgements required for determining that it is fair, balanced and understandable.

Governance Statement

Scope of Responsibility
As Accounting Officer I have responsibility for acting within the authority delegated to me by our sponsor department, The Department for Business, Innovation & Skills (BIS), and to ensure that NERC operates effectively, but most importantly with a high standard of propriety. This is achieved through the establishment of a robust governance framework which supports effective decision making and sound financial management. This framework, in turn, enables the achievement of NERC's policies, aims and objectives.

Governance Framework
Our business is to fund excellent, peer-reviewed environmental science that helps us understand and predict how the planet works as well as manage our environment responsibly as we pursue new ways of living, doing business, escaping poverty and growing economies.

NERC's governance framework is designed to ensure the achievement of these intended outcomes while acting in the public interest at all times. To do this NERC Council is responsible for making decisions on all issues of major importance, monitoring organisational performance and have oversight of the risks facing NERC in delivering of the strategy. NERC Council is supported in these duties by the Audit and Risk Assurance Committee (ARAC) as well as the Remuneration Committee. Details of membership and terms of reference for these committees can be found at: **www.nerc.ac.uk/about/organisation/boards/**

I am satisfied that NERC Council, ARAC and the Remuneration Committee have the appropriate balance of skills, experience, independence and knowledge of NERC to enable them to discharge their responsibilities effectively. NERC governance arrangements were considered as part of an external, independent review carried out in 2015.

Topics discussed throughout 2015-16 included:

NERC Council
- Independent review of Council
- Preparations for and outcomes of the Comprehensive Spending Review
- NERC Strategy & funding priorities
- Collective working across Research Councils
- NERC Identity
- NERC corporate responsibility: developing the approach
- NERC Polar Science and Polar Research Vessel updates
- National Capability
- New approach to managing operational costs of NERC large research infrastructure

ARAC
- Review of draft Annual Report and Governance Statement 2015-16
- Engagement with AASG and NAO through standard planning/reporting cycles
- Updates on NERC's top risks and business critical projects
- Implementation of audit recommendations
- Ownership & Governance of NERC Research Centres
- New Polar Research Vessel
- Performance of UK SBS
- Halley relocation

Council and board attendance record

Name	Position held	Council attendance	ARAC attendance	Remuneration attendance
Sir Anthony Cleaver	Chairman (Council)	5/5		1/1
Prof Duncan Wingham	CE NERC	5/5		1/1
Mr Rowan Douglas CBE	Member (Council)	1/5 (term ended July15)		
Prof Charles Godfray CBE	Member (Council)	2/5 (term ended July15)		
Prof Dame Georgina Mace DBE	Member (Council)	4/5		
Prof Paul Monks	Member (Council) Member (ARAC) Member (Remuneration)	2/5 (Council term ended July15)	2/4	1/1
Prof Dame Julia Slingo DBE	Member (Council)	4/5		
Prof Andrew Watson	Member (Council)	2/5 (term ended July15)		
Lord Willis of Knaresborough	Member (Council)	3/5		
Ms Rebecca Willis	Member (Council)	2/5 (term ended July15)		
Prof Louise Heathwaite	Member (Council)	5/5		
Prof Ian Boyd	Member (Council)	3/5		
Mr Nick Folland	Member (Council) Chairman (ARAC) Member (Remuneration)	4/5	4/4	1/1
Mr Ian Simm	Member (Council)	5/5		
Ms Christine Tacon CBE	Member (Council)	4/5		
Prof Ian Poll OBE	Member (Council) Member (ARAC)	5/5	4/4	
Ms Juliet Davenport OBE	Member (Council)	2/5		
Ms Leslie Heasman	Member (Council)	3/5		
Mr Imran Khan	Member (Council)	2/5		
Prof Guy Orpen	Member (Council)	3/5		
Prof Lesley Yellowlees CBE	Member (Council)	2/5		
Mr Ian Foy	Member (ARAC)		2/3 (finished Dec'15)	
Mr Richard Gledhill	Member (ARAC) and non-executive Director on NERC Executive Board		4/4	
Mr Nigel Sully	Member (Remuneration)			1/1

Approach to risk management

Whilst the nature of our business can be high risk, we have a low risk appetite in terms of the way we carry out that business. Being the UK's leading public funder of environmental science requires mechanisms to ensure public money is safeguarded, accounted for and spent economically, efficiently and effectively. We fund research, innovation and advanced training with eligible UK research institutions and make our investment decisions using a transparent peer review process. NERC as a science researcher is required to answer challenging questions, such as how we ensure growth with responsible environmental management in the energy sector. Our scientists study the physical, chemical and biological processes on which our planet and life itself depends – from pole to pole, from the deep Earth and oceans to the atmosphere and space. These are inherently high risk locations that demand we implement strict health and safety procedures and generate good safety cultures within the organisation to ensure the safety of staff working in these environments.

Significant risks faced by NERC

As funder:

The spending review announced the Global Challenges Research Fund in November 2015. This aims to ensure that UK science plays a leading role in addressing the problems faced by developing countries. The Global Challenges Fund represents a major change for NERC in two ways; in the size of the funding for development-related research, and in the nature of the opportunity that it will provide.

There is a risk that these funds will skew the balance between international and national demands. To mitigate this, we will need to be active in explaining to our community the nature of the opportunity, and the need for them to forge scientific alliances that may be considerably broader than those they have pursued in the past. We must continue to recognise the importance of our research to maintaining and improving of the national UK environment. Some 50% of the science we fund concerns the UK environment, and there are many pressing domestic issues that must continue to provide a focus for us.

As researcher:

We will foster UK and international partnerships so that business, government, civil society and scientists can work together to; address the challenges and opportunities of managing the environment; co-design and co-deliver new environmental science; find and apply existing scientific knowledge; and drive UK innovation, economic growth and societal wellbeing. Sometimes NERC must engage with businesses that could be perceived as environmentally unsustainable in order to fulfil our role in advancing knowledge and technology. Our investment in translation activities may lead to adverse publicity that significantly damages our ability to form partnerships and deliver our strategic vision.

To mitigate this, it is important that we engage with our key stakeholders to communicate our role in potentially contentious projects and that we can demonstrate our independence. NERC must be open and transparent about what we are doing and why we are doing it.

As operator:

Our strategic aim is to provide and operate world-leading research infrastructure that enables UK scientists, and colleagues from many nations, to work safely and effectively across the globe.

Our operational teams deliver complex operations safely in extreme environments. The polar regions present many health and safety hazards not normally encountered in the everyday workplace. The key to our continued safe operation is our skilled and experienced staff.

One of the biggest operational risks currently facing NERC is the location of the Halley VI Research Station on the Brunt Ice Shelf, which is sitting downstream of a crack that could eventually cut the station off from the rest of the ice shelf. The UK has operated a base on this ice shelf since 1956 and the previous five Halley stations had to be decommissioned due to changes in the physical environment. To mitigate the risk of losing the station and to ensure the safety of staff stationed there. Halley VI was designed as a series of eight pods (like the carriages of a train) that can be disconnected. The individual pods, which sit on skis, can be towed across the ice using specialist heavy vehicles. Relocating the station further upstream will move it away from the crack and ensure Halley's continued safe operation into the future.

Key Governance activities

Centre Activity and Resource Planning

Every six months I meet formally with each Business Unit Director to examine their Research Centre Activity and Resource Plan (CARP). In this process, the Directors are asked to document and explain their financial plans, business activity and workforce development for the next three years. The examination provides assurance concerning financial planning, alignment to NERC strategy and the effectiveness of internal control within their area of responsibility. The 2015-16 meetings provided substantial assurance with the following key outcomes:

- Evidence based balanced budgets have been set.
- External income risks are understood and mitigated.
- Capital plans are well managed.
- Workforce plans are sustainable.

The NERC Executive Board (NEB) Review

The NEB examines specific, high risk, matters on a monthly basis together with issues relating to any risks that are referred upward by Research Centre Director and others via the agreed escalation procedures.

Management Review

NERC operated a system of centralised compliance and sample testing of business activity. Thousands of transactions have been examined during the year and assurance provided that our accounting data accurately reflects business activity. During the year there have been no identified cases of fraud.

Whilst implementing the 2014 pay remit a mistake was made in the process. The document correctly described the removal of contractual pay progression for the majority of NERC's staff, however it omitted to describe the planned treatment in respect of mariners and pilots (who have separate pay systems from the majority of NERC staff) where the termination of contractual pay progression was to be scheduled for the 2015 pay remit. The financial element and cost of the 2014 pay remit was accurate and covered the whole staff population, the pay settlement value was contained within the Treasury permission. However, a discretionary 1% pay award was made to staff at the top of the pay range that was not cleared with our sponsor department.

To improve the control mechanisms and information management within NERC we have ensured that BIS are fully sighted on, and engaged in, the development of the 2015 pay remit and in the business cases for the removal of progression from the mariners and pilots pay systems. In February 2016 approval of both of these was received. Internally we have changed our senior management structure to bring

together oversight of the human resources and finance functions and put steps in place to ensure all changes are captured and recorded in our electronic records management system.

Research grant funding assurance

Across the RCUK community research funding totals £2.9bn of which £175m relates to grants issued by NERC. The NERC funding landscape has two major funding streams:

1. Grants administered through the Siebel grant system (£133m); and
2. Funding administered under contract (£42m).

I am reasonably assured on the regularity of spend within the community through a range of mechanisms:

- Eligible bodies:
  - o A letter from HEFCE providing an Annual Assurance Statement confirming that they have reviewed twenty-four institutions during the year and provide assurance on the financial stability of the institutions; the absence of material threats to NERC funds; that HEIs work within sound governance frameworks; and that they are unaware of any improper or irregular expenditure;
  - o ISA260 reports from Russel Group Universities and other top ranked HEIs, which were reviewed by BIS and included reports from 21 HEIs funded by NERC in 2015-16 with a value of £78m. These have identified no major errors or concerns in the application of funds within the University sector.

- Project Selection: Grant applications are ranked using a peer review process. The process is based on research excellence and also examines value for money and suitability of resources requested.

- Project Operation:

  1. *Funding administered through grants*
     The funding assurance programme is a joint Research Council activity designed to provide assurance on the control environment operating within eligible bodies and vouches a targeted sample of transactions to confirm compliance with grant terms and conditions. In his annual report the Head of Funding Assurance provides moderate assurance on the regularity of expenditure. The work undertaken for 2015-16 included 20 assurance assignments, reviewing £11m of NERC expenditure, which identified ineligible expenditure of £4k.
  2. *Funding administered under contract*
     The contract route is used to provide an increased level of assurance over key research activity. Research contracts are subject to regular contract management, supervision and evaluation by NERC staff. My finance director has provided moderate assurance on the regularity of expenditure.

- Project Closure: Final Expenditure Statements submissions – each grant holder is required to submit a Final Expenditure Statement at the end of the grant detailing the items purchased to deliver the project. These are checked, reconciled and used to adjust the value of the final grant instalment. 736 Final Expenditure Statements were reconciled during 2015-16 validating over £100m of grant expenditure with no reported disputed items.

I will also put in place further processes to strengthen our approach to assurance in two areas:

- NERC will work with RCUK colleagues and the UK funding councils to strengthen the robustness of the

funding assurance methodology. This improved process will operate in part for 2016-17 and fully in 2017-18; and

- NERC will introduce and operate an interim assurance process for research grants over £2m. These large grants will be subject to a mid-life expenditure examination to better evidence regularity on our largest grants. This new process will operate fully and independently of RCUK in 2016-17. I will request that this additional level of scrutiny is included in the RCUK funding assurance process going forward, once the cross council review of the process and resources is concluded.

Major Capital Investment

NERC is investing c200m in a new polar research vessel. The vessel will combine a cutting-edge scientific research platform with Antarctic logistics capability. Independent project assurance is provided through the Cabinet Office Infrastructure Project Authority. The most recent review suggested 'Successful delivery appears probable' and NERC is implementing a number of recommendations designed to strengthen the programme.

Data protection & information assurance

During 2015-16 the NERC Information Assurance & Security Group (IASG) continued to meet to coordinate information assurance and risk management. Regular six monthly reports on information assurance and cyber security are provided to the NERC Audit & Risk Assurance Committee. Raising staff awareness of data protection obligations and rights has been a priority this year, with awareness sessions rolled out for NERC Head Office staff.

NERC receives IT Infrastructure services in support of common key business services from UK SBS Ltd. These are subject to governance arrangements and subject to regular audits. These arrangements allow us to continuously assess and challenge performance including the review of cyber security threats and management of security incidents. These are reported separately in the annual report.

NERC remains committed to assessing our cyber security controls against the Cyber Security Essentials scheme and the Cyber Security Ten Steps to identify any improvements that are required, based on the risk appetite agreed with our audit committee.

NERC security arrangements as an organisation are appropriate and proportionate. Regular six monthly reports on information assurance and cyber security are provided to the NERC Audit & Risk Assurance Committee. Raising staff awareness of data protection obligations and rights has been a priority this year, with awareness sessions rolled out for NERC Head Office staff. Based on the security arrangements in place and all of the available sources of evidence available, there is an overall positive level of assurance.

Audit & Assurance Services Group

The Director of the Audit and Assurance Service Group (AASG), NERC's internal auditor, provides an annual internal audit opinion on the overall adequacy and effectiveness of NERC's framework of governance, risk management and control. This opinion is informed by the internal audit work undertaken during the year.

The work of the AASG provides assurance in three areas: NERC core activities; cross-Council activities which NERC is involved in; processes shared by NERC with the UK Shared Business Services (UK SBS Ltd).

The Director of Internal Audit's Overall Opinion

Sufficient internal audit work has been undertaken to allow the DIA to provide a positively stated [evidence-based] and reasonable [not absolute] assurance opinion on the overall adequacy and effectiveness of NERC's system of internal control. The provisional overall opinion is: Moderate Assurance

Some improvements are required to enhance the adequacy and effectiveness of the framework of Governance, Risk Management and Control.

There are no qualifications to this opinion.

The Accounting Officer should consider the control weaknesses identified in the two limited assurance reports in the context of preparing the governance statement and management's own assessment of control in these areas. Specifically:

- **British Antarctic Survey (BAS):** The limited assurance was based on control weaknesses concerning aircraft insurance information and expenses approval.
- **Management of NERC Funded Capital Equipment:** The limited assurance was based on weaknesses in the review of capital equipment bids and in monitoring compliance with NERC capital funding requirements.

The Accounting Officer should consider the control weaknesses identified in the three limited assurance reports in the context of preparing the governance statement and management's own assessment of control in these areas. Specifically:

- **Retained Function Assurance: Procurement:** the limited assurance is based on weaknesses identified in the end to end process between the Councils and UK SBS, validation of benefits claimed by UK SBS and a lack of strategic forecasting.
- **Fraud Risk Management in Grant Giving:** This report is with management for response. The limited assurance covers: processes for approving and maintaining independent research organisations; funding assurance coverage of fraud and error risks; and validation of expenditure charged to research council grants.
- **Cyber Security:** the limited assurance is focused on control weaknesses on the shared Polaris House network and Oracle 12.0.6 platform that expose all councils to risk. No Council had completed systematic assessments of cyber security arrangements against government promoted standards.

The control frameworks for business continuity, disaster recovery and prevention and detection of cyber security threats have been reviewed in recent years and there are a number of improvements that can be made to strengthen resilience. These areas should be subject to:

- a sustained period of risk assessment and risk management (including fraud matters);
- increased understanding and deployment of essential elements of the control frameworks in place; and
- regular vulnerability appraisals that should be developed deployed and monitored (including independent internal audit evaluation).

These three components should inform decision making regarding the comprehensiveness of risk mitigation strategies and associated investment to ensure ongoing sustainability, giving due regard to the timing and delivery of organisational and system change initiatives.

Management Response to Director of Internal Audit's Opinion

For the two NERC audits receiving Limited assurance:

- **British Antarctic Survey (BAS).** The management team at BAS have fully implemented all recommendations made by AASG to address the control weaknesses identified concerning aircraft insurance and expenses approval.
- **Management of NERC Funded Capital Equipment.** All the recommendations have been accepted, at the time of publication, the report is still in draft. The recommendations will be implemented throughout 2016-17.

NERC is working collaboratively with the other research councils to address the control weaknesses identified in the Limited Cross-Client reports.

Effectiveness of whistleblowing arrangements

During 2015 NERC strengthened our whistleblowing arrangements by subscribing to the Public Concern at Work Whistleblowing Advice Line. This service provides NERC staff access to safe and confidential advice should they ever find themselves in a dilemma about what to do if they witness wrongdoing in the workplace. This subscription was communicated to all NERC staff.

Despite actively engaging with staff on the subscription to this service and informing them of our policy, at the time of writing the governance statement, there have been no cases of whistleblowing to report.

Quality assurance of analytical models

NERC conducted an annual review of analytical modelling in early 2016 as advocated by the Macpherson review, and did not identify any that were considered to be business critical. I can confirm that NERC complies with the requirements.

Tax arrangements of public sector appointees

I can confirm that NERC's senior staff are all paid through the payroll and that arrangements are in place to provide assurance to BIS that appropriate tax arrangements are in place to cover other appointees. A summary of NERC's tax assurance data is available at: **www.gov.uk/government/policies/government-transparency-and-accountability**

Assurance related to back office transactional processing

UK Shared Business Service

NERC currently relies upon the UK Shared Business Service (UK SBS) to perform its back office processing for human resources, procurement, payroll, finance and grants.

The Accounting Officer of UK SBS has written to me stating that the company's internal auditors have provided Moderate assurance for the internal control operated within the company.

To compensate for the weaknesses in UK SBS, NERC has been operating a system of detective controls to identify and rectify service failings. My internal audit has examined this additional control system, the outcomes of which were:

- Payroll – Moderate Assurance
- GPC & iExpenses – Moderate Assurance
- Purchase to Pay – Moderate Assurance
- Strategic Procurement – Limited Assurance

During the year there was an unplanned system outage of two weeks; the fix for this involved bringing the Oracle platform back into technical support. During this time business continuity plans were implemented by UK SBS, The Research Councils and the RCUK Executive.

Future Operations of UK SBS
BIS announced in 2015 that the UK SBS is to be disbanded over the next 3 years which will require NERC to move to another supplier within that time. To date, there have been no material errors or omissions reported to me, although the risk of error has increased. Whilst the resolution of the outage could be seen as a positive outcome, I am concerned there is a need to assess and stabilise the platform in order to minimise the risk of further disruption. NERC, the other Research Councils & the RCUK Executive will continue to strengthen the business continuity plans already in place including a review of the lessons learned from the outage this year.

National Audit Office
The draft management letter from the NAO concerning the audit of the 2015-16 Annual Accounts has been received which raised no material issues that will have implications for internal control.

Forward Look

RCUK Change Programme
The Research Council Chief Executives have agreed to take a collective, Research Council-wide, programme approach to operational efficiency through the RCUK Change Programme. This is in response to the Higher Education White Paper 'Success as Knowledge Economy', which followed the Nurse Review. The White Paper sets out Governments plans, through legislation, for the creation of a new organisation called UK Research and Innovation (UKRI). UKRI will incorporate functions of all 7 Research Councils, Innovate UK and HEFCE's research and knowledge exchange functions. As a first step, through the change programme, the Research Councils have agreed to move to a unified operations approach for business IS/IT, finance, HR, office estates, a common grants funding platform, and communication services to serve the head offices (Polaris House and London base) of all the Research Councils - not institutes, centres, units.

During 2015-16 work was undertaken to develop and recommend the most appropriate operating model for each area to enable the Research Councils common operations to be delivered as efficiently as possible and in a way which supports the science and research missions of the Councils and enable staff to work collaboratively and productively. NERC will continue to engage with the significant governance changes proposed by the White Paper as well as the work being carried out as part of the RCUK Change Programme.

Conclusion
The conclusion of my review is that NERC's overall governance and internal control structures are sound and ensure that public money is properly accounted for and used efficiently and effectively.

Remuneration and Staff Report

Remuneration Policy

Unaudited information

The Remuneration Committee is responsible for agreeing the pay of senior leadership staff (except for the Chief Executive, see below). The committee met once during 2015-16 on 16 July 2015. The Committee members (as constituted at their last meeting) are listed below:-

- Sir Anthony Cleaver, Chairman, NERC
- Mr Nick Folland, Council Member, ARAC Chair
- Prof Paul Monks, Council Member (stepped down from Council 31 July 2015)
- Prof Duncan Wingham, Chief Executive
- Mr Nigel Sully, Associate Director, Human Resources (attends in an advisory capacity)

The Remuneration Committee works in accordance with the public sector policy on senior staff pay. In 2015-16, this policy stipulated that 90% of senior staff were eligible for a general award of 1% on average and that 25% of senior staff were eligible for a non-consolidated performance bonus, on the basis of the level of performance against objectives as assessed by the individual's manager.

It should be noted that no senior staff are on a service contract.

More information about the remuneration committee can be found at: **www.nerc.ac.uk/about/organisation/boards/**

Employment Contracts

Unaudited information

Professor Wingham started his tenure on 1 January 2012. His initial contract was for a period of four years and has been extended for a further period of two years. Both the appointment terms and remuneration package are determined by the Department for Business, Innovation & Skills (BIS), with its Senior Review Oversight Committee (SROC) making a decision based on input from the Permanent Secretary and NERC Chair.

NERC staff are not civil servants but the organisation makes its appointments in accordance with the broad principles set out in the Civil Service Commissioners' Recruitment Code, which requires appointments to be on merit on the basis of fair and open competition but also includes the circumstances when appointments may otherwise be made.

All senior officers covered by this report, apart from the Chief Executive, hold appointments that are open-ended. Staff appointed before 6 April 2006 may retire and draw their pensions on an actuarially reduced basis after age 50 (staff appointed after this date from age 55). Staff appointed before 30 July 2007 may draw full pensions from age 60 (staff appointed after this date from age 65). Should RCPS introduce the Alpha scheme the scheme pension age for all staff joining the Alpha scheme will be their state pension age.

Staff who leave during a formal redundancy exercise are eligible for compensation terms as defined under the rules of the Research Council's Superannuation Scheme. These payments are in line with those due under the Civil Service Compensation Scheme.

The notice period for all senior employees is three months.

NERC Executive Board (NEB)

Unaudited Information

The NERC Executive Board (NEB) is responsible for:

- Overall corporate management
- Directing the development and implementation of Council's strategies, policies and decisions
- Financial management
- Developing and maintaining corporate information systems
- Ensuring that NERC is managed according to the required standards of accountability, regularity and propriety, achieving high standards of efficiency, effectiveness, economy and health and safety

NEB works with other research councils and other bodies on scientific, operational and administrative matters where there is benefit in doing so. NEB members are appointed by the Chief Executive.

Membership of NEB as at 31 March 2016 [(i)]

Name	Position
Professor Duncan Wingham	Chief Executive & Accounting Officer
Mr Paul Fox	Chief Operating Officer
Ms Alison Robinson	Director, Corporate Affairs and Change Management
Professor Mark Bailey	Director, Centre for Ecology & Hydrology
Professor Jane Francis	Director, British Antarctic Survey
Professor Ed Hill OBE	Director, National Oceanography Centre
Professor John Ludden	Director, British Geological Survey
Professor Stephen Mobbs	Director, National Centre for Atmospheric Science (NCAS)
Professor John Remedios	Director, National Centre for Earth Observation (NCEO)
Mr Richard Gledhill	Non-Executive Director
Mr Paul Hayden	Non-Executive Director

Note:
(i) Professor Iain Gillespie stood down as Director, Science & Innovation effective 31 December 2015. Professor Tim Wheeler has been appointed to this post and started on 1 April 2016. During the interregnum the leadership aspects of this role were carried out by Professor Wingham.

With the exception of the Directors of NCAS and NCEO and the Non-Executive Directors, all members of NEB are NERC employees. The Directors of NCAS and NCEO are not directly remunerated by NERC for their work on NEB; however their centres are funded by NERC. Non-Executives Directors receive honoraria of £10,000 p.a.

Membership of NEB by gender as at 31 March 2016

	Male	Female
Number of Members	9	2
% of Members	82%	18%

Remuneration and pension entitlements of senior employees

Audited Information

The following sections provide details of the remuneration and pension interests of senior employees in their capacity as members of Executive Board during the year.

Remuneration of senior employees (2015-16)

	Note Ref 1	Pay 2015 - 2016 £000	Bonus 2015 - 2016 £000	Pension Benefits 2015 - 2016 £000	Total emoluments 2015 - 2016 £000	Pay 2014 - 2015 £000	Bonus 2014 - 2015 £000	Pension Benefits 2014 - 2015 £000	Total emoluments 2014 - 2015 £000
Corporate Directors									
Professor D Wingham		130 - 135	10 - 15	49	190 - 195	130 - 135	5 - 10	50	190 - 195
Mr P Fox		100 - 105	10 - 15	42	150 - 155	95 - 100	5 - 10	46	155 - 160
Professor I Gillespie	2	85 - 90	-	32	115 - 120	95 - 100	-	36	130 - 135
Mr M Kirke	3	15 - 20	-	7	20 - 25	75 - 80	-	28	100 - 105
Ms A Robinson		85 - 90	-	36	120 - 125	60 - 65	-	24	85 - 90
Research Centre Directors									
Professor M Bailey		90 - 95	-	29	120 - 125	90 - 95	5 - 10	20	120 - 125
Professor J Francis		95 - 100	-	38	130 - 135	95 - 100	-	36	130 - 135
Professor E Hill OBE		100 - 105	15 - 20	29	140 - 145	95 - 100	-	23	120 - 125
Professor J Ludden		95 - 100	-	29	125 - 130	95 - 100	-	24	120 - 125

Notes:

1 All senior staff pay for the year is also their FTE salary with the exception of Mr Kirke whose salary lay in the £75k - £80k range and Professor Gillespie whose salary lay in the £110k - £115k range.

2 Stood down as Director, Science & Innovation 31 December 2015.

3 Stood down as Director, People & Change Management 16 June 2015.

Total Emoluments

Total emoluments includes gross salaries, performance related bonuses and pension benefits. It does not include severance payments, employer pension contributions and the cash equivalent transfer value of pensions. Bonus figures are those paid out during the year.

Pension entitlements of senior employees (2015-16)

	Accrued pension at 31/03/16 £000	Lump sum at 31/03/16 £000	Pension increase in real terms £000	Lump sum increase in real terms £000	Cash equivalent transfer value as at 01/04/15 £000	Cash equivalent transfer value as at 31/03/16 £000	Cash equiv. transfer value increase in real terms £000
Corporate Directors							
Professor D Wingham	10 - 15	-	2.5 - 5	-	144	201	32
Mr P Fox	15 - 20	-	2.5 - 5	-	188	242	15
Professor I Gillespie	5 - 10	-	0 - 2.5	-	47	77	20
Mr M Kirke	0 - 5	-	0 - 2.5	-	25	32	5
Ms A Robinson	10 - 15	-	12.5 - 15	-	13	140	119
Research Centre Directors							
Professor M Bailey	40 - 45	125 - 130	0 - 2.5	2.5 - 5	876	967	30
Professor J Francis	5 - 10	-	0 - 2.5	-	49	89	27
Professor E Hill OBE	40 - 45	130 - 135	0 - 2.5	5 - 7.5	842	957	36
Professor J Ludden	15 - 20	-	0 - 2.5	-	273	297	26

All senior employees are ordinary members of the Research Councils' Pension Scheme (RCPS) which is an unfunded public service defined benefit scheme with pension costs met from employer and employee contributions on a pay-as-you-go basis and the balance covered by grant-in-aid. Further details about the RCPS can be found below in the Staff Report.

Cash Equivalent Transfer Value

A Cash Equivalent Transfer Value (CETV) is the actuarially assessed capitalised value of the pension scheme benefits accrued by a member at a particular point in time. The benefits valued are the member's accrued benefits and any contingent spouse's or partner's benefits from the scheme. A CETV is the amount that would be paid by a pension scheme when the member leaves a scheme and chooses to transfer the benefits accrued. The pension figures shown relate to the benefits that the individual has accrued as a consequence of their membership of the pension scheme, not just their service in a senior capacity to which disclosure applies.

The CETV figures include the value of any pension benefit in another scheme which the individual has transferred to the Research Councils' pension arrangement and for which the RCPS has received a transfer payment commensurate with the additional pension liabilities being taken on. They also include any additional pension benefit accrued to the member as a result of their purchasing additional years and additional pension at their own cost.

CETVs are calculated in accordance with The Occupational Pension Schemes (Transfer Values) (Amendment) Regulations 2008 and do not take account of any actual or potential reduction to benefits resulting from Lifetime Allowance Tax which may be due when pension benefits are taken.

Real increase in the value of the CETV

The real increase in the value of the CETV reflects the increase effectively funded by the employer. It takes account of the increase in accrued pension due to inflation and contributions paid by the employee (including the value of any benefits

transferred from another pension scheme) and uses common market valuation factors for the start and end of the period.

Compensation for Loss of Office
There have been no compensation payments for loss of office of senior managers in 2015-16 or 2014-15.

Payments to Past Directors
There have been no payments to past directors in 2015-16 or 2014-15. All payments detailed in the remuneration table occurred during employment.

Fair Pay Disclosure
Reporting bodies are required to disclose the relationship between the remuneration of the highest paid director in their organisation and the median remuneration of the organisation's workforce.

The banded remuneration of the highest paid director in NERC (the Chief Executive) in the financial year 2015-16 was £140,000-£145,000 (2014-15: £140,000-£145,000). This was 4.7 times (2014-15: 4.7) the median remuneration of the workforce, which was £30,600 (2014-15: £30,171).

No employees received remuneration in excess of the highest-paid director in 2015-16 or 2014-15. Remuneration ranged from £12,415 to £116,149 (2014-15 £12,200 to £115,541).

Total remuneration includes salary, non-consolidated performance-related pay and benefits-in-kind. It does not include severance payments, employer pension contributions and the CETV of pensions.

Remuneration of NERC Council Members
Unaudited Information
The Chairman of Council, Sir Anthony Cleaver, receives a salary of £16,430 per annum. Members of NERC Council receive an honorarium of £6,850 per annum to cover all work for NERC Council including membership of NERC Council's Boards; Mr Folland receives an additional £2,260 for being the Chair of the NERC Council Audit and Risk Assurance Committee. These rates have applied since 1 October 2009 and are formulated by BIS. NERC Council members are normally employed on fixed term contracts not exceeding 4 years.

Membership of NERC Council (2015-16)[3]

Name	Position / affiliation	Period of Appointment	Total Emoluments £000 2015-16	Total Emoluments £000 2014-15	Note Ref
Sir Anthony Cleaver	Chairman	01 Jan 2014 - 31 Dec 2017	15 - 20	15 - 20	
Professor Duncan Wingham	Chief Executive and Deputy Chairman	01 Jan 2012 - 31 Dec 2017	0	0	1
Professor Ian Boyd	Professor in Biology, University of St Andrews and Chief Scientific Advisor to DEFRA	01 Feb 2013 - 31 Jan 2017	0	0	1
Mr Nick Folland	Chief Executive, Crown Prosecution Service and Chair of NERC Council Audit Committee.	01 Aug 2013 - 31 Jul 2017	5 - 10	0	2
Professor Louise Heathwaite	Professor of Land & Water Science and Co-Director of the Centre for Sustainable Water Management in the Lancaster Environment Centre, Lancaster University and Part-time Scottish Government Chief Scientific Adviser for Rural & Environment.	17 Dec 2012 - 16 Dec 2016	0	0	1
Professor Dame Georgina Mace DBE	Professor of Biodiversity & Ecosystems and Head of the Centre for Biodiversity & Environment Research, University College London.	01 Aug 2011 - 31 July 2018	5 - 10	5 - 10	
Professor Ian Poll OBE	Emeritus Professor of Aerospace Engineering, Cranfield University.	23 Sep 2014 - 22 Sep 2018	5 - 10	0 - 5	
Mr Ian Simm	Founder and CEO, Impax Asset Management Group plc	01 Aug 2013 - 31 Jul 2017	5 - 10	5 - 10	
Professor Dame Julia Slingo DBE	Chief Scientist, Met Office	01 May 2009 - 30 April 2017	0	0	1
Ms Christine Tacon CBE	Groceries Code Adjudicator, Chair of the Food & Drink Engineering Forum and the BBC Rural Affairs Advisory Committee.	01 Aug 2013 - 31 Jul 2017	5 - 10	5 - 10	
Lord Willis of Knaresborough	Vice President, Local Government Association	01 Aug 2011 - 31 July 2019	5 - 10	5 - 10	
Ms Juliet Davenport OBE	Founder and CEO, Good Energy	01 Aug 2015 - 31 July 2019	0 - 5	0	
Ms Leslie Heasman	Managing Director and Principal Environmental Chemist, MJCA	01 Aug 2015 - 31 July 2019	0 - 5	0	
Mr Imran Khan	Chief Executive, British Science Association	01 Aug 2015 - 31 July 2019	0 - 5	0	
Professor Guy Orpen	Deputy Vice Chancellor and Provost, University of Bristol	01 Aug 2015 - 31 July 2019	0 - 5	0	
Professor Lesley Yellowlees CBE	Vice Principal and Head of the College of Science & Engineering, University of Edinburgh.	01 Aug 2015 - 31 July 2019	0 - 5	0	
Mr Rowan Douglas CBE	Chief Executive of Capital, Science and Policy Practice, Willis Group	01 Aug 2008 - 31 July 2015	0 - 5	5 - 10	
Professor Charles Godfray CBE	Professor of Zoology, University of Oxford	01 Aug 2008 - 31 July 2015	0 - 5	5 - 10	
Professor Paul Monks	Professor of Atmospheric Chemistry and Earth Observation Science, University of Leicester and member of NERC Council Audit and Risk Assurance Committee.	01 Aug 2011 - 31 July 2015	0 - 5	5 - 10	
Professor Andrew Watson	Professor at the College of Life & Environmental Sciences, University of Exeter	01 Aug 2008 - 31 July 2015	0 - 5	5 - 10	
Ms Rebecca Willis	Independent consultant in environmental policy and practice	01 Aug 2011 - 31 July 2015	0 - 5	5 - 10	

Notes:
1 Honoraria are not payable to members who are civil servants, employees of NERC or full time employees of organisations whose funds are derived from Votes of Parliament.
2 Mr Folland donated his 2014-15 honaria to NERC studentships.
3 Dr Sharon Ellis attends Council as a BIS observer and is not remunerated for her services.

Membership of NERC Council by Gender as at 31 March 2016

	Male	Female
Number of Members	9	7
% of members	56%	44%

Remuneration of Council, Committee and Peer Review College Members

	2016 £000	2015 £000
Council Members' fees	94	87
Committee Members/Peer Review	106	131
Other emoluments	26	36
	226	**254**

Committee members may receive £170 per day (2014-15: £170).

Committee Chairs may receive £230 per day (2014-15: £230).

The Chair of the Science Board receives £9,110 per annum (2014-15: £9,110).

Peer Review College Chairs receive honoraria of £1,000 per annum (2014-15: £1,000). Peer Review College members who are eligible for payment and elect to be remunerated are paid £200 per meeting. Peer Review College Chair and Member appointments are open-ended but reviewed annually. The College year runs from 1 July to 30 June.

All emoluments are non-pensionable.

Number of Council, Committee and Peer Review College Members as at 31 March 2016

	2016 No.	2015 No.
Council Members[(i)]	16	16
Committee Members[(ii)]	69	76
Peer Review College Members[(iii)]	669	681
	754	**773**

Notes:
(i) Includes Chief Executive and Chairman
(ii) Members of Audit and Risk Assurance Committee, Executive Board, Science Board, Strategic Programme Advisor Group, Innovation Advisory Board, Joint Capital Advisory Group, Training Advisory Group and Individual Merit Promotion Panel. Members of Council or multiple committees are only counted once.
(iii) Not all members will attend meetings during the year, excludes Council or committee members.

Council, Committee and Peer Review College Members' emoluments as at 31 March 2016 fell into the following bands:

	2016 No.	2015 No.
0[(i)]	543	554
£1 to £5,000	237	234
£5,001 to £10,000	7	12
£10,001 to £15,000	0	0
£15,001 to £20,000	1	1
	788	**801**

Note:
(i) Includes the Chief Executive and the members of Council who are also Civil Servants and therefore do not receive any remuneration for their work on NERC Council.

Staff Report

Staff numbers (Audited information)

	2016 No.	2015 No.
Permanent staff	2,031	2,011
Temporary and contract staff	347	335
Staff on inward secondment/loan	5	7
Agency	4	20
	2,387	**2,373**

The total number of staff reported in the Annual Report is based on head count as at 31 March 2016, whereas the above figures are average FTEs for the year.

Staff costs (Audited information)

	2015-16 £000	Re-presented 2014-15[(i)] £000
Salaries and wages	83,929	81,543
Social Security costs	7,214	6,584
Pension costs (Note 5.2)	20,235	19,714
Temporary, contracted and seconded staff	289	409
Agency staff	827	940
	112,494	**109,190**

Note:
(i) In previous years the cost of agency and other temporary, contract and seconded staff, along with the deduction of project related capitalised labour, were included under Note 8 Other operating costs.

The total amount capitalised for staff costs in 2015-16 is £641k (2014-15: £521k). This relates to an estimated 8.6 full-time equivalent staff, whom are adding value to assets such as those engaged in project management or building of assets.

Pension costs

Pension scheme payments	2015-16 £000	2014-15 £000
Payments in respect of the Research Councils'		
Pension Scheme (RCPS)	20,030	19,519
Payments to pension schemes other than the RCPS:		
Merchant Navy Officers' Pension Fund	29	31
Merchant Navy Ratings' Pension Fund	1	1
Merchant Navy Ratings' Pension Plan	1	2
Partnership Pensions	174	161
	20,235	**19,714**

Pension scheme payments

Most employees of NERC are members of the Research Councils' Pension Scheme (RCPS), which is an unfunded public service defined benefit scheme with pension funded costs met from employer and employee contributions on a pay-as-you-go basis and the balance covered by an annual grant-in-aid. The RCPS is in all respects 'by-analogy' with the Principal Civil Service Pension Scheme (PCSPS), except that the employer's contribution is determined separately. The scheme provides retirement and related benefits based on final or average emoluments. Redundancy and injury benefits are administered and funded by the Council. The scheme is administered by the Research Councils' Joint Superannuation Service with the associated grant-in-aid managed by BBSRC.

Employees may be in one of four defined benefit scheme arrangements; either a 'final salary' scheme (Classic, Classic Plus or Premium); or a career average scheme (Nuvos). Pensions payable are increased annually in line with changes in the Consumer Prices Index (CPI). The employer contribution rate is agreed by the RCPS Board of Management on the recommendation of the Government Actuary's Department (GAD) and is set at 26.0% of pensionable pay. During 2015-16 employee contribution rates varied between 3% and 8.05% depending on scheme and annual pensionable earnings (see table below). NERC paid costs in the year of £20,030k (2014-15: £19,519k). As at 31 March 2016 there were 2,322 NERC members of these schemes (2,318 as at 31 March 2015).

In order that the defined benefit obligations recognised in the financial statements do not differ materially from those that would be determined at the reporting date by a formal actuarial valuation, the FReM requires that 'the period between formal actuarial valuations shall be four years, with approximate assessments in intervening years'.

The last formal actuarial valuation undertaken for the RCPS was at 31 March 2006 and was completed in 2008-09. Subsequently however, formal actuarial valuations for unfunded public service pension schemes were suspended by HM Treasury on value for money grounds while consideration was given to recent changes to public service pensions and while future scheme terms are developed as part of the reforms to public service pension provision. Formal valuations were re-introduced with effect from 31 March 2012 for all unfunded public service schemes. The RCPS is currently awaiting its valuation report from the Government Actuary's Department. The primary purpose of the formal actuarial valuations is to set employer and employee contribution rates, and these are

currently being determined under the new scheme design.

On 1 April 2015 PCSPS launched a new pension scheme called Alpha. This scheme is similar to the Nuvos career average scheme but with the retirement age aligned to the state pension age. RCPS cannot at present create a 'by analogy' Alpha scheme as the legislation does not currently permit this. Reform options are currently being discussed with HM Treasury and BIS have given permission for RCPS to continue 'as is' beyond 1 April 2015.

In line with previous PCSPS employee rate changes, RCPS introduced the new contribution rate used by the Alpha scheme with effect from 1 April 2015; these are detailed below:

Annual pensionable earnings (full-time equivalent basis)	Classic Scheme contribution %	Classic Plus, Premium & NUVOS Scheme contribution %
Up to £15,000	3.00	4.60
£15,001 - £21,000	4.60	4.60
£21,001 - £47,000	5.45	5.45
£47,001 - £150,000	7.35	7.35
Over £150,000	8.05	8.05

As an alternative to the RCPS a Partnership Pension Account was made available to new recruits from 1 October 2002. It is based on the portable Stakeholder Pension introduced by the Government in 2001. This is a defined contribution scheme. The employers pay the RCPS 0.8 percent of pensionable pay to cover death in service and ill health benefits. The employers pay an age related contribution to the employee's private pension provider. As at 31 March 2016 there were 39 NERC members of these schemes (36 as at 31 March 2015).

The accrued pension quoted is the pension the member is entitled to receive when they reach pension age or immediately on ceasing to be an active member of the scheme if they are already at or over pensionable age. Pensionable age is 60 for members of the Classic, Classic Plus and Premium scheme arrangements and 65 for members of Nuvos. For the new Alpha scheme this would be the member's state pension age.

For further details about the Research Councils Pension Scheme pension arrangements can be found at the website **http://jsspensions.nerc.ac.uk/**

The Council also paid contributions during the year to a number of other multi-employer pension schemes for specific groups of employees. As at 31 March 2016 there were 6 NERC members of these schemes (8 as at 31 March 2015). Details of these schemes are shown below:-

Scheme	Rate of contribution	Year of last evaluation
Merchant Navy Officers' Pension Fund	20%	2015
Merchant Navy Ratings' Pension Fund	2%	2014
Merchant Navy Ratings Group Personal Pension Plan[(i)]	4%	n/a

(i) A rate of 2% is applicable for employees who are also members of the MNRPF scheme.

Merchant Navy Officers' Pension Fund

The Merchant Navy Officers' Pension Fund (New Section) was subject to an actuarial valuation as at 31 March 2015. The preliminary valuation showed a small net deficit of £5m and the Trustees do not propose to collect any additional deficit contributions in respect of this. In 2009-10 NERC made a one off payment of £2,818k in full settlement of our share of the 2009 valuation deficit. The NERC element of the scheme is now fully funded and no liability is outstanding as at 31 March 2016.

Merchant Navy Ratings' Pension Fund

The Merchant Navy Ratings' Pension Fund (MNRPF) closed on 31 May 2001. On closure of the fund members transferred to the RCPS or the new Merchant Navy Ratings' Pension Plan (MNRPP), a money purchase scheme, which was wound up and replaced by the Merchant Navy Ratings Group Personal Pension Plan in 2010.

An actuarial valuation of the MNRPF was undertaken in 2014. The fund deficit as at 31 March 2014 stood at £325m which will be recovered over a 10 year period. The fund's Trustees have taken the decision not to collect any additional funds from contributing members.

The Trustees of the plan were granted authorisation from the High Court to implement the 'New Regime' which will plug the gap in deficit contributions. In 2010 NERC made a one off lump sum payment of £2,724k in respect of settlement of the NERC and BAS deficit reduction amounts due under the scheme of contributions. The NERC element of the scheme is now fully funded and no liability is outstanding as at 31 March 2016.

Merchant Navy Ratings Group Personal Pension Plan

The Merchant Navy Ratings Group Personal Pension Plan (MNRGPP) replaced the MNRPP in 2010. Member's funds built up in the MNRPP and contributions to the MNRGPP are invested in individual pension policies.

Expenditure on strategic consultancy

During the year NERC expenditure on strategic consultancy totalled £13k (2014-15: £855k).

Staff composition – gender

	2016 No.		2015 No.	
	Female	Male	Female	Male
Directors	2	9	2	11
Other senior staff	3	7	2	7
Other employees	910	1,456	902	1,449
	915	**1,472**	**906**	**1,467**

Sick absence per full-time employee equivalent

	2016	2015
Sick absence rate	1.8%	1.8%
Equivalent in days	4.4	4.4

Senior staff by band[(i)]

	2016 No.	2015 No.
Band 1	6	6
Band 2	16	16
	22	**22**

Note:
(i) As per FReM 5.3.27, senior staff is defined as those equivalent to members of the senior civil services. In NERC this covers bands 1 & 2.

Staff Initiatives and Communication
NERC has implemented major people initiatives in 2015-16. These have included:

- the development and implementation of a suite of harmonised cross-council policies which support effective and consistent people management
- the development and publication of a NERC wide Equality and Diversity plan. As an employer, NERC is committed to the principle of using objective, transparent and non-discriminatory criteria in recruitment and promotion; to making reasonable adjustments for applicants with a disability and to enable existing staff to continue in employment if they develop a disability; and to encouraging all employees to develop to their full potential
- a review of the HR functions, with a view to increasing the delegation of HR responsibility to NERC centres, enabling them to manage people practises for themselves in preparation for changes associated with GRO.

NERC uses a range of approaches to keep staff informed on matters of concern to them, including financial and economic factors affecting the organisation. These include regular staff meetings, ad hoc briefings, the opportunity to hear from Directors and the Chief Executive, intranet updates, and regular newsletters. Staff have the opportunity to share their views and thoughts, particularly through regular employee surveys. Arrangements are also in place for regular consultative meetings with the trade unions representing NERC staff.

Staff Policies – Equal Opportunities
NERC applies the Research Council Equality & Diversity Policy, and publishes data to enable effective benchmarking. NERC is committed to the principle of using objective, transparent and non-discriminatory criteria in recruitment and promotion, to making reasonable adjustments for applicants with a disability, to enable existing staff to continue in employment if they develop a disability and to encouraging all employees to develop to their full potential.

Off-Payroll Engagements
At 31 March 2016 NERC had no off-payroll engagements costing more than £220 per day and lasting for longer than 6 months. Appropriate tax arrangements are in place to provide assurance that appropriate tax arrangements, as set out by the Alexander review (2012), are in place to cover all in-year appointees covered by this report.

Staff exits (Audited information)

Exit package band	Exit package cost band	Total number of exit packages by cost band [i]	
		2016	2015
1	<£10k	13	6
2	£10k-£25k	25	8
3	£25k-50k	31	11
4	£50k-£100k	19	11
5	£100k-£150k	-	1
Total exit packages agreed		**88**	**37**
		£000	£000
Total costs of exit packages agreed [ii][iii]		**2,996**	**1,394**

Notes:
(i) All payments were within contracted entitlement.
(ii) Full costs of all exit packages agreed during the year, including costs that are covered by the release of provisions as per Note 12 of the Annual Accounts. These costs will therefore differ from the total amount charged for the year.
(iii) The highest exit packages agreed during the year were for £95k. The lowest exit package agreed during the year was for £3k. The median of all exit packages agreed was £27k.

Parliamentary Accountability and Audit Report

Regularity of expenditure

Audited information

I can confirm that for the financial year ended 31 March 2016, neither I nor my staff authorised a course of action, the financial impact of which is that transactions infringe the requirements of regularity as set out in Managing Public Money, and that Treasury approval has been obtained for all novel, contentious or repercussive transactions relating to 2015-2016.

Contingent liabilities

NERC has no contingent liabilities to report as at 31 March 2016.

Losses and Special Payments

NERC has incurred the following losses and special payments during the year:

Losses statement

Type	31 March 2016 £000	31 March 2015 £000
Stores losses [(i)]	114	333
Fruitless payments	-	9
Claims abandoned	4	10
Constructive losses [(ii)]	160	-
Total value of losses	**278**	**352**
Total number of losses	**33**	**64**

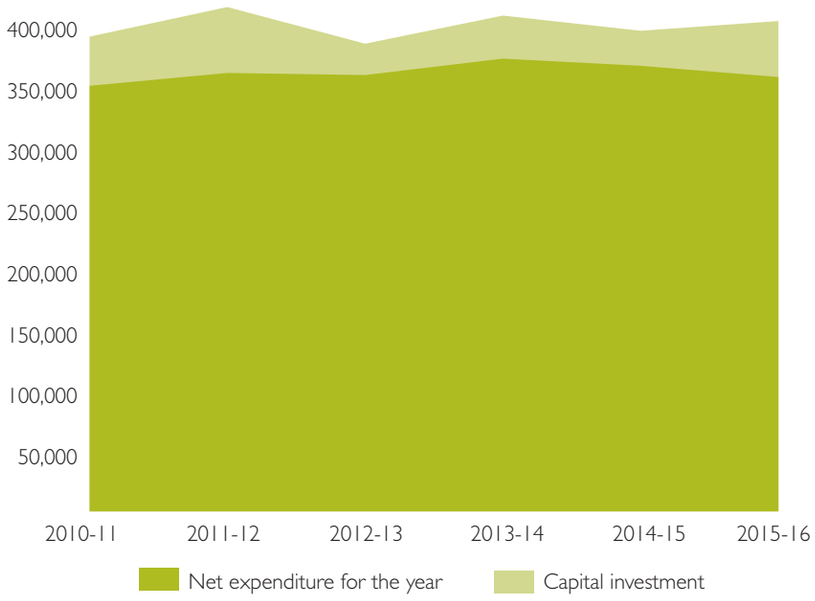
Notes:
(i) Store losses consist of 9 assets lost or damaged during normal operations.
(ii) Constructive losses consist of the costs incurred for the surrender of the lease for the Gloucester Airport following successful transfer of ARSF services to the British Antarctic Survey.

Special payments

Type	31 March 2016 £000	31 March 2015 £000
Ex-gratia payments [(i)]	94	92
Total value of special payments	**94**	**92**
Total number of special payments	**2**	**2**

Note:
(i) Ex-gratia payments consist of settlements of 2 legal claims.

Trends in NERC annual expenditure and investment (£000)



Professor Duncan Wingham
Chief Executive and Accounting Officer
28 June 2016

The Certificate and Report of the Comptroller and Auditor General to the Houses of Parliament

I certify that I have audited the financial statements of the Natural Environment Research Council for the year ended 31 March 2016 under the Science and Technology Act 1965. The financial statements comprise: the Statements of Comprehensive Net Expenditure, Financial Position, Cash Flows, Changes in Taxpayers' Equity, and the related notes. These financial statements have been prepared under the accounting policies set out within them. I have also audited the information in the Remuneration and Staff Report and the Parliamentary Accountability disclosures that are described in that report as having been audited.

Respective responsibilities of the Board, Accounting Officer and auditor
As explained more fully in the Statement of Accounting Officer's Responsibilities, the Council and the Chief Executive, as Accounting Officer, are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view. My responsibility is to audit, certify and report on the financial statements in accordance with the Science and Technology Act 1965. I conducted my audit in accordance with International Standards on Auditing (UK and Ireland). Those standards require me and my staff to comply with the Auditing Practices Board's Ethical Standards for Auditors.

Scope of the audit of the financial statements
An audit involves obtaining evidence about the amounts and disclosures in the financial statements sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of: whether the accounting policies are appropriate to the Natural Environment Research Council's circumstances and have been consistently applied and adequately disclosed; the reasonableness of significant accounting estimates made by the Natural Environment Research Council; and the overall presentation of the financial statements. In addition, I read all of the financial and non-financial information in the Annual Report to identify material inconsistencies with the audited financial statements and to identify any information that is apparently materially incorrect based on, or materially inconsistent with, the knowledge acquired by me in the course of performing the audit. If I become aware of any apparent material misstatements or inconsistencies I consider the implications for my certificate.

I am required to obtain evidence sufficient to give reasonable assurance that the expenditure and income recorded in the financial statements have been applied to the purposes intended by Parliament and the financial transactions recorded in the financial statements conform to the authorities which govern them.

Opinion on regularity
In my opinion, in all material respects the expenditure and income recorded in the financial statements have been applied to the purposes intended by Parliament and the financial transactions recorded in the financial statements conform to the authorities which govern them.

Opinion on financial statements

In my opinion:

- the financial statements give a true and fair view of the state of the Natural Environment Research Council's affairs as at 31 March 2016 and the net expenditure for the year then ended; and
- the financial statements have been properly prepared in accordance with the Science and Technology Act 1965 and Secretary of State directions issued thereunder.

Opinion on other matters

In my opinion:

- the parts of the Remuneration and Staff Report and the Parliamentary Accountability disclosures to be audited have been properly prepared in accordance with Secretary of State directions made under the Science and Technology Act 1965; and
- the information given in the Performance Report and Accountability Report for the financial year for which the financial statements are prepared is consistent with the financial statements.

Matters on which I report by exception

I have nothing to report in respect of the following matters which I report to you if, in my opinion:

- adequate accounting records have not been kept or returns adequate for my audit have not been received from branches not visited by my staff; or
- the financial statements and the parts of the Remuneration and Staff Report and the Parliamentary Accountability disclosures to be audited are not in agreement with the accounting records and returns; or
- I have not received all of the information and explanations I require for my audit; or
- the Governance Statement does not reflect compliance with HM Treasury's guidance.

Report

I have no observations to make on these financial statements.

Sir Amyas Morse
Comptroller and Auditor General

National Audit Office
157-197 Buckingham Palace Road
Victoria
London
SW1W 9SP
1 July 2016

The financial statements

STATEMENT OF COMPREHENSIVE NET EXPENDITURE FOR THE PERIOD ENDED 31 MARCH 2016

	Notes	2015-16 £000	Re-presented 2014-15 £000
Operating income	4	**(72,537)**	**(68,735)**
Operating expenditure			
Staff costs	5	112,494	109,190
Staff exit costs		2,925	1,412
Grants and training awards	6	174,766	188,863
Other operating costs	7	94,869	96,819
Depreciation	8.1	37,577	35,491
Impairment of property, plant and equipment	8.1	824	886
Amortisation		521	252
Reversal of impairments of investments		-	(18)
(Gain)/loss on disposal of fixed assets and assets held for sale		(41)	338
Unwinding of discount	12	94	68
Change in discount rate	12	4,026	44
Total operating expenditure		**428,055**	**433,345**
Net operating expenditure		**355,518**	**364,610**
Finance lease interest		438	540
Interest receivable		(1)	(1)
Net expenditure for the year		**355,955**	**365,149**
Other comprehensive expenditure			
Net gain on revaluation of property, plant and equipment	8.1	(12,845)	(14,094)
Net gain on revaluation of intangible assets		(21)	(21)
Comprehensive net expenditure for the year		**343,089**	**351,034**

All activities are continuing.
The notes on page 59 to 79 form part of these accounts.

STATEMENT OF FINANCIAL POSITION AS AT 31 MARCH 2016

	Notes	31 March 2016 £000	31 March 2015 £000
Non-current assets			
Property, plant and equipment	8.1,8.2	454,321	435,101
Intangible assets		1,770	1,139
Non-current receivables	9	71	69
Financial assets		94	94
Total non-current assets		**456,256**	**436,403**
Current assets			
Assets classified as held for sale		78	78
Trade and other receivables	9	24,064	21,269
Cash and cash equivalents	10	2,801	2,599
Total current assets		**26,943**	**23,946**
Total assets		**483,199**	**460,349**
Current liabilities			
Trade and other payables	11	(60,075)	(61,200)
Provisions	12	(1,008)	(900)
Total current liabilities		**(61,083)**	**(62,100)**
Total assets less current liabilities		**422,116**	**398,249**
Non-current liabilities			
Trade and other payables	11	(3,374)	(4,632)
Provisions	12	(9,761)	(6,590)
Total non-current liabilities		**(13,135)**	**(11,222)**
Total assets less liabilities		**408,981**	**387,027**
Taxpayers' equity			
General fund		294,794	274,781
Revaluation reserve		114,187	112,246
Total equity		**408,981**	**387,027**

The notes on page 59 to 79 form part of these accounts.

Professor Duncan Wingham
Chief Executive and Accounting Officer
28 June 2016

STATEMENT OF CASH FLOWS
FOR THE PERIOD ENDED 31 MARCH 2016

	Notes	2015-16 £000	2014-15 £000
Cash flows from operating activities			
Net expenditure for the year		(355,955)	(365,149)
Depreciation	8.1	37,577	35,491
Impairment charged to net expenditure account	8.1	824	886
Reversal of impairments of financial assets		-	(18)
Amortisation		521	252
(Gain)/loss on disposal of fixed assets and assets held for sale		(41)	338
(Increase)/decrease in trade and other receivables	9	(2,797)	5,444
Decrease in trade and other payables	11	(1,225)	(10,491)
Increase in provisions	12	3,279	709
Net cash outflow from operating activities		**(317,817)**	**(332,538)**
Cash flows from investing activities			
Payments to acquire property, plant and equipment	8.1,8.2	(45,543)	(28,379)
Payments to acquire intangible assets		(499)	(642)
Receipts from disposal of property, plant and equipment, intangible assets and investments		176	311
Net cash outflow from investing activities		**(45,866)**	**(28,710)**
Cash flows from financing activities			
Grant-in-aid and other BIS funding	3	365,043	355,754
Capital element of finance lease		(1,158)	(1,594)
Net cash inflow from financing activities		**363,885**	**354,160**
Net increase/(decrease) in cash and cash equivalents in the period		**202**	**(7,088)**
Cash and cash equivalents at the beginning of the period		2,599	9,687
Cash and cash equivalents at the end of the period		**2,801**	**2,599**

The notes on page 59 to 79 form part of these accounts.

STATEMENT OF CHANGES IN TAXPAYERS' EQUITY FOR THE PERIOD ENDED 31 MARCH 2016

	Notes	General fund £000	Revaluation reserve £000	Total equity £000
Balance as at 1 April 2014		**273,361**	**108,946**	**382,307**
Changes in taxpayers' equity for 2014-15				
Grant-in-aid and other BIS funding	3	355,754	-	355,754
Revaluation in year		-	14,115	14,115
Net expenditure for the year		(365,149)	-	(365,149)
Transfers between reserves		10,815	(10,815)	-
Balance at 31 March 2015		**274,781**	**112,246**	**387,027**
Changes in taxpayers' equity for 2015-16				
Grant-in-aid, notional costs and other BIS funding	3	365,043	-	365,043
Revaluation in year		-	12,866	12,866
Net expenditure for the year		(355,955)	-	(355,955)
Transfers between reserves		10,925	(10,925)	-
Balance at 31 March 2016		**294,794**	**114,187**	**408,981**

The notes on page 59 to 79 form part of these accounts.

NOTES TO THE ACCOUNTS

1. Statement of accounting policies

1.1 Basis of accounting

These accounts have been prepared in accordance with The Science and Technology Act 1965, the 2015-16 Government Financial Reporting Manual (FReM) issued by HM Treasury and with directions made by the Secretary of State. They meet the accounting and disclosure requirements of the Companies Act 2006 and accounting standards issued or adopted by the Accounting Standards Board in as far as these requirements are appropriate in accordance with the FReM.

The accounting policies contained in the FReM apply International Financial Reporting Standards (IFRS) as adapted or interpreted for the public sector context. Where the FReM permits a choice of accounting policy, the accounting policy which is judged to be most appropriate to the particular circumstances of the Natural Environment Research Council (NERC) for the purpose of giving a true and fair view has been selected. The particular policies adopted by NERC for material transactions or where management has exercised judgement in selecting the accounting policy, are described below. They have been applied consistently in dealing with items that are considered material to the accounts.

1.2 Accounting convention

These accounts have been prepared under the historical cost convention modified to include the fair valuation of property, plant and equipment, intangible assets and inventories to the extent required or permitted under IFRS as set out in the relevant accounting policies.

1.3 Going Concern

The 2014 Triennial Review of the Research Councils confirmed that the current 7 Research Councils should continue to exist in their current format. The 2015 Nurse Review - to be implemented as part of the Spending Review 2015 – supported the preservation of individual Research Councils with continued focus on disciplinary specific communities and science strategies, whilst evolving RCUK over the coming years into a new formal at arm's length organisation for managing cross-Council funds, developing strong cross-Council positions and to manage collective administrative functions. NERC has received its budget allocation from BIS for 2016-17 and 2017-18 with further indicative funding levels to 2019-20. The financial statements have thus been prepared on a going-concern basis.

1.4 Tangible non-current assets

Property, plant and equipment

Property, plant and equipment held for their service potential and in use are carried at current value in existing use. Property, plant and equipment recently held for their service potential, but surplus and with restrictions on sale, will continue to be carried at current value in existing use; Property, plant and equipment that are surplus, but without any restrictions on sale, are held at fair value using IFRS *13 Fair Value Measurement*. Property, plant and equipment not held for their service potential are valued in accordance with IFRS 5.

Revaluation
Land, buildings, ice stations in Antarctica, ships and aircraft are independently and professionally revalued every five years. These assets are subject to annual indexation when a full revaluation is not completed.

The British Antarctic Survey (BAS) Antarctic Research Stations were valued in 2011-12 via a desk-based valuation by Rafe Staples BSc (Hons) and Kirstie Wheeler BSc (Econ), MRICS (member of The Royal Institution of Chartered Surveyors) acting as an external valuer, on the basis of existing use value calculated by reference to depreciated replacement costs. The estimated replacement costs were calculated by BAS and adjusted by BAS and Powis Hughes in accordance with the Royal Institution of Chartered Surveyors Valuation Standards.

All UK land and buildings were valued in 2012-13 by Rafe Staples BSc (Hons), MRICS acting as an external valuer, on the basis of existing use value in accordance with the RICS Valuation Professional Standards. The valuations excluded the scientific apparatus.

The four research ships, RRS *Discovery*, RRS *James Clark Ross*, RRS *Ernest Shackleton* and RRS *James Cook*, were revalued in 2013-14 by E.A. Gibson Shipbrokers Ltd. All aircraft were also revalued in 2013-14 by the International Bureau of Aviation Group Limited.

All other plant, equipment and transport are revalued using relevant indices.

Any surplus or deficit on revaluation is taken to a revaluation reserve, except that any permanent diminution in value is charged to the statement of comprehensive net expenditure in the year in which it is recognised. Where subsequent evidence suggests a partial or complete reversal of the diminution in value, this is also reflected in the statement of comprehensive net expenditure in the year in which it is recognised as per IAS 36.

Increased depreciation charges arising from the revaluation are matched by annual transfers from the revaluation reserve to the income and expenditure reserve. On the disposal of a revalued asset, that element of the revaluation reserve which becomes realised as a result is transferred directly to the income and expenditure reserve.

Depreciation
Property, plant and equipment are depreciated at rates calculated to write them down to the estimated residual values on a straight line basis over the estimated useful lives. Assets under construction are not depreciated until the asset is brought into use.
Freehold land is not depreciated and other property, plant and equipment assets are normally depreciated over the following periods:

Leasehold land	over the terms of the lease
Freehold buildings	up to 50 years or valuer's estimates of economic life
Long leasehold buildings	up to 50 years (or the length of the lease if less)
Short leasehold buildings	over the length of the lease
Antarctic ice stations	up to 35 years or valuer's estimates of remaining useful life
Plant and machinery	5-15 years
Ships and aircraft	minimum of 20 years for ships, 15 years for aircraft

Scientific, office and major computing equipment	3-10 years
Motor vehicles	3-10 years

1.5 Financial instruments

NERC recognises and measures financial instruments in accordance with IAS 39 *Financial Instruments: Recognition and Measurement* as interpreted by the FReM.

Financial assets and liabilities are initially measured at fair value plus transaction costs, unless they are carried at fair value through profit or loss, in which case transaction costs are charged to operating costs.

Financial assets are derecognised when the rights to receive future cash flows have expired or are transferred and NERC has transferred substantially all the risks and rewards of ownership.

Financial liabilities are derecognised when the obligation is discharged, cancelled or expires.

Trade receivables

Trade receivables are carried at original invoice amount less allowance for impairment. Provision for impairment is established when there is objective evidence that NERC will not be able to collect all amounts due according to the original terms of the receivable. The amount of provision is the difference between the carrying amount and recoverable amount and is recognised in the statement of comprehensive net expenditure.

Cash and cash equivalents

Cash and cash equivalents comprise cash balances and deposits which are repayable on demand.

Trade and other payables

Trade and other payables are recognised in the period in which related money, goods or services are received or when a legally enforceable claim against NERC is established or when the corresponding assets or expenses are recognised.

Risk

Due to the non-trading nature of its activities and the way in which NERC is financed, NERC is not exposed to the degree of financial risk faced by non-public sector entities. NERC has very limited powers to borrow or invest surplus funds. Financial assets and liabilities are generated by day to day operational activities and are not held to change the risks facing NERC in undertaking its activities.

NERC is subject to foreign currency risk through the maintenance of bank accounts in foreign currencies (predominantly the EUR and the USD) to deal with day to day overseas transactions. This is a low level risk and is not actively managed by NERC.

1.6 Provisions

Provisions are recognised and measured in accordance with IAS 37 Provisions, Contingent Liabilities and Contingent Assets. Where the time value of money is material, provisions are discounted to present value using HM Treasury's real discount rates, currently +1.37%

for pension provisions and for all other provisions: short-term -1.55%, medium-term -1.00% and long-term -0.80%.

1.7 Grant-in-aid and other BIS funding

Under the FReM, Non-Departmental Public Bodies (NDPBs) regard grant-in-aid and other income received for revenue purposes as contributions from controlling parties giving rise to a financial interest in the body. As a result, grant-in-aid and other income received from BIS are credited to the income and expenditure reserve, rather than being recognised as income in the statement of comprehensive net expenditure.

1.8 Operating income

Operating income is income that relates directly to the operating activities of NERC and is measured at the fair value of consideration received or receivable. It is recorded net of trade discounts, value added tax and other taxes.

1.9 Grant and training awards

The majority of research grants and fellowships are paid by the Council on an instalment basis in arrears in accordance with an agreed payment profile. The majority of studentship payments are paid on a quarterly instalment basis in advance directly to the research institute.

Research and training grants made in advance or in arrears are accounted for on an accruals basis in the financial statements. Future commitments at the balance sheet date are disclosed in Note 14 of the financial statements.

Equipment purchased by an institution with research grant funds supplied by NERC, belong to the institution and are not included in NERC's property, plant and equipment. Through the conditions of grant applied to institutions funded, NERC reserves the right to determine the disposal of such equipment and how any disposal proceeds are to be utilised.

1.10 Pension and early retirement costs

Payments are made to the Research Councils' Pension Scheme in respect of superannuation benefits for Council staff. In addition the Council also pays contributions to a number of other multi-employer pensions schemes for specific groups of employees, such as the Merchant Navy Officers' and Ratings' Pensions Funds and Plans. The costs of early retirements are charged to NERC's accounts in the year in which the binding decision is taken to release staff and liabilities recognised.

Payments by the Council of early retirement lump sums are recoverable from the Research Councils' Pension Scheme when recipients achieve normal retirement age. Recoverable amounts are recognised as receivables in these accounts and offset against annual staff restructuring costs.

1.11 Employee benefits

In accordance with IAS 19 Employee benefits, NERC is required to recognise short term employee benefits when an employee has rendered service in exchange for those benefits. An example of this is the employee annual leave accrual.

1.12 Value Added Tax

As NERC is partially exempt for VAT purposes, irrecoverable VAT is charged to the relevant expenditure category or included in the capitalised purchase cost of property, plant and equipment. Where output tax is charged or input tax is recoverable the amounts are stated net of VAT. NERC has charitable status for VAT purposes.

1.13 Leases

Leases are recognised in accordance with IAS 17 *Leases*.

Leases in which a significant portion of the risks and rewards of ownership are retained by the lessor are classified as operating leases. The cost of the lease and any lease incentive are charged to the statement of comprehensive net expenditure over the lease term on a straight-line basis unless another systematic basis is more appropriate.

For ship leases where NERC has the use of a ship for which substantially all risks and rewards of the asset are transferred to the Council, the assets are treated as if they had been purchased outright at the present value of the total rentals payable during the period of the lease. The corresponding leasing commitments are shown as obligations to the lessor in payables. Charges are made to the statement of comprehensive net expenditure in respect of:

- Depreciation, which is charged on a straight line basis over the shorter of its useful economic life or the lease period
- Finance charges, which are allocated over the period of the lease in accordance with the interest rate within the contract.

1.14 Contingent Liabilities

Contingent liabilities are disclosed in accordance with IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*, e.g. where a potential liability is deemed to have arisen but the obligation has yet to be confirmed due to the lack of a reliable estimate or where it is not deemed probable that an outflow will ensure, unless the likelihood of an outflow is remote.

1.15 Key judgements and decisions

The preparation of Financial Statements requires management to make key judgements, estimates and assumptions that affect the reported amounts of assets and liabilities and income and expenditure based on experience and expected events. Actual results may differ from these estimates under different assumptions and conditions. Specific policies for judgemental areas such as provisions, which include estimates of useful economic lives and decommissioning costs of Antarctic assets, are shown above.

1.16 Changes to IFRS

All International Reporting Standards, Interpretations and Amendments to published standards which are effective at 31 March 2016 have been adopted in these financial statements, taking into account the specific interpretations and adaptations included in the FReM.

IFRS 13 *Fair Value Measurement* has been adopted for the first time in 2015-16, with no material impact on NERC's financial statements.

The IASB and IFRIC issued certain standards and interpretations with an effective date after these financial statements, which have not been applied to these financial statements. The standards most relevant to NERC are IFRS 9 *Financial Instruments*, IFRS 15 *Revenue from Contracts with Customers* and IFRS 16 *Leases*. These will be adopted at the effective date.

IFRS 9 *Financial Instruments* is being introduced to replace IAS 39 *Financial Instruments: Recognition and Measurement*. The new standard simplifies the classification and measurement of financial assets as well as amending when and how impairments are calculated and reported, moving from an incurred loss to an expected loss model. This will result in impairments being recognised earlier than under IAS 39.

IFRS 15 *Revenue from Contracts with Customers* will replace IAS 18 *Revenue* and IAS 11 *Construction Contracts*, unifying the concepts in these two standards into a single model to recognise revenue as a performance obligation under a contract is satisfied.

IFRS 16 *Leases* will replace IAS 17 *Leases*. The new standard amends the accounting for lessees, removing the distinction between recognising an operating lease (off-balance sheet financing) and a finance lease (on-balance sheet financing). The new standard requires recognition of all leases (which last over 12 months) to be recognised as a finance lease (on-balance sheet).

The interpretation of these standards into the FReM is currently being determined and the outcome of this work is currently not known. The potential effects of the new standards, IFRS 9 and IFRS 15 are not anticipated to have a significant impact on NERC financial statements. The potential effect of adopting IFRS 16 is still to be determined.

1.19 Research and development

As an organisation wholly engaged in research, NERC does not classify research and development expenditure separately in the accounts. It is reported under operating costs in the statement of comprehensive net expenditure.

Intellectual property rights arising from the Council's research and development have not been included in these accounts as their market value cannot be readily estimated. The anticipated annual income generated from such rights is not material in value and is credited to the statement of comprehensive net expenditure on receipt.

2. Reporting by Operating Segment

NERC reports income and expenditure by segment in accordance with IFRS 8 *Operating segments*. Operation segments are components about which separate financial information is available and is evaluated regularly by the chief operating decision maker, the NERC Executive Board.

NERC's assets and liabilities are shared across all business units and therefore not separately identified and disclosed.

Analysis of net expenditure by business units for 2015-16

	Antarctic Logistics and Infrastructure Partition	British Antarctic Survey	British Geological Survey	Centre for Ecology & Hydrology	National Oceanography Centre	Science and Innovation	Discovery Science	Other	Total
	£000	£000	£000	£000	£000	£000	£000	£000	£000
Expenditure									
Staff costs	14,163	10,016	28,096	22,302	26,557	2,193	101	9,066	112,494
Staff exits costs	-	97	148	6	205	-	-	2,469	2,925
Grants and training awards	4	536	4,550	402	6,997	84,947	77,494	(164)	174,766
Other operating costs	18,976	5,658	15,080	13,709	18,143	10,217	(58)	13,144	94,869
Depreciation	-	-	-	-	-	-	-	37,577	37,577
Impairment of property, plant and equipment	-	-	-	-	-	-	-	824	824
Loss on disposal of fixed assets	-	-	-	-	-	-	-	(41)	(41)
Amortisation	-	-	-	-	-	-	-	521	521
Unwinding of discount	-	-	-	-	-	-	-	94	94
Change in discount rate	-	-	-	-	-	-	-	4,026	4,026
Internal transfers[(i)]	96	(6,188)	(3,122)	(6,460)	(11,027)	15,775	11,675	(749)	-
Total expenditure	**33,239**	**10,119**	**44,752**	**29,959**	**40,875**	**113,132**	**89,212**	**66,767**	**428,055**
Income [(ii)]	(3,929)	(2,862)	(21,663)	(13,402)	(11,852)	(16,295)	(885)	(1,649)	(72,537)
Net operating expenditure [(iii)]	**29,310**	**7,257**	**23,089**	**16,557**	**29,023**	**96,837**	**88,327**	**65,118**	**355,518**

Notes:
(i) Internal transfers result from sharing of resources, internal trading and internal awards between business units. The overall net impact on the organisation is zero.
(ii) Business units receive external funding for research from the UK public sector, European Commission and private sector. In addition they receive other operating income, such as software and data sales and royalties and license fees from intellectual property.
(iii) Income and expenditure for the British Antarctic Survey has been split in accordance with the Partitioning of the NERC allocation directed by BIS.

Analysis of net expenditure by business units for 2014-15 (re-presented)

	Antarctic Logistics and Infrastructure Partition	British Antarctic Survey	British Geological Survey	Centre for Ecology & Hydrology	National Oceanography Centre	Science and Innovation	Discovery Science	Other	Total
	£000	£000	£000	£000	£000	£000	£000	£000	£000
Expenditure									
Staff costs[(i)]	13,957	9,566	28,248	22,146	24,513	2,171	149	8,440	109,190
Staff exits costs	9	-	-	66	63	-	-	1,274	1,412
Grants and training awards	1	558	6,532	749	6,867	91,579	81,804	773	188,863
Other operating costs[(i)]	18,832	7,092	11,727	13,916	19,549	9,374	176	16,153	96,819
Depreciation	-	-	-	-	-	-	-	35,491	35,491
Impairment of property, plant and equipment	-	-	-	-	-	-	-	886	886
Impairment of investments	-	-	-	-	-	-	-	(18)	(18)
Gain on disposal of fixed assets and assets held for sale	-	-	-	-	-	-	-	338	338
Amortisation	-	-	-	-	-	-	-	252	252
Unwinding of discount	-	-	-	-	-	-	-	68	68
Change in discount rate	-	-	-	-	-	-	-	44	44
Internal transfers	(432)	(6,467)	(2,329)	(5,425)	(9,757)	12,258	12,067	85	-
Total expenditure	**32,367**	**10,749**	**44,178**	**31,452**	**41,235**	**115,382**	**94,196**	**63,786**	**433,345**
Income	(2,909)	(3,239)	(18,693)	(16,104)	(10,818)	(15,763)	(56)	(1,153)	(68,735)
Net operating costs	**29,458**	**7,510**	**25,485**	**15,348**	**30,417**	**99,619**	**94,140**	**62,633**	**364,610**

Notes:
(i) In previous years the cost of agency and other temporary, contract and seconded staff, along with the deduction of project related capitalised labour, were included under Note 7 Other operating costs.
(ii) Income and expenditure for the British Antarctic Survey has been re-presented in accordance with the Partitioning of the NERC allocation directed by BIS.

3. Grant-in aid and other BIS funding

The table below shows a summary of the grant-in-aid and other BIS funding, which have been transferred to the income and expenditure reserve during 2015-16:

	2015-16 £000	2014-15 £000
Grant-in-aid received		
Resource	307,017	305,908
Capital	48,000	43,700
Total grant-in-aid received	**355,017**	**349,608**
BIS notional costs [(i)]	5,536	5,890
Other BIS funding [(ii)]	4,490	256
Total grant-in-aid and other BIS funding	**365,043**	**355,754**

Notes:
(i) Consists of notional costs for UK Shared Business Services Ltd (UK SBS) operational services to NERC that are paid directly by BIS to UK SBS.
(ii) Includes Newton Funding of £4,505k. Newton Funding for 2014-15 (£1,814k) was included under grant-in-aid.

4. Operating income

	2015-16 £000	2014-15 £000
Income from other government departments		
Department for Environment Food and Rural Affairs	3,699	4,431
Department for Energy and Climate Change	2,863	1,869
Ministry of Defence	293	292
Department for International Development	10,210	7,262
Department of Enterprise, Trade and Investment Northern Ireland	675	847
Foreign and Commonwealth Office	711	575
Department for Communities and Local Government	115	49
Total income from other government departments	**18,566**	**15,325**
Income from other bodies		
European Community [(i)]	7,678	8,460
Other Research Councils	5,031	6,752
Other Public sector	8,337	8,672
Private sector	20,302	18,513
Total income from other bodies	**41,348**	**42,397**
Other operating income		
Software and data sales	561	581
Sale of products & publications	293	334
Property and equipment rentals	1,751	1,245
Lecture fees, seminars and training courses	12	17
Royalties and licence fees	2,615	2,648
Other income [(ii)]	7,391	6,188
Total other operating income	**12,623**	**11,013**
Total operating income	**72,537**	**68,735**

Notes:
(i) Income from the European Community consists of cash receipts of £9,093k and net deferred income of £1,415k.
(ii) Other income includes £2,756k (2014-15 £3,512k) of monies from the University of Southampton paid to the National Oceanography Centre concerning their joint occupation of the Waterfront Campus.

5. Staff costs

	2015-16 £000	Re-presented 2014-15[i] £000
Salaries and wages	83,929	81,543
Social Security costs	7,214	6,584
Pension costs (Note 5.2)	20,235	19,714
Temporary, contracted and seconded staff	289	409
Agency staff	827	940
	112,494	**109,190**

Note:
(i) In previous years the cost of agency and other temporary, contract and seconded staff, along with the deduction of project related capitalised labour, were included under Note 7 Other operating costs.

The total amount capitalised for staff costs in 2015-16 is £641k (2014-15: £521k). This relates to an estimated 8.6 full-time equivalent staff, whom are adding value to assets such as those engaged in project management or building of assets.

6. Grants and training awards

	2015-16 £000	2014-15 £000
Research grants[i]	112,998	119,549
Research contracts[ii]	39,152	45,257
Post Graduate training awards[iii]	22,616	24,057
Total grants and training awards	**174,766**	**188,863**

Notes:
(i) 2014-15 included £8.6m of capital grants funded through the Strategic Capital grant round. 2015-16 included £3.8m of grants paid out of Newton funds.
(ii) 2014-15 included £2.9m funding for conclusion of the Big Data JASMIN upgrade and additional capital totalling £0.9m for NCAS and NCEO.
(iii) 2014-15 included £1m of Doctoral Training Partnerships to develop and strengthen their links with the business sector.

7. Other operating costs

	2015-16 £000	Re-presented 2014-15[i] £000
Rent and rates	1,011	1,046
Maintenance, cleaning, heating and lighting	8,404	10,409
Office supplies, equipment, printing and stationery	2,839	2,715
Laboratory supplies and field equipment	17,033	14,811
Information technology	6,015	5,730
Postage, telephone and other telecommunications	1,738	1,693
Community meeting costs	604	485
Audit fees[ii]	80	80
Travel and subsistence	8,198	8,386
Ships and aircraft operations	18,165	19,731
External training	2,529	2,083
UK SBS operating costs[iii]	5,566	6,047
International subscriptions	3,715	2,923
Professional and research services by outside bodies[iv]	18,900	20,790
Increase (Decrease) in allowance for receivables	72	(110)
	94,869[v]	**96,819**

Notes:

(i) The cost of agency and other temporary, contract and seconded staff, along with the deduction of project related capitalised labour, previously included under Professional and research services by outside bodies, are now included under Staff costs in Note 5. In addition realised gains and losses have been moved from Office supplies, equipment, printing and stationery to Professional and research services by outside bodies to make the treatment of indirect expenditure more consistent.

(ii) The costs for audit fees consists of the NAO statutory audit fee of £80k (2014-15: £80k).

(iii) UKSBS operating costs for 2015-16 include notional costs of £5,536k (2014-15: £5,890k) for services such as procurement, information technology, finance, payroll, grants and recruitment that have been paid by BIS directly to UK SBS - see also Note 3.

(iv) The cost for professional and research services by outside bodies includes RCUK charges, research library costs and cross-council research activities.

(v) Other Operating Costs includes £691k of expenditure relating to Newton funding.

8.1 Property, plant and equipment

Cost or valuation	Land [i]	Buildings and Antarctic stations	Fixtures and fittings	IT equipment	Plant and machinery	Transport[ii]	Total
	£000	£000	£000	£000	£000	£000	£000
At 1 April 2015	39,300	302,337	361	8,098	82,796	307,563	740,455
Additions	-	2,249	706	1,539	4,488	2,293	11,275
Capitalisation	-	12,874	-	173	3,350	7,011	23,408
Revaluation	1,695	17,458	1	104	992	1,501	21,751
Reclassification [iii]	-	-	-	(178)	-	-	(178)
Disposals [iv]	-	-	(119)	(1,218)	(8,758)	(282)	(10,377)
Impairment [v]	-	-	-	-	(824)	-	(824)
At 31 March 2016	**40,995**	**334,918**	**949**	**8,518**	**82,044**	**318,086**	**785,510**
Depreciation							
At 1 April 2015	5,429	127,057	259	3,863	36,071	144,090	316,769
Charge for the year [vi]	358	9,309	57	1,398	10,609	15,846	37,577
Revaluation	262	7,575	2	62	489	505	8,895
Reclassification [iii]	-	-	-	(35)	-	-	(35)
Disposals [iv]	-	-	(119)	(1,218)	(8,612)	(282)	(10,231)
At 31 March 2016	**6,049**	**143,941**	**199**	**4,070**	**38,557**	**160,159**	**352,975**
Net Book Value At 31 March 2016	**34,946**	**190,977**	**750**	**4,448**	**43,487**	**157,927**	**432,535**
At 1 April 2015	33,871	175,280	102	4,235	46,725	163,473	423,686

Notes:
(i) Cost or valuation includes £22,389k in respect of freehold land which is not depreciated (2014-15: £21,291k).
(ii) The NBV of the leased ship is £12,991k (2014-15: £15,451k). The annual depreciation charge on this asset held under the finance lease is £3,576k (2014-15: £3,434k).
(iii) Reclassifications relate to internally generated software previously misclassified.
(iv) During the year 9 assets were identified which had either been lost or damaged. As a result losses amounting to £114k were recognised within the Plant and Machinery category. NERC conducts research activity in some of the most extreme environments across the globe. Whilst every effort is made to safeguard assets, the risk of loss can only be minimised, not eliminated.
(v) Impairments of £535k were recorded relating to an equipment suite that has been dismantled with some parts sold. The impairments represent the construction and shipping costs that will no longer reap future economic benefits for NERC. In addition, impairments include £289k relating to three underwater sensor packages for which contact was lost during the year and which do not currently deliver economic benefits.
(vi) Changes in the functionality of the Oracle system used to manage non-current assets mean that the element of revaluation of accumulated depreciation relating to the current year will no longer be charged to expenditure and the whole movement will instead be treated as solely a revaluation movement. This has no net impact on the net book value. The estimated impact on operating expenditure is £669k in 2015-16.

8.1 Property, plant and equipment cont.

Cost or valuation	Land	Buildings and Antarctic stations	Fixtures and fittings	IT equipment	Plant and machinery	Transport	Total
	£000	£000	£000	£000	£000	£000	£000
At 1 April 2014	35,531	291,994	564	9,476	74,064	292,699	704,328
Additions	-	694	48	1,250	6,766	4,340	13,098
Capitalisation	-	1,808	11	365	7,624	5,213	15,021
Revaluation	3,847	8,985	25	152	3,063	6,181	22,253
Reclassification	(78)	(140)	-	(593)	91	-	(720)
Disposals	-	-	(287)	(2,552)	(8,651)	(870)	(12,360)
Impairment	-	(1,004)	-	-	(161)	-	(1,165)
At 31 March 2015	**39,300**	**302,337**	**361**	**8,098**	**82,796**	**307,563**	**740,455**
Depreciation							
At 1 April 2014	3,011	115,218	459	4,717	32,346	129,553	285,304
Charge for the year	391	9,196	83	1,457	10,550	13,814	35,491
Revaluation	2,027	2,828	4	135	1,369	1,550	7,913
Reclassification	-	(2)	-	(116)	(7)	-	(125)
Disposals	-	-	(287)	(2,330)	(8,091)	(827)	(11,535)
Impairment	-	(183)	-	-	(96)	-	(279)
At 31 March 2015	**5,429**	**127,057**	**259**	**3,863**	**36,071**	**144,090**	**316,769**
Net Book Value At 31 March 2015	**33,871**	**175,280**	**102**	**4,235**	**46,725**	**163,473**	**423,686**
At 1 April 2014	32,520	176,776	105	4,759	41,718	163,146	419,024

8.2 Assets under the course of construction

Cost or valuation	Buildings and Antarctic stations	Fixtures and fittings	IT equipment	Plant and machinery	Transport	Intangible assets	Total
	£000	£000	£000	£000	£000	£000	£000
At 1 April 2015	6,887	-	650	2,837	1,041	-	11,415
Additions	7,577	-	1	2,734	23,944	12	34,268
Capitalisation	(12,874)	-	(173)	(3,350)	(7,011)	(489)	(23,897)
Reclassification [(i)]	-	-	(477)	(329)	329	477	-
At 31 March 2016	**1,590**	**-**	**1**	**1,892**	**18,303**	**-**	**21,786**
At 1 April 2014	1,682	11	348	7,925	1,189	-	11,155
Additions	7,013	-	667	2,536	5,065	-	15,281
Capitalisation	(1,808)	(11)	(365)	(7,624)	(5,213)	-	(15,021)
At 31 March 2015	**6,887**	**-**	**650**	**2,837**	**1,041**	**-**	**11,415**

Note:
(i) During the year the asset under course of construction relating to works on the Dash 7 Aircraft Instruments was reclassified from Plant and machinery to Transport. In addition internally generated software was reclassified from IT equipment.

9. Receivables

	2015-16 £000	2014-15 £000
Current assets: trade and other receivables		
Trade receivables	9,811	7,038
Cross-Council receivables	177	29
Other receivables	195	232
Prepayments [(i)]	2,216	2,879
Accrued income	11,774	11,128
Provision for receivables	(109)	(37)
Total current assets: trade and other receivables	**24,064**	**21,269**
Non-current receivables: trade and other receivables		
Other receivables	71	69
Total receivables	**24,135**	**21,338**

Note:
(i) Prepayments are due to contractual obligations, such as international subscriptions, license and maintenance costs, many of which are due to be paid at the beginning of a calendar year.

10. Cash and cash equivalents

	31 March 2016 £000	Re-presented 31 March 2015 £000
Balance as at 1 April	**2,599**	**9,687**
Net change in cash and cash equivalents	202	(7,088)
Balance as at period end date	**2,801**	**2,599**
The following balances were held at 31 March:		
Government Banking Service	1,848	1,928
Commercial bank accounts	953	671
Total [(i)]	**2,801**	**2,599**

Note:
(i) In addition to the above NERC holds £4,745k (2014-15: £3,520k) on behalf of 3rd party EU Programme Collaborators.

11. Payables

	2015-16 £000	2014-15 £000
Current liabilities: trade and other payables		
Trade payables	5,983	7,366
Cross-Council payables	1,537	1,895
Other payables	108	80
Taxation & Social Security	2,037	2,023
VAT payable	1,056	903
Accruals	32,702	33,101
Deferred income	15,394	14,674
Finance lease	1,258	1,158
Total current liabilities: trade and other payables	**60,075**	**61,200**
Non-current liabilities: trade and other payables		
Finance lease	3,374	4,632
Total payables	**63,449**	**65,832**

12. NERC provisions for liabilities and charges [i]

	Antarctic Treaty costs [ii]	Early retirements	Other liabilities [iii]	CEH restructuring [iv]	Total
	£000	£000	£000	£000	£000
Provision at 31 March 2014	**4,807**	**347**	**217**	**1,410**	**6,781**
Changes in provisions in 2014-15:					
Change in discount rate	28	6	(1)	11	44
Write back of provisions not required	-	(26)	-	(6)	(32)
Amounts provided in year	750	-	345	-	1,095
Unwinding of discount	55	6	(4)	11	68
Provision utilised in year	-	98	(72)	(492)	(466)
Provision at 31 March 2015	**5,640**	**431**	**485**	**934**	**7,490**
Changes in provisions in 2015-16:					
Change in discount rate	4,028	(1)	1	(2)	4,026
Write back of provisions not required	(359)	(87)	(63)	(10)	(519)
Amounts provided in year	-	-	439	-	439
Unwinding of discount	89	6	(7)	6	94
Provision utilised in year	-	(122)	(216)	(423)	(761)
Provision at 31 March 2016	**9,398**	**227**	**639**	**505**	**10,769**

Notes:

(i) The discount rate used is 1.37% for pension provisions (2014-15: 1.30%). For all other provisions the discount rate is -1.55% for 0-5 years, -1.00% for 6-10 years and -0.80% for over 10 years (2014-15:-1.5% for 0-5 years, -1.05% for 6-10 years and 2.2% for over 10 years). The changes in discount rate used has a large impact on the Antarctic Treaty provision costs.

(ii) Antarctic Treaty costs represent the Council's liability to remove any items from the Antarctic no longer used.

(iii) Other liabilities include claims made against NERC and the costs for vacated sites.

(iv) CEH restructuring costs include NERC's liability for CEH staff restructuring and staff removal costs.

Analysis of expected timing of discounted cashflows

	Antarctic Treaty costs £000	Early retirements £000	Other liabilities £000	CEH restructuring £000	Total £000
Provision due within one year	-	122	608	278	1,008
Between one and five years	944	105	31	187	1,267
Between five and ten years	-	-	-	40	40
Thereafter	8,454	-	-	-	8,454
Provision at 31 March 2016	**9,398**	**227**	**639**	**505**	**10,769**
Provision due within one year	-	169	289	442	900
Between one and five years	956	259	196	492	1,903
Between five and ten years	-	3	-	-	3
Thereafter	4,684	-	-	-	4,684
Provision at 31 March 2015	**5,640**	**431**	**485**	**934**	**7,490**

13. Commitments

13.1 Forward commitments on approved research grants, contracts and training awards

	Total £000
As at 31 March 2016	
Within one year	161,774
Between one and five years	159,388
Thereafter	203
	321,365
At 31 March 2015	
Within one year	158,064
Between one and five years	152,934
Thereafter	65
	311,063

13.2 Finance lease obligations

	Payments £000	Interest £000	Net payments £000
As at 31 March 2016			
Within one year	1,596	338	1,258
Between one and five years	3,724	350	3,374
Thereafter	-	-	-
	5,320	**688**	**4,632**
At 31 March 2015			
Within one year	1,596	438	1,158
Between one and five years	5,320	688	4,632
Thereafter	-	-	-
	6,916	**1,126**	**5,790**

13.3 Operating lease commitments

	Buildings £000	Other £000	Total £000
As at 31 March 2016			
Within one year	302	25	327
Between one and five years	368	51	419
Thereafter	9,019	-	9,019
	9,689	**76**	**9,765**
At 31 March 2015 Re-presented [(i)]			
Within one year	311	56	367
Between one and five years	365	52	417
Thereafter	724	-	724
	1,400	**108**	**1,508**

Note:
(i) 2015 figures were restated due to an error and omissions in the original figures.

13.4. Capital commitments

As at the date of these accounts, NERC is committed to a sum of £133m in respect of major capital contracts. This includes: £3m for the BAS Innovation Centre, Cambridge due to be completed in 2016-17 and £130m for the New Polar Research Vessel due to be completed in 2019-20.

13.5. International subscriptions

NERC has commitments of £2,661k (2014-15: £2,080k) for international subscription costs, which include £1,950k for the Integrated Ocean Drilling Programme for the period to 31 December 2016.

13.6. Bonds and guarantees

The Council has a number of bonds and guarantees relating to overseas contracts, amounting to £1,094k at 31 March 2016 (2014-15 £980k). These are lodged with Lloyds Bank. The costs of these bonds and guarantees are borne by external customers.

14. Related party transactions

NERC is an NDPB sponsored by BIS.

BIS is regarded as a related party. During the year, NERC has had various material transactions with BIS and with other entities for which BIS is regarded as the parent Department, viz: Engineering and Physical Sciences Research Council, Biotechnology and Biological Sciences Research Council, Science and Technology Facilities Council, Medical Research Council, Economic and Social Research Council, Arts and Humanities Research Council, Innovate UK, Higher Education Funding Council for England, UK Space Agency and UK SBS. NERC has had various transactions with other Government departments and other central Government bodies.

During the year NERC made research grant payments to Council members as follows:

Council Member	Number of Awards or Contracts	Amount £000
Professor C Godfray CBE	2	115
Professor L Heathwaite	1	29
Professor P Monks	3	108
Professor A Watson	2	324

None of the above Council members were involved in the approval of awards to the Institution where he/she is a senior member of the staff. There have been no material transactions with any children, spouses or partners' of Council members that require disclosure.

In addition, NERC made the following aggregated payments in respect of NERC funded awards or contracts to Institutions where Council members are also senior members of staff.

Institution	Amount £000	Related Party
University of St Andrews	1,670	Professor I Boyd
University of Oxford	8,687	Professor C Godfray CBE
Lancaster University	3,142	Professor L Heathwaite
University College London	5,270	Professor G Mace CBE
University of Leicester	5,551	Professor P Monks
University of Bristol	7,615	Professor Guy Orpen
Cranfield University	1,420	Professor I Poll OBE
Met Office	1,311	Professor Dame Julia Slingo DBE
University of Exeter	6,237	Professor A Watson
University of Edinburgh	7,278	Professor Lesley Yellowlees CBE

15. Events after the reporting period

In accordance with the requirements of IAS 10 *Events after the Reporting Period*, post Statement of Financial Position events are considered up to the date on which the Accounts are authorised for issue. This is interpreted as the same date as the date of the Certificate and Report of the Comptroller and Auditor General. The result of the referendum held on 23 June was in favour of the UK leaving the European Union. This is a non-adjusting event. A reasonable estimate of the financial effect of this event cannot be made. There are no other post Statement of Financial Position events between the balance sheet date and this date.

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