



JNCC Nature News: Spring 2024 (Issue 14)

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Welcome from our Chief Scientist

Welcome to our latest edition of Nature News which highlights our work to enable nature recovery across land and sea in the UK, the UK Overseas Territories and around the world. As we move towards the end of the financial year, we reflect on some of our key projects throughout 2023/24.

In May we launched our [Together for Nature](#) strategy with key partners and young voices, we made our ambitious commitment to enable nature recovery and to be a good ancestor across air, land and sea. This commitment is at the heart of our work across and for the four countries of the UK, the UK Overseas Territories and Crown Dependencies, and internationally.

Seabirds were in the spotlight in November with the release of [Seabirds Count](#), the most comprehensive census to date of breeding seabirds of Britain, Ireland, Isle of Man and the Channel Islands. The survey took place between 2015 and 2021 and was led by JNCC with over 20 steering group partners. The results of Seabirds Count help us understand the main drivers of seabird population change, providing the building blocks for decades of future seabird conservation and recovery.

In this issue we focus on the key role of our science and evidence experts play in supporting the [UK Biodiversity Indicators](#). The indicators are an important means of documenting and communicating changes in biodiversity and other aspects of the environment, and they enable progress towards policy ambitions to be tracked. In 2024, countries and stakeholders from across the world will come together at multiple conferences aimed at addressing the global biodiversity and climate change crises. As we move forward towards new international goals and targets, indicators will continue to form the evidence base by which success can be assessed against the Global Biodiversity Framework, and the global vision of a world living in harmony with nature.

We're delighted to welcome Chris Tuckett who joins us as our Chief Officer Strategy and Impact. Chris comes with a strong background, having over 25 years' experience working in government and charity sectors, leading on a wide range of environmental issues. She will be known to many of our partners and stakeholders.

I hope you enjoy reading about our work turning science and evidence into action for nature, people and the planet.

Dave Stone, Chief Scientist, JNCC

News in Brief

New Strategy and Impact lead appointed

We are pleased to announce that Dr Chris Tuckett has been appointed to our executive leadership team in the new role of [Chief Officer Strategy and Impact](#). Chris is an environmental biologist with a background in ecology and a PhD on the impacts of air pollution. She has over 25 years' experience of working in the government and charity sectors, leading on a wide range of environmental issues.

Chris said: "It is a privilege to take on this exciting new role in an organisation that I have admired for many years, and at such a key moment. I look forward to utilising all of my experience and energy to help JNCC deliver against the vital ambition set out in Together for Nature."

Chris will lead on the delivery of our [Together for Nature](#) strategy, optimising impact for people, biodiversity and nature, as well as leading our science programmes, with accountability for delivery of strategic priorities, annual business plan targets and key performance indicators.

Latest results for the UK's rare breeding birds

The latest annual report by the Rare Breeding Birds Panel (RBBP) – [Rare breeding birds in the UK in 2021](#) – was published in November, revealing mixed fortunes for the UK's rare breeding birds.

The report brings together vital evidence for the rarest of our breeding birds, many of which are subject to national and international conservation action. Four species of birds of prey, including the Osprey, have reached record totals in the UK, as have several species of rare and colonising herons. However, two species of rare breeding bird failed to breed for the second year in succession.

The data gathered by the RBBP – which includes representatives from JNCC, the British Trust for Ornithology (BTO), and the Royal Society for the Protection of Birds (RSPB), as well as independent experts – is fundamental to our understanding of the status and trends of the rare and scarce species of UK breeding birds. The annual report collates breeding evidence drawing together information from volunteers who report their bird sightings to recording networks. The 2021 report covers 111 species or races of rare breeding birds reported breeding, considerably more than any previous RBBP report.

2023 marked the 50th anniversary of the establishment of the RBBP as an independent organisation. Over the past 50 years, RBBP has charted the changing fortunes of our rarest birds, highlighting the impacts of climate change, land-use change and conservation initiatives. Since the 1970s, around a third of the list of species monitored by RBBP have undergone strong increases in the UK, including species such as Red Kite; while a quarter have experienced severe declines, including Long-eared Owl and Turtle Dove.

The RBBP continues to fulfil an essential component of the UK's bird monitoring needs and has provided a wealth of data and information which have been used to contribute towards regular Birds of Conservation Concern reports, assessments of protected sites, and to inform targeted conservation work of the UK's rarest breeding species. Such results would have been impossible without the input from thousands of birders and the county bird recording network.

'Restoring Scotland's Nature' – the importance of collaborative working

In September 2023, JNCC and NatureScot co-hosted a successful event, 'Restoring Scotland's Nature', at the Scottish Parliament at Holyrood, kindly hosted by Ariane Burgess MSP.

Around 65 delegates, including Members of the Scottish Parliament (MSPs) and representatives from the Scottish Government and partner organisations, heard how JNCC's vital convening role integrates the value of nature into decision making.

Read more about the event in our [blog post](#).

Your input needed for new biodiversity project

A project which aims to understand future biodiversity change under a range of environmental and socioeconomic scenarios – [Biodiversity Pathways](#) – has recently launched, and is seeking stakeholder input to inform its development.

Models that predict future biodiversity trajectories are powerful tools for forecasting and exploring the consequences of these long-term environmental changes. The Biodiversity Pathways project will develop a modelling framework to produce both pathways and scenarios for UK nature, and will support policy makers and practitioners by evaluating the consequences of different policy and societal choices.

Biodiversity Pathways is a collaborative initiative between the UK Centre for Ecology & Hydrology (UKCEH), British Trust for Ornithology (BTO), the University of Cambridge and JNCC.

The project team is seeking wider collaboration and input from a range of stakeholders, including academics, conservation agencies, environmental non-governmental organisations and policy makers.

Seabird count – mixed for fortunes in latest seabird census

JNCC has long been involved in monitoring seabirds. Since 1986, through the conception and coordination of the Seabird Monitoring Programme, JNCC (and its predecessor NCC) has been involved in monitoring the species of seabirds that breed regularly in Britain and Ireland. These annual counts at sample colonies are critical to ensure that we have up-to-date information on their status and health.

In addition, periodic breeding seabird censuses are essential to provide robust population estimates, add context to trends from annual monitoring and help to identify why changes might be happening in our seabird populations. These surveys also give us the opportunity to understand how breeding seabird numbers might be changing on a spatial scale.

To date, four censuses have been completed, but the latest is the most comprehensive seabird census yet. *Seabirds Count*, released in November 2023 as a book by wildlife publishers Lynx Edicions, provides population estimates for the 25 regularly breeding species of Britain, Ireland, Isle of Man and the Channel Islands.

The *Seabirds Count* census took place between 2015 and 2021 and was led by JNCC with over 20 steering group partners. A group of key partners who spearheaded the work to collect and publish the findings, was made up of JNCC, RSPB, Birdwatch Ireland, and the National Parks and Wildlife Service (Ireland).

Census data were collected by approximately 1,000 volunteers and professional surveyors at over 10,000 breeding colonies and more than 5,500 1 km urban squares. The completion of this impressive project would not have been possible without the dedication and passion of these individuals, the funding support of governments and industry alike and the valuable input of experts in the seabird community.

Britain and Ireland are home to globally important breeding populations of seabirds. We hold most of the world's nesting Manx Shearwaters, Northern Gannets and Great Skuas. Two species, Lesser Black-backed Gull and Common Guillemot, have over half of the North Atlantic population breeding here. In addition to these, five species have over 30% of their North Atlantic population breeding in Britain and Ireland: European Storm-petrel, European Shag, Herring Gull, Roseate Tern and Razorbill.

The census results show that 11 of the 21 seabird species, where there is confidence in their trends, have declined since the last census in 1998–2002. Five species have remained stable whilst five have increased, with some of those increases linked to targeted conservation work. The remaining four species of the 25 surveyed have up-to-date breeding population estimates, but due to survey method changes and improvements these cannot be confidently compared with previous estimates.

The main drivers for declining populations vary between species and even location, however predation by native and invasive predators is a common theme. Climate change is another important factor, with adverse weather conditions causing nest sites to be swept away and making foraging conditions more difficult. Increased water

temperatures reduce the availability of important food such as sandeels which leads to seabird parents not finding enough food. This is exacerbated by fish stock depletion by commercial fisheries, meaning there's not enough food to go around during the important breeding season.

Since the census was completed, Britain and Ireland have experienced a severe outbreak of Highly Pathogenic Avian Influenza (HPAI) in their seabird colonies. High mortality has been seen in several previously increasing seabird species such as Great Skuas, Northern Gannets and Roseate Terns, but the overall impact on populations is yet to be estimated and we await analysis by the RSPB of new data from 2023.

For more information on the results of *Seabirds Count*, visit: <https://jncc.gov.uk/our-work/seabirds-count/>.

Seabirds Summit

To help initiate the necessary discussions around future seabird conservation that the *Seabirds Count* results posed, decision-makers, conservation practitioners and seabird researchers were invited to a conference held at Edinburgh Zoo on 6 December 2023, after the publication of the book. The event was opened by Dr Gemma Harper (JNCC CEO) and featured talks from JNCC, RSPB, Birdwatch Ireland, the National Parks and Wildlife Service (Ireland), independent volunteers, species experts and the British Trust for Ornithology, followed by an afternoon of interactive workshops.

The interactive sessions in the afternoon stimulated interesting discussions on the future of seabird conservation and monitoring in Britain and Ireland. Kick-starting these sessions was an open Q&A discussion with a panel of seabird, policy and fisheries experts. The common thread coming out of this particular discussion being that in order to create meaningful change we must work collaboratively across sectors. Workshops followed, with three main themes: the future of annual monitoring, the use of new technology for monitoring, and future censuses. A note on these conversations and the ideas coming out of them will be published in 2024.

The outcomes of the conference will hopefully act as the springboard for future collaborations on applied research, that can ultimately help inform seabird conservation strategies, actions, and policy going forward.

The *Seabirds Count* publication is available to purchase from Lynx Edicions: www.lynxeds.com.

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Meet the Expert

In this issue, we focus on Maddie Harris, a Senior Evidence Specialist in the Ecosystems Analysis Team.

What prompted your interest in the natural environment?

My parents always talk about how, as a toddler, I used to stand at the back door and scream “out garden” until they’d let me out to play – finding bugs, collecting leaves, and getting messy. I think it’s less that something prompted my interest in the natural world, and more that it’s something I’ve always had. I was lucky enough to have a childhood that was very much in touch with nature, which cemented my interest further; visiting my grandparents’ farm which included a SSSI, hill-walking holidays, and spending most of my weekends out sailing. My grandma was a particular inspiration. She was the kind of person who knew every bird, flower, and track, as well as all sorts of fun facts and stories about the natural world.

What led you to a career in this sector?

I followed the “do what you’re interested in, and you’ll fall into something you love” path. I didn’t choose my GCSEs or A levels with a particular career plan; I just went for the subjects that I enjoyed the most. Eventually, I found myself doing a biology degree at Durham University, specialising in the ecology and conservation modules, followed by an integrated Masters project studying a seal breeding colony on a remote Scottish island.

By this point, I knew I wanted to continue working in the environmental sector. After an internship at a university in Switzerland on invasive species, and a summer doing damselfly surveys, I decided that I wanted to do something more meaningful and useful than just learning for learning’s sake, so moved away from academia and started looking for opportunities in the environmental policy sector.

How did you become involved in your current role at JNCC and what does it involve?

I joined JNCC just over five years ago, starting off as a support officer and (thanks to some fantastic support and development opportunities) making my way up to first an analyst, and now a senior evidence specialist.

My current role involves leading on a range of different projects. For example, one of these is looking into sustainable consumption. Consumption is the biggest driver of land-use change, which is the biggest driver of biodiversity loss. Sustainable consumption is also crucial for ensuring continued resource security. As part of this work, we have developed [an indicator](#) that allows us to better understand the impacts that countries have outside of their borders through what they buy, use, and eat.

Known as the GEIC (Global Environmental Impacts of Consumption) indicator, it is a tool that allows users to visualise the deforestation, water stress, and biodiversity loss

associated with their country's consumption, including a breakdown by commodity and by where in the world this is taking place.

What has been your greatest achievement at JNCC?

Taking the GEIC indicator from an initial idea in 2018 to its inclusion as a component indicator in the Kunming- Montreal Global Biodiversity Framework (GBF) at COP 15 of the Convention on Biological Diversity in December 2022 has been the greatest achievement I've been involved with; with a huge amount of thanks and credit going to a wide range of other people throughout that time. The inclusion in the GBF was very exciting, giving the work a far greater reach than we had ever expected or hoped for when starting out. Although only optional for countries to report on, we hope that users across the world will choose to do so and will find it useful.

What advice would you give other people looking to get into conservation science?

I would say "don't be intimidated". I remember having the impression that you had to be a real expert in identifying species or some niche specialist ecological topic. That's very much not the case – most of the posts in the field are fairly generalist in terms of the skillset you need, as long as you have a relevant degree.

Don't underestimate the power of work experience – if you're straight out of University and can't write anything in your application about relevant things that you've done beyond your degree then it's going to be hard to compete with those who can – but don't feel like you need a PhD or to be able to list out all the Latin names for birds to get a foot in the door.

Looking ahead, what challenges are you looking forward to?

With global increases in populations and spending power, consumption impacts are a growing problem; measuring it with an indicator is only the starting point. Whilst we are working to improve the indicator further (increasing its scope, accuracy, and use), we are also now undertaking work that I'm particularly looking forward to, on how to translate that into practical solutions and develop an evidence base around policy interventions that could be undertaken to increase the sustainability of consumption – how do we turn that science into action?

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Biodiversity Indicators – tracking and communicating trends in nature

On 14 November 2023, the [16th update of the UK Biodiversity Indicators](#) was published on the JNCC website. These indicators provide a way of tracking changes in biodiversity and the wider environment, focusing on particular aspects for which robust information is available. The UK Biodiversity Indicators are overseen by statisticians in the Department for Environment, Food & Rural Affairs (Defra), working closely with JNCC. The production and publication of these indicators is a highly collaborative endeavour, bringing together the work of around 100 organisations that contribute data and analysis to the 24 indicators. Much of the data used by the indicators is collected by volunteers and citizen scientists, making these indicators a resource to which many people can contribute.

The UK Biodiversity Indicators are an important resource for the UK Government, devolved administrations, other public sector organisations, the private sector and wider public alike. Some of the previously published indicators were used in the latest [State of Nature](#) report, which was published in September 2023. This report includes sections on the whole of the UK, each of the four countries of the UK individually, and the Overseas Territories and Crown Dependencies, with separate reports also produced for England, Northern Ireland, Scotland, and Wales. The report, which garnered much attention, provides a shared evidence base and a means of documenting biodiversity trends in the UK. The State of Nature Partnership includes JNCC and the other Statutory Nature Conservation Bodies (SNCBs) of the UK, working with the wider environmental sector to support robust science and information on policies and actions.

The current set of UK Biodiversity Indicators were developed in response to the post-2010 Aichi Targets of the Convention on Biological Diversity (CBD). The Aichi Targets have now been replaced by the [Kunming-Montreal Global Biodiversity Framework \(GBF\)](#), which includes four goals for 2050 and 23 targets for 2030. The UK Biodiversity Indicators are being reviewed in light of the new GBF and they will be modified to bring them in line with new requirements for reporting progress, as set out in the [monitoring framework](#) agreed in parallel with the GBF. JNCC is undertaking this review process in collaboration with Defra, the devolved administrations and the other SNCBs. The review has involved comparing existing indicators and available information on the environment, to the new goals, targets and indicators in the monitoring framework.

The GBF monitoring framework is composed of many indicators. Some of them will be mandatory for all Parties to include in their CBD national reports due in 2026 and 2029. Others are optional. In addition, Parties to the Convention may use their own national indicators – such as the UK Biodiversity Indicators.

As part of the monitoring framework, CBD Parties also agreed that an Ad Hoc Technical Expert Group (AHTEG) on Indicators would work on the detail of how the indicators would be made operational. James Williams from JNCC [was elected to co-chair this international group](#), following his selection as one of six representatives from the 'Western Europe and Others Group', a fantastic achievement and huge testament to JNCC's expertise.

James has been working with the other experts appointed to AHTEG to provide advice on the proposed mandatory headline indicators, and on the wording for questions to gather information on the indicators. Good progress is being made, with interim results reported to the 25th meeting of the Subsidiary Body on Science, Technical and Technological Advice in October 2023. The work continues ahead of the 16th Conference of the Parties (COP 16) in late 2024.

Indicators provide an important means of documenting and communicating changes in biodiversity and other aspects of the environment, and they enable progress towards policy ambitions to be tracked. As we move forward with the new goals and targets, indicators will continue to form the evidence base by which we can judge the success of our efforts, as set out by the GBF, to reach a global vision of a world living in harmony with nature.

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Together for Nature – turning science into action

At our strategy launch in May 2023, we made our ambitious commitment to enable nature recovery and to be a good ancestor. Inspiring young people – Leah Gowing and Olivia Agbe, supported by The Imani Academy – codesigned the launch to focus on the importance of ancestral leadership. Ancestral leadership is both about the stories we tell and who tells them. It also acknowledges the legacy of past and present realities. With inclusion as one of our core values, JNCC commits to playing our part in diversifying the environmental sector.

Together for Nature sets out JNCC's new vision – Thriving nature for a sustainable future. Our mission, to turn science into action for nature, people and planet, captures the unique value that JNCC will contribute to being a good ancestor – across air, land and sea, and across the four countries of the UK, UK Overseas Territories and Crown Dependencies, and internationally, by:

- Using our scientific expertise to facilitate a collective response to the global biodiversity crisis.
- Using our trusted expertise and judgement to evaluate effectiveness of existing policies and advise on the design of new policies and action to progress nature recovery.
- Leading the discussion to align action for nature and climate change to deliver outcomes that tackle climate breakdown and accelerate nature recovery.
- Continuing to innovate and advance our learning on nature recovery so that science, technology and new digital knowledge are applied to drive positive environmental outcomes.
- Working collaboratively to support the transition to sustainable blue/green economies, linking nature recovery to economic prosperity and societal wellbeing.
- Seeking opportunities to integrate the value of nature into decision-making by mainstreaming nature recovery into social and economic policy areas.
- Investing in our people and culture to ensure an inclusive, collaborative and innovative learning organisation, where staff wellbeing is prioritised and our partners are engaged and respected.

It is our ambition for nature recovery, with science at the heart of the strategy – and ancestral leadership as our north star – that answers nature's urgent call and sets us on the right course to be a good ancestor.

Dr Gemma Harper, our CEO: "Nature is calling us but there is hope, and governments, industry and civil society all have a part to play. We need to act in partnership, with courage and vision, to implement the Kunming-Montreal Global Biodiversity Framework and to take a long-term view.

With science and evidence at the heart of *Together for Nature* we are ready to answer nature's call and to continue on the right course to be a good ancestor – *Together for Nature.*"

Nature is in crisis around the world with species and habitats declining, ecosystem processes failing rapidly and people becoming disconnected from the natural world on which they depend. The intertwined crises of ecological collapse and climate breakdown, alongside continuing pollution, are already having a significant impact on people's prosperity and wellbeing in many countries. Our Strategy to 2030 – *Together for Nature* – challenges us to be good ancestors for nature as we focus on our key role in terrestrial and marine nature conservation and recovery.

For more information see our [Together for Nature webpages](#) or download a copy of [Together for Nature](#).

International News

A warm welcome for the UK Overseas Territories Association

JNCC had the pleasure of hosting representatives from the UK Overseas Territories (UKOTs), as part of JNCC's long-standing relationship with the UK Overseas Territories Association (UKOTA), at the newly opened Quay House in Peterborough in April 2023.

UKOTA promotes the interests of the Territories and the co-operation between them. Not only do they provide an effective, collective voice for the UKOTs, they work closely with statutory bodies, like JNCC, on environment and other issues.

Representatives from each Overseas Territory met with JNCC staff to learn about JNCC's work with the UKOTs in recent years. Defra and the Foreign, Commonwealth & Development Office (FCDO) were also in attendance. The event showcased a wide range of projects, including many funded through the Darwin Plus Fund and former Conflict, Stability and Security Fund; and the EU Commission's Caribbean Overseas Countries and Territories Resilience, Sustainable Energy and Marine Biodiversity Programme. This included sustainable livelihoods' development and the Convention on International Trade in Endangered Species (CITES) conch work in Turks and Caicos Islands, storm surge modelling and coral reef conservation in Montserrat and the Cayman Islands, and the development of conservation area management plans with St Helena.

The event was an exciting opportunity to further strengthen relationships and explore future collaborations.

Darwin Plus Local – supporting environmental projects overseas

The International Implementation Team were proud to support Defra in launching Round 3 of the new Darwin Plus Local scheme in November 2023.

Darwin Plus Local is a new fund designed and run by Defra and JNCC in support of small- scale environmental projects, with the aim of building capacity and contributing to local economies. Darwin Plus Local provides grants for lead partners based in-territory, of up to £50,000 for organisations, and £20,000 for individuals. The application process for Darwin Plus Local has been streamlined to build confidence and familiarity in the grant application process which, over time, is intended to help improve access for more people and organisations in the UKOTs to larger grant funding programmes, including the other Darwin Plus schemes.

Since launching in January 2022, JNCC has delivered two full application rounds and will soon be announcing the successful projects from Round 3. In 2023, Defra awarded 59 projects across Rounds 1 and 2, totalling more than £2 million. One of the successful projects was Bermuda's Living Reefs Foundation's project to preserve and restore coral reefs by rearing young corals in its land-based hatchery and planting them onto reef habitat. Darwin Plus Local is providing £49,977 to support increased monitoring, the use of 3D computer modelling infrastructure and to train four scientists to enhance coastal protections.

Another successful project focuses on the Chagos Brain Coral (*Ctenella chagius*) which is endemic to the British Indian Ocean Territory and on the brink of extinction, likely due to ocean heatwaves. The imminent El Niño climate event is predicted to be severe, with potential for mass bleaching of coral reefs across the region. Darwin Plus Local is providing £49,576 to support the implementation of an Emergency Recovery Plan. The plan includes the recovery of live colonies of *Ctenella*, transport to London and establishment of a safety net population in aquaria.

Darwin Plus Local has also provided £35,408 to support a pilot project in Cayman, trialling a new technique that uses crushed recycled glass in burlap bags to help restore depleted mangrove and seagrass populations, while at the same time lowering the island's carbon footprint within construction and farming practices.

The Overseas Territories Biodiversity Strategy

The UKOTs are global biodiversity hotspots and home to some of the world's most precious and vulnerable ecosystems. Supporting every one of Earth's major ecosystems, from rainforests to polar tundra, the rich diversity of habitats in the UKOTs support a host of endemic species – including some found nowhere else on Earth.

With pressures on global biodiversity growing, more needs to be done to safeguard the future of habitats and species in the UKOTs. In line with the UK's commitment to halt and reverse the decline of biodiversity, a new biodiversity strategy is being developed by Defra and the UKOTs, with support from JNCC.

The strategy will be guided jointly by the priorities and ambitions of the UK Government alongside the 14 UKOTs. Once developed, it will serve as a tool to guide future priorities and investment in protecting and restoring biodiversity in the Territories.

This collaborative process is engaging a range of stakeholders from across the UKOTs and beyond, and it's been an incredibly busy time for the International Implementation Team as consultations have been taking place. The JNCC Team has been very warmly welcomed to the Territories throughout the last 18 months with many lively discussions and lots of post-it notes!

Following continued consultation and development of the new strategy, JNCC and Defra will support UKOT governments with the development of implementation plans where requested.

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Supporting marine conservation in Sri Lanka

The [Ocean Country Partnership Programme](#) (OCP) is a UK Government programme delivered under the Blue Planet Fund and supports partner countries to overcome challenges that threaten their marine environments, and the livelihoods that depend upon them. The OCP is delivered by JNCC, the Centre for Environment, Fisheries and Aquaculture Science (Cefas), and the Marine Management Organisation (MMO) on behalf of Defra. JNCC's focus is to support work on Marine Protected Areas (MPAs), marine biodiversity and marine pollution emergency response.

The OCP has partnered with Sri Lanka since beginning the programme in 2021. The intended impacts of OCP delivery in Sri Lanka include:

- An increase in Sri Lankan capacity to effectively evaluate, manage and regulate human activities that impact the marine environment.
- An increase in marine scientific and technical capacity in Sri Lanka.
- Enhanced education and exchange of knowledge in relation to marine management in Sri Lanka.

MPA support

JNCC delivered a workshop in August 2023 to key colleagues in Sri Lanka's government and non-governmental organisations, focused on the Department of Wildlife Conservation (DWC) who declare and manage Sri Lanka's MPAs. The workshop covered best practice across the MPA implementation cycle and has increased knowledge and strengthened ocean science-related networks across key stakeholders in Sri Lanka.

JNCC is also supporting DWC to undertake Protected Area Management Effectiveness (PAME) assessments for five of their MPAs which was completed in January 2024. PAME assessments are a vital tool for adaptive MPA management, providing MPA managers with the ability to measure and understand the impact of their management actions.

Understanding the effectiveness of management is also important to help countries meet international commitments, including the Convention on Biological Diversity's Kunming- Montreal Global Biodiversity Framework.

Marine pollution emergency response support

OCP and the Sri Lankan Government have been supporting training and capacity building across environmental aspects of marine pollution emergency response, such as oiled wildlife response and post-spill monitoring. JNCC and Cefas delivered a workshop in November 2023 to bring together key stakeholders to provide a platform to showcase science, expertise and best practice from Sri Lanka and the UK to enhance collaboration, communication and strengthen Sri Lanka's environmental response capabilities for marine pollution emergency incidents.

Such activities strengthen existing regulatory frameworks, policies and plans for the marine environment. The outputs of this work will also help to increase scientific and technical assistance by providing access to, and training in the use of, scientific equipment, infrastructure, and data.

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Shearwater and storm petrel research funding secured

JNCC's Marine Species Team ornithologists have successfully bid to secure funding for an exciting new 3-year research project which will explore the evidence gaps around the interactions between UK Procellariiformes (shearwaters and storm-petrels) and offshore wind farms.

The [ProcBe \(Procellariiform Behaviour and Demographics\)](#) project forms part of the Offshore Wind Evidence and Change (OWEC) Programme, led by The Crown Estate in partnership with the Department for Energy Security & Net Zero and Department for Environment, Food & Rural Affairs.

The UK is home to an internationally important 70 to 90% of the global population of breeding Manx shearwaters, as well as around 10% and 0.5% of the global European storm-petrels and Leach's storm-petrels respectively. Despite the importance of these species in the UK, relatively little is known about their populations, demography and at-sea behaviour as they are difficult to study. This is partly due to their breeding behaviour (they are nocturnal and nest in burrows on offshore islands) but also, in the case of storm-petrels, their small size has prevented the use of certain techniques such as GPS tracking until recently.

Offshore wind farms have the potential to impact seabirds in a number of ways, including through mortality caused by collision, displacement from foraging areas, and by acting as barriers to movement. ProcBe will explore evidence gaps, including considering behaviour in adverse weather conditions (such as high winds) and for species which have been previously difficult to detect. This is particularly important given the proposed expansion of offshore wind developments into the Celtic and Irish Seas and off the west coast of Scotland, where these species are found in some of the highest densities in the UK.

This 3-year project started in November 2023 and is led by JNCC with three project partners: University of Oxford, the RSPB and University of Gloucestershire.

The OWEC Programme is an ambitious strategic research and data-led Programme. Its aim is to facilitate the sustainable and coordinated expansion of offshore wind to help meet the UK's commitments to low carbon energy transition whilst supporting clean, healthy, productive and biologically diverse seas. The project will potentially make significant advances in our understanding of the behaviour of some of the UK's most important seabirds around offshore wind farms. It will help the UK to meet its dual ambitions for achieving Net Zero and nature recovery by informing the sustainable acceleration of renewable energy development.

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Geodiversity – the 'bedrock' of an integrated nature conservation approach

We, the Chief Scientists' Group, a Director-level group of science leaders from the UK statutory nature conservation bodies, have recently been reflecting on the role that geodiversity and landscape play as part of nature and nature conservation, and the value of an inclusive definition of nature in their work.

As an intrinsic part of nature, geodiversity has a hugely important role to play in nature conservation. It is an essential element of the work of the statutory nature conservation bodies, and has been a key and world-leading component of statutory nature conservation in Great Britain since 1949. Geodiversity essentially forms the 'bedrock' to an integrated nature conservation approach.

Geodiversity comprises the abiotic, non-living parts of the natural environment. It is important in and of itself, providing an understanding of the history of Earth, the development of its climate, and the evolution of life and ecosystems. It also underpins and helps us understand the character of landscapes, the natural processes that shape them, and their associated habitats and species – determining the location of uplands and lowlands, the course of rivers, the nature of our coastlines and the composition of soils.

High-level plans and policy documents dealing with nature conservation often include policies and plans for nature, with geodiversity and landscape inherently included in these alongside biodiversity. However, without a clear and inclusive definition of nature, which explicitly incorporates geodiversity and landscape, there is a risk that the dominance of biodiversity may lead to the role that geodiversity and landscape play in nature conservation and recovery being overlooked.

Recognising the opportunities and benefits that a comprehensive definition of nature can provide in delivery of our work, we, the Chief Scientists' Group, are supportive of the use of an inclusive definition of nature. This means a definition of nature that explicitly recognises geodiversity and landscape alongside biodiversity.

An excellent example is provided in the '[Scottish Biodiversity Strategy to 2045](#)', which defines nature as: 'Nature includes biodiversity, geodiversity and the natural elements of our landscapes and seascapes. It encompasses all the underpinning features and forces that have continued since the Earth was formed from summit to seabed including rocks, landforms, soils and processes like weather systems.'

This inclusive definition of nature, with geodiversity, landscape and seascape all specifically mentioned, is a very welcome step forward in presenting a holistic view of nature that recognises all of the fundamental elements of the environment, and provides a positive basis for adopting an integrated approach to nature conservation and recovery.

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Conservation Conversation

In this issue we focus on Dave Stone, JNCC Chief Scientist. He is also a trustee of the Ecological Continuity Trust and the Collaboration for Environmental Evidence, and expert advisor to the National Institute for Health and Clinical Excellence (NICE). He remains active in the Institute of Environmental Sciences where he was on the board, and chairs the RainDrop experiment committee and Rewilding Hepple Estate monitoring advisory group. In his spare time he also manages to be a school governor.

Species that inspired you as a child?

Nature wasn't in abundance where I grew up, but I did have a favourite oak tree which I used to climb to sit and contemplate the world. Many years later a friend took me to a chalk down in Kent with seven species of orchid in flower. I just thought 'wow, nature is amazing'. The rest is history.

What concerns you most about the natural world?

Quite simply, the complete disregard the human race has for the planet. Is there another species that actively destroys the habitat on which it depends?

What would you like to achieve in your time at JNCC?

JNCC does some amazing work but too much is below the radar. In my time I want to help ensure that science and evidence make a real impact that delivers for nature by changing policies and actions.

Where is your favourite place?

Anywhere in the Mediterranean region, I love the botany, food, culture, and the warmth. By contrast I also love being up in the hills, squelching across a peat bog.

Who is your human hero in the natural world?

Renowned biologist, naturalist, ecologist, and entomologist Edward Osborne Wilson because he was one of the great fundamental thinkers about the natural world and the human relationship with it. From his mind came concepts that we take for granted today such as island biogeography theory and biophilia.

If you could dine with any four guests who would they be?

I love cooking but don't really like dinner parties. Four people I would love to have a chat with though include physician and thinker Edward de Bono, musician and controversial social commentator Frank Zappa, biologist and writer Rachel Carson, and painter Mark Rothko.

Place you'd most like to visit?

Completely unsustainable but I would love to spend time exploring South America – perhaps I need a year's sabbatical!

What do you do away from the office?

Being a parent of young twins keeps me very busy. When I get a few moments to myself I like to get outdoors, cook, and listen to music.

If you could choose another job or career, what would it be?

In my fantasy world I would like to be a DJ or author, or both! In reality, I think I would always drift towards being outdoors, so perhaps a reserve manager but in a warmer part of the world.

Desert Island Disc?

The wrong question to ask a music lover. Mood is everything! If you really push me, it would be either Pink Floyd 'Wish you were here', or Underworld 'One Hundred Days Off'.