

NATURE NEWS

For nature, people and the planet

Winter 2023



In this edition:

- JNCC at CoP15
- Reducing Pollution Through Partnerships
- Pollinator Monitoring Scheme
- CITES at 50

IN THIS ISSUE



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04
News in Brief



08
Nature Recovery
Event



14
CITES at 50



21
Offshore Wind
Strategic Monitoring
and Research Forum



06
JNCC at
CoP15



10
Meet the Expert



16
Reducing Pollution
Through Partnership



22
Pollinator
Monitoring Scheme



Welcome from our Chief Executive

Welcome to the Winter 2023 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 the UK's only statutory nature advisor to all four countries of the United Kingdom JNCC has a unique ability to bring together organisations across governments. We used our convening role with great effect last November when we coordinated a call for action on nature recovery by the statutory nature bodies and spoke with one voice to our stakeholders and partners in advance of COP15.

I'm proud of our staff's ability to support UK policy makers and take the lead in part of the negotiations at the Convention on Biological Diversity Conference of the Parties 15 (CBD COP15). It was a great achievement to have our indicators taken forward to monitor progress in the implementation of the Kunming-Montreal Global Biodiversity Framework



In this issue we feature how our robust evidence and advice supports better decision making and knowledge sharing across a wide range of projects in partnership with non-governmental organisations, from NGOs to industry groups. In March we marked our influential work to protect endangered species of wild fauna with the celebration of the 50th Anniversary of the Convention on International Trade in Endangered Species. You can read about how we work with a range of partners and other CITES Authorities across the globe, providing licensing and policy advice, as well as training to help in the fight against illegal wildlife trade.

We have started a busy year by moving our Head Office in Peterborough. It's great to share this new government hub with colleagues from Defra, the Environment Agency and Natural England, and we look forward to working closer together.

We're delighted to welcome Dave Stone who joins us as our Chief Scientist. Dave comes with a strong background, having worked with Natural England for over thirty years and he will be known to many of our partners and stakeholders. You will be hearing more from Dave in a future edition of *Nature News*.

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



JNCC works across land and sea with partners in the UK, the UK Overseas Territories and around the world. For over 30 years our trusted expertise, dedication and skills have strengthened nature conservation and we are working in collaboration to drive nature recovery.

We are for nature, for people and the planet

Peterborough staff move into Quay House

Peterborough based JNCC staff have moved into Quay House, sharing facilities with colleagues from Defra, the Environment Agency, Natural England, and the Passport Office, in this new government hub.

On 14 March Cabinet Minister Alex Burghart opened the building: "It's fantastic to be in Peterborough to open our brand new Government Hub. This is a very important day for the city. As today shows, this Government is investing in Peterborough and the East of England to create jobs and opportunities for the long-term."

Quay House achieved BREEAM Excellent certification and the Government Property Agency's net zero programme will ensure continual improvement in energy efficiency.



Boardroom apprentice joins JNCC



We're delighted to have our very first Boardroom apprentice, Rebecca Grattage (pictured left with JNCC CEO, Gemma Harper).

The [Boardroom Apprentice](#) programme aims to create a pipeline of more diverse talent to ensure public and voluntary sector boardrooms more closely to reflect the communities they serve across the UK. Rebecca will undertake 12 months of board learning and development, arming her with the knowledge and practical experience she needs to become a board member.

Congratulations to Vin!

Congratulations to Vin Fleming, International Advice Co-Team Leader at JNCC, on receiving his Order of the British Empire (OBE) for services to the environment.



in Brief

Supporting MSc students in marine conservation

JNCC has been collaborating with the University of Plymouth by providing guidance and advice to students from the MSc in Marine Conservation working on their dissertations. With support from Matt Smith, Mark Collar, and Eugenia Merayo, two graduates, Jade Buttifant and Keziah Truman, presented their final projects last September.

Jade's project, '*Can reforms to UK fisheries subsidies help deliver Blue Economy objectives?*', looked at the importance of subsidies for fisher stakeholders in the UK mackerel fishery and options for reform.

Keziah's project focused on UK overseas territories, '*Translating and responding to The Dasgupta Review on the Economics of Biodiversity in the context of the wider Caribbean United Kingdom overseas territories' natural environment*'. Copies available upon request.



Celebrating Neurodiversity



Neurodiversity Celebration Week is a worldwide initiative that challenges stereotypes and misconceptions about neurological differences.

Throughout Neurodiversity Celebration Week, 13 – 19 March, our staff enjoyed hearing the inspirational speakers and participating in a number of the online events provided, including engaging webinars and panel discussions.

At JNCC, we are proud of our Neurodiversity Group which facilitates a safe and inclusive space for our employees to share their experiences and support a neurodiverse workplace. As part of the week's celebrations, co-founder of JNCC's Neurodiversity Group Tom Tangye, shared his experiences on being neurodivergent in the science field on [The Deep-Sea Podcast](#).

For monthly updates on our work you can subscribe to the JNCC Bulletin! Email: communications@jncc.gov.uk

Turning science into action

The Convention on Biological Diversity Conference of the Parties 15 (CBD COP15) took place in December 2022, having been repeatedly delayed since 2020 due to the COVID-19 pandemic.

Returning to a bustling conference centre with thousands of people to negotiate face-to-face was mostly a welcome experience. Since 2020, all meetings leading up to COP15 had been either online or in venues where COVID-19 restrictions meant delegations were much smaller than normal. While these meetings were crucial to progress negotiations, there is no replacement for being able to quickly grab people from different countries and thrash out an agreement at the back of the room, or huddle around a laptop to agree and finalise text.

One of the most important outcomes was the adoption of the ambitious [Kunming-Montreal Global Biodiversity Framework](#) and a range of complementary Decisions. The adoption of the Framework represents an historic 'Paris' moment for nature – our opportunity to 'bend the curve' to halt and then reverse global biodiversity loss by 2030. Among the Framework's four goals and 23 targets are commitments on:

- effective conservation and management of at least 30% of the world's lands, inland waters, and of coastal areas and marine areas;
- restoration being completed or underway on at least 30% of degraded terrestrial, inland waters, and coastal and marine ecosystems;
- reducing by half both excess nutrients and the overall risk posed by pesticides and highly hazardous chemicals;
- cutting global food waste in half and significantly reducing overconsumption and waste generation;
- significantly increase access to, and benefits from, green and blue spaces.

Crucially these commitments are underpinned by an agreement on new finance for nature, such as mobilisation by 2030 of at least \$200 billion/year in domestic and international biodiversity-related funding from all sources and, notably, reforming or re-purposing the perverse incentives and subsidies that drive biodiversity loss.

JNCC staff Dr Vin Fleming, Willow Outhwaite and Gemma Singleton, played an active role in the UK's negotiating team, providing technical advice and leading for Defra on negotiations on key issues. Dr Gemma Harper, Danny Heptinstall and Maddie Harris were extremely busy, attending and speaking at numerous events and promoting the JNCC's work.

We are very proud that our [Global Environmental Impacts of Consumption Indicator](#) was included as a component indicator (Box 1) and the [Management Effectiveness of Protected and Conserved Areas](#) (MEPCA) (Box 2) as a complementary indicator as part of the vital Monitoring Framework to be used to monitor progress in the implementation of the Kunming-Montreal Global Biodiversity Framework.

While the adoption of the Kunming-Montreal Global Biodiversity Framework is a cause for celebration, it is only the first step in re-setting our relationship with nature. We are already working closely with the UK Government, the Devolved Administrations, and the Overseas Territories and Crown Dependencies to determine how we can make sure, in the limited time remaining in this decade, that the UK contributes to the successful achievement of the ambitious goals and targets of the Framework.



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ction – JNCC at COP15



Box 1 – Global Environmental Impacts of Consumption Indicator

What is it? An indicator estimating the total environmental impact (including biodiversity loss, scarcity-weighted water use and deforestation) caused by countries' or territories' consumption of commodities. Results can be broken down by the producer countries/territories in which the impact takes place and by the commodities driving any impact. It can be accessed at <https://commodityfootprints.earth/>

What does it mean to be included as a component indicator? Inclusion as a component indicator is a great opportunity for international exposure and uptake of the indicator, especially given that no Headline indicator was selected against Target 16.

What are the next steps? Development work to continue improving the indicator (expanding the commodity, country and impact metric scope; integrating finer resolution production data; updating the methods behind the biodiversity metric) is planned to continue until at least 2025.

Box 2 – Management Effectiveness of Protected and Conserved Areas (MEPCA)

What is it? A Framework Indicator for Assessing Management Effectiveness of Protected and Conserved Areas. The quantitative value produced is calculated in a way which puts emphasis on the achievement of conservation outcomes (used as the proxy for assessment of management effectiveness) as well as taking account for the differences in governance types of these areas.

What does it mean to be included as a complementary indicator? A key message coming out of the negotiations was the importance of the quality aspects of the target. The Headline Indicator for Target 3 30x30 'Coverage of Protected Areas (PAs) and other area-based conservation measures (OECMs)' was separated in title from its quality elements such as effectiveness, so it is the role of the component and complementary indicators to ensure that these key elements are able to be assessed. MEPCA had undergone a rapid development ahead of COP15 and so it is considered a real success to be recognised as a complementary indicator, highlighting the hard work of the multiple global partnerships which made it possible.

What are the next steps? Work is ongoing to get the indicator ready for global reporting which includes the development of user guidance, continued trialling and further exploration of synergies and integration with other global systems, tools and indicators.

Nature Recovery for Our Survival the Statutory Nature



On 23 November 2022 the Chairs and CEOs of all six of the UK's Statutory Nature Bodies (Council for Nature Conservation and the Countryside, Northern Ireland; JNCC; Natural England; Natural Resources Wales; NatureScot and the Northern Ireland Environment Agency) came together with a clear message – the time for action is now.

In a bold and united statement, '[Nature Recovery for our Survival, Prosperity and Wellbeing](#)', the leaders of the nature bodies of all four UK governments highlighted the importance of nature to our society's prosperity and wellbeing, stressing that: we cannot risk any further damage to the ecosystems that support us all; it is not too late to recover the UK's nature; investing in nature's recovery is investing in all our futures; and collectively, the six nature bodies know what needs to be done to recover the UK's nature.

This statement was launched in the lead-up to the concluding negotiations of the new Global Biodiversity Framework at the Convention on Biological Diversity's 15th Conference of the Parties in Montreal in December 2022. Senior figures from all four countries of the UK as well as key stakeholders and partners joined us for the launch held at The Royal Society, London.

By launching the joint statement at this time, not only did we hope to reaffirm the UK's commitment to the negotiations, we also sought to highlight that the work does not end with the negotiations, but it begins. It is only by transforming all our activities across society that we can meet the high ambitions of the Global Biodiversity Framework. With this aim, we were particularly pleased that Lord Benyon, the UK Government's Minister for CBD COP15, shared his message at our event, endorsing our statement and the need for urgent action.

Many JNCC staff led the way in bringing together the Statutory Nature Bodies to develop the statement and in organising the launch event. JNCC is known for its convening abilities and we are proud to have used these in such an impactful way.

The text of the Global Biodiversity Framework states its purpose is to '...catalyse urgent and transformative action to halt and reverse biodiversity loss...'. By speaking with one voice, we have shown that the UK's nature conservation bodies are ready to support decision makers on delivering this ambition.



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Survival, Prosperity and Wellbeing - Bodies stand united!



Meet the Expert

In this issue, we focus on Dr Helen Baker, Marine Team Co-Leader

What prompted your interest in nature?

I grew up in the countryside and as a family we were always out and about. Two places sparked my interest in birds and all things nature: a local wildlife trust nature reserve where I found my first woodpecker nest and discovered Common Twayblades and Penny Buns; and Dovedale where we played at the famous stepping-stones and walked up the dale to look for Dippers, which still fascinate me. My favourite saying is 'keep your eyes peeled for Dippers'.

How did you get into ornithology?

My first degree was fairly bird-free as I focused on general ecology, but I had the privilege of doing a PhD on birds in Scottish Pinewoods (still my happy place). Since then, I've done some exciting bird work, including tracking Water Rails, studying Hawaiian Honeycreepers, Hawaiian Geese, Bonin Petrels, and avian malaria in Samoan birds, and helping on lots of projects ringing or monitoring birds. I switched to a government advisory role when I joined Scottish Natural Heritage (now NatureScot) in 1999 and was responsible for synthesising scientific advice to underpin Special Protection Area (SPA) designations. The 2001 SPA Review project gave me the chance to join JNCC and since then I've had a range of roles, primarily in bird conservation.

What does your role as marine species team leader entail?

I support JNCC's marine bird experts in delivering a wide range of evidence and advice, so I spend time working with them to make sure we are going in the right direction, meeting the needs of those we collaborate with or advise, and supporting them to individually develop and thrive. I help with strategic development, planning, negotiations, financial management, performance reporting, representing the team's interests and very occasionally technical advice. The team covers marine bird monitoring, indicators, advice on offshore industries, pollution response, bycatch and biosecurity, protected areas, and national and international seabird conservation advice, including albatrosses and petrels in the South Atlantic.

Why is bird conservation important?

A big question; the simple answer is that birds are best, but seriously, they are a critical component of any ecosystem, and securing healthy ecosystems is what it's all about so you can't do conservation without birds. Birds have become the sentinels of nature conservation because they are easy to see and identify (mostly), they live with and all around us and give us the gift of a rich, natural soundtrack to life.



ne Species

This accessibility and cultural importance has meant they've often been at the forefront of the conservation movement and, because they are easy to monitor, they are good indicators of how we are managing some human impacts. Birds will always be important, even central, to conservation efforts because of the strong connection people have with them, but we mustn't lose sight of the fact that ecosystems are far more than birds.

How has bird conservation evolved/changed?

Well, one of the biggest changes is who does ornithology (the science) today and the significant shift in gender balance that we've benefitted from, but we still have much to do to make ornithology more inclusive. This shift has also played out in the conservation advisers and practitioners in our seabird team and partner organisations, which is very different from when I started. The other big change is technological advancement, which continues to amaze and provide such valuable information, from in-field recording on devices to tracking individual birds across our oceans to counting seabirds from space using satellite imagery! However, although we've seen some excellent bird conservation success stories, like eradication of non-native predators from some seabird islands, there remain significant challenges that have barely changed over the last 25 years or longer, like persecution of birds of prey. We need to do more.



Tell us about a memorable moment in your work life?

I prefer to work away in the background, enabling others and finding solutions to barriers in generating evidence that can genuinely support the development of good conservation policy, but one of my more memorable activities was leading on authorship and presenting a climate change resolution on behalf of the UK Government at the African-Eurasian Waterbird Agreement 3rd Meeting of Parties in 2005. The resolution was adopted and simply summarised as: *Parties shall cooperate to determine and monitor the impacts of climate change on migratory waterbirds and their habitats and where appropriate respond to the threats.* I hope it's made a positive difference.

Is it just birds, birds, birds?

No, I've always been interested in plants and fungi too, and I'm part of a group that is using DNA sequencing of fungi as a way of improving identification, recording, and contributing to taxonomic understanding. It astounds me that I can now extract and amplify DNA at home and submit sequences to a global database for others to use. Such fun!



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Bringing together



In November 2022 the British Trust for Ornithology (BTO) and JNCC hosted a workshop exploring the impacts, possible management measures and research needs linked to the ongoing outbreak of avian influenza (HPAI H5N1) in the UK's wild birds. More than 100 animal health experts, virologists, ecologists and conservation practitioners participated over two days, and the outcomes were published on 2 March 2023 by BTO.

The report '[Highly pathogenic avian influenza in wild birds in the United Kingdom in 2022: impacts, planning for future outbreaks, and conservation and research priorities. Report on virtual workshops held in November 2022](#)'

describes what we know about the impact of the disease in wild birds, explores requirements to assess the vulnerability of different species, and identifies research and conservation knowledge gaps. Bird flu has had significant impact on some species populations, such as Barnacle Goose, Great Skua, and Gannet, with more than 20,000 seabird deaths across 23 species since March 2022, which is likely to be a significant underestimate.

The value of existing national bird monitoring schemes to increase knowledge of the spread and impact of HPAI was highlighted. In particular the BTO/JNCC Ringing Scheme, which reports dead birds carrying uniquely numbered metal leg rings, has revealed high mortality compared to previous years for seven species: Gannet, Great Skua, Guillemot, Arctic Tern, Sandwich Tern, Kittiwake and Mute Swan. This suggests that impacts are greater than those seen from general records of dead birds.

The monitoring of wild bird populations remains critical if we are to understand the impact of HPAI and deliver conservation solutions. Seabird experts, led by the RSPB and including those involved in the BTO/JNCC Seabird Monitoring Programme, have assessed which species and sites need monitoring in the coming breeding season and are seeking funding to achieve the level of coverage required. This evidence is important for marine industries, including Offshore Wind.

The workshop looked at the potential for different interventions to reduce impact but concluded there was little that could be done to reduce the spread amongst wild birds. Discussion on removal of carcasses of dead birds suggested this might, in some circumstances, be worthwhile, potentially reducing transmission to scavenging species.

The report identifies three areas where more knowledge is required:

- a better understanding of how the virus is spread between individuals and different groups of wild birds;
- assessment of the scale of losses at our internationally important seabird colonies in 2023 ; and
- effective practical approaches to managing future outbreaks.

Since the workshop, JNCC, the Statutory Nature Conservation Bodies (SNCBs), Defra Animal and Plant Health Agency (APHA), environmental non-governmental organisations continue to monitor the impact of HPAI on wild birds, develop approaches to dealing with the outbreak, and plan for the coming seabird breeding season.



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experts on Bird Flu



CITES @ 50: Partnerships

Friday 3 March 2023 marked the 50th Anniversary of CITES – the Convention on International Trade in Endangered Species of wild fauna and flora. This date coincided with the United Nations' World Wildlife Day (WWD) which was celebrated under the theme 'Partnerships for Wildlife Conservation' and recognised the important role CITES has played in building and enhancing partnerships for wildlife conservation, and the significance of these partnerships in the success of the Convention.



JNCC was appointed as the UK's CITES Scientific Authority for fauna in 1991. Our team of licensing and policy advisors provide prompt and reliable scientific advice to Defra and other government departments to enable the UK to meet its international obligations in relation to CITES and more generally for biodiversity and sustainable development. We work in partnership, advising the UK Management Authorities, Defra and the Animal and Plant Health Agency (APHA), on the issuing of CITES permits, in order to ensure that trade to and from the UK will not have a harmful effect on the relevant population of the species. This is known as making a 'non-detriment finding' (NDF), and we currently advise on around 20,000 different applications every year, covering everything from snakeskin handbags to tigers and live eels.

Providing licensing and policy advice to Defra and APHA is only part of our role. We also work collaboratively with, and coordinate, the UK enforcement authorities through the Wildlife Crime Conservation Advisory Group (WCCAG) to identify wildlife crime priorities and intelligence requirements for UK wildlife law enforcement. We deliver regular training on illegal wildlife trade and CITES to both police and Border Force officers in collaboration with the National Wildlife Crime Unit (NWCU). We also provide impact and expert witness statements in order to inform prosecutors and the judiciary of the seriousness of crimes, affecting sentencing for criminals.

Together with our partners at Royal Botanic Gardens (RBG) Kew (who provide the complementary scientific authority role for flora) we have analysed UK wildlife trade (legal & illegal) to assess the impact of the UK leaving the European Union on trade patterns and volumes to inform government policy and decision making. This research compliments our earlier report produced in collaboration with the UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC), which analysed UK trade from 2012-2016 in preparation for EU Exit and which allows us to compare trade levels and features before and after leaving the EU.

We also work with other CITES Authorities around the world, including in our UK Overseas Territories. We have provided capacity building training to various countries in recent years, including South Africa, Malawi and Anguilla, and are currently developing a training package for Turks and Caicos Islands (TCI) Government Departments. This capacity-building work is part of our ongoing RESEMBID funded project addressing the sustainability of queen conch fisheries and livelihoods in TCI, where we have partnered with the TCI Government and the Marine Conservation Society to promote sustainable utilisation of queen conch, while preserving the environment and enhancing the social and economic livelihood of local people.

for Wildlife Conservation

Most recently, members of the team travelled to Panama for the 19th Conference of the Parties of CITES (CoP19). We provided scientific support to Defra in its preparations for, and attendance at CoP19: giving advice on species listing proposals and working documents ahead of the meeting and supporting negotiations as part of the UK delegation in Panama. Going forward, work under our partnership with Defra will continue to ensure that decisions taken at CoP19 are implemented, assess their impact for the UK and work with key partners to address any related challenges.

The past 50 years of CITES have been strengthened by partnership working, as has the UK Scientific Authority, making a difference for wild species, ecosystems, people and livelihoods.



CITES in numbers!

Over 5,000 animal species listed on CITES



Over 44 countries visited!

Over 100 years of collective experience in the team!



We train an average of ~200 enforcement officers a year

Over 20,000 applications assessed annually!



The UK is the 11th highest global importer of CITES listed species from the rest of the world.

Over the past 10 years the UK has sustainably imported over 50,000 pythons!



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Innovative projects Through F

JNCC has collaborated with partners in Mozambique and Angola on two innovative projects as part of [The Reducing Pollution Through Partnership \(RPTP\) programme](#), a UK Official Development Assistance (ODA) pollution scoping programme from 2021–2022. The projects were funded by the UK's Department for Environment, Food & Rural Affairs (Defra) and delivered by JNCC to work with low-middle income countries to raise awareness of chemical use and to manage air, chemical and waste pollution in the local environment.

Both projects have informed the development of a three-year Official Development Assistance Environmental Pollution Programme to be delivered by JNCC from 2022-2025.

Fighting Pollution with Art in Mozambique

This capacity building project used various art forms to promote awareness of pollution and its impacts on the environment, particularly biodiversity loss. Fighting Pollution with Art comprised of several partners in Mozambique, including the [University of Eduardo Mondlane \(UEM\)](#) school of Communication and Arts; the [Centro de Direito do Ambiente da Biodiversidade \(CEDAB\)](#), an environmental law department within the UEM Faculty of Law; the UEM Botanical Gardens; environmental organisations [Eco+](#) and [Geração Consciente](#); and an independent playwright/actor.

Project goals included: raising awareness of pollution and its impacts on the environment; increasing understanding of environmental law relating to pollution in Mozambique; promoting biodegradable alternatives to plastic packaging, sharing knowledge on using organic waste for growing food; promoting recycling and establishing a recycling system at UEM, planting indigenous trees; and initiating a fruit tree community management project. This multi-layered approach reached a wide audience, enabling the project to achieve a greater impact.

A play script about pollution and the related environmental and social and economic impacts was produced by partners earlier in the RPTP programme. The script was designed to be thought provoking and interactive. Audience members were invited to contribute to a debate about solutions to a pollution-focused scenario. The play involved teachers and students from the UEM school of Communication and Arts and was performed in two cities in different provinces, Maputo and Xai-Xai. The performances were positively received and reported in the national newspaper. A video of the play is being produced by the UEM School of Journalism and will be broadcast on UEM media platforms.

Eco+ advertised biodegradable sustainable alternatives to single-use plastic packaging on a billboard and this led to the organiser of the 'Fancy International Fashion Show' reaching out with interest in using the products. The show took place in September 2022 using biodegradable materials, such as paper bags instead of plastic. Eco+ held meetings with organisations in the tourism industry, such as restaurants and hotels, promoting the products and encouraging their use, with several companies agreeing to make the switch. Eco+ also developed content for a composting training course, teaching people how to use biodegradable materials and other organic waste to grow plants. Next steps will continue the campaign of biodegradable products and the training for new cohorts.

CEDAB gathered information from local communities and industries about their rights and duties to fight, prevent and treat pollution. A guidance document was created and CEDAB made several recommendations for next steps, including introducing incentives to promote solid waste management and strengthening pollution monitoring and control regulations for institutions.

Reducing Pollution Partnership

The UEM Botanical Gardens collaborated with three institutions; [Clube de Educação Ambiental da Faculdade de Educação](#), [Repensar- Cooperativa de Educação Ambiental](#), and [Mentes Sustentaveis](#) to host a workshop about solid waste management and recycling. Students from UEM environmentally focused courses and faculty members from different departments attended. A mural was commissioned to depict nature and its benefits to people, such as mental wellbeing, and promoting best practices to reduce pollution and biodiversity loss. Secondary school students attended a workshop to learn about pollution and the impacts on the environment, the importance of biodiversity, and to plant indigenous trees. Following the workshop, Geração Consciente provided separate waste bins at the UEM Botanical Gardens and the UEM School of Biological Sciences.

The NGO Geração Consciente held workshops with schoolchildren about recycling and reusing materials and planted fruit trees in schools and vulnerable communities. This marked the beginning of a community-led fruit tree management project. Fruit trees were chosen as research shows people are more likely to water and manage fruit trees than other trees. The trees will increase carbon storage through carbon capture, increase soil stability, and improve air quality.



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Environmentally focused teacher training in Angola

JNCC worked with partners in Angola to successfully implement an environmentally focused teacher training course, known as EcoEducando, raising awareness and sharing knowledge of environmental issues and their impacts on people, the environment and biodiversity.

The project majored on the social and environmental impacts of climate change through discussions on climate solutions and mitigation actions. Environmental challenges were highlighted at different scales including at the country level for Angola, the African continent, and the global scale. The training aimed to increase the environmental knowledge and awareness of teachers and explore ways to share their learning with schoolchildren. The teachers completed exercises that focused on raising awareness and creating connections with nature through other practical hands-on lessons such as growing plants.



JNCC supported partners at [EcoAngola](#) to deliver a six-session teacher training course with assistance from their sister organisation [EcoJango](#). Eighteen teachers graduated and received a certificate for their efforts. Following completion of the course, EcoAngola hosted an activity day attended by graduate teachers, school students and their parents. The teachers shared their learnings with attendees by running lessons and educational activities throughout the day.

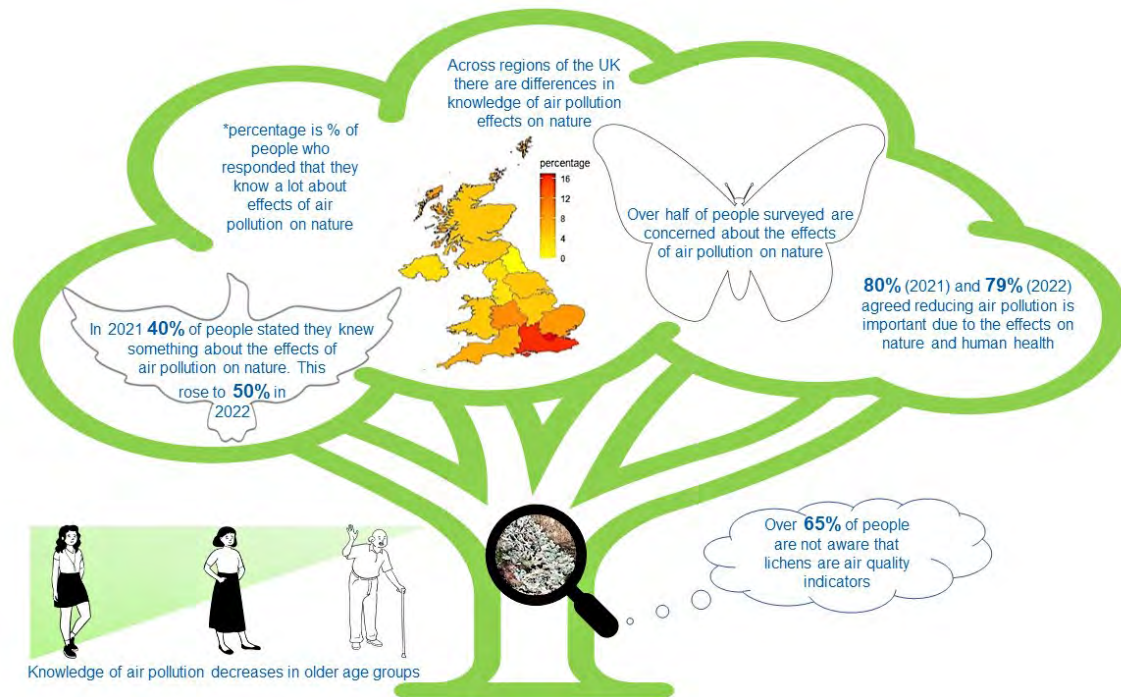
EcoAngola hosted more classes and repeated the programme for two more cohorts before the end of 2022, totalling 98 graduates in 2022. EcoAngola plans to

expand the EcoEducando programme; raising the programme's profile and enticing more teachers to participate. Connections are being made with the Angolan Minister of Education to continue support for EcoEducando. Ministerial support will raise the programme's profile and help EcoEducando connect with teachers in more schools, allowing the programme to have a long term impact.

JNCC provided scientific evidence and advice about best practices and project support to develop a literature review on the specific pollution challenges experienced by Angola. Such an approach considers the specific local environmental and social context and enabled the EcoEducando capacity building pilot programme to further raise awareness and increase knowledge of the impacts of pollution on biodiversity loss in Angola.



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Clean Air for Nature

Air pollution is contributing to public health issues and declines in biodiversity. There are still big gaps in knowledge, with half of people recently surveyed unaware of the effects of air pollution on nature. Defra has partnered with [Global Action Plan](#) (along with [Scottish Government](#), [Welsh Government](#), [Opinium](#) and [Mitsubishi electric](#)) to run an annual Clean Air Day campaign, to raise public awareness and action on air pollution. JNCC has been a proud supporter of Clean Air Day for the past two years, you may have seen the social media posts during June. We have also included some questions about air pollution and nature in the annual Clean Air Public Insight Tracker survey. The key results from the survey can be seen in the image.

Air pollution leads to increases in respiratory disease and, according to Public Health England, is responsible for between 28,000 and 36,000 deaths per year in the UK¹. Clean air is also essential for nature to thrive. Increased nitrogen threatens many wildflowers in the UK, species richness declines and habitat changes can result from nutrient enrichment, a lower soil pH and direct damage from high concentrations of nitrogen oxides or ammonia. To find out more about air pollution and the effects on nature there is an animation on the [Clean Air For Nature webpage](#).

According to the latest Trends report, 67.7% of UK habitats sensitive to nitrogen were exceeding their nutrient nitrogen critical load in 2019². There are legally binding targets for reducing emissions of air pollutants and a National Air Pollution Control Programme to set out measures for reaching targets. The UK has been compliant with its emission reduction targets for all pollutants except ammonia, which in 2020 had reduced by 7% compared to the 2005 baseline. The target was 8%³.

JNCC is involved in air pollution projects with all four countries of the UK. This work includes UK AERIUS, Nitrogen Futures, Nitrogen Futures 2 and 3 and a project looking at indicators of biodiversity recovery from air pollution. The Inter Agency Air Pollution Group plays an important role in joining up the country nature conservation bodies, aiding collaborative work and knowledge sharing between agencies.

¹ <https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution>

² https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2208301034_Trends_Report_2022.pdf

³ <https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-ammonia-nh3#:~:text=Changes%20in%20the%20trend%20of,2020%20were%20259.2%20thousand%20tonnes.>



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Tackling the environmental impacts of offshore wind with robust evidence – OWEER

Without a good understanding of the potential environmental impacts of offshore wind developments in UK waters, consenting processes can be delayed and uncertainty in impact assessments is high. This can lead to delays in offshore wind developments, and challenges in accurately accounting for potential impacts through appropriate and proportionate mitigation and compensation measures.

Throughout 2021 - 2022 JNCC has worked with Defra and The Crown Estate (TCE) on a project funded through TCE's Offshore Wind Evidence and Change programme (OWEC). The project catalogues and prioritises environmental evidence gaps relating to offshore wind impacts on marine habitats and species. A database of gaps and current research projects was compiled through voluntary submissions from UK organisations from academia, government, industry, and environmental NGOs. The database covers research into marine mammals, fish, seabed habitats and seabirds.

First published in June 2021, this database is now known as the Offshore Wind Environmental Evidence Register or OWEER. Three subsequent versions have been published with developments to functionality, content and ease of interpretation. This database is a key step in prioritising urgent research areas to ensure that we understand how to mitigate the potential environmental impacts of offshore wind, while still meeting the UK's ambitious offshore wind energy target of 50GW by 2030 ([British Energy Security Strategy, 2022](#)).

The database's initial purpose was to help prioritise funding from OWEC, now funding largescale research projects such as POSEIDON (Natural England), and PrePARED (Crown Estate Scotland). Beyond this, OWEER has been used within government and industry as a reference tool to ensure no overlap in research effort, to highlight priority research areas and facilitate dialogue and networking among stakeholders. OWEER is key to our priorities of providing nature conservation advice on offshore activities and helping to support better decision making in managing our offshore environment.

JNCC, Defra and TCE are discussing how to enhance the database. It's hoped that OWEER becomes an online, live portal with developments in functionality and ease of interpretation.

For information and to access the OWEER visit [TCE's Marine Data Exchange website](#).



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Successful completion of partnership work to identify research on marine birds

In February 2023 the Offshore Wind Strategic Monitoring and Research Forum (OWSMRF) completed three years of identifying priority research areas on marine birds in the UK.

OWSMRF is a partnership led by seven developers, including EDF Renewables, Equinor, Ørsted, RWE, ScottishPower Renewables, SSE Renewables and Shell. JNCC is the secretariat and plays a role in delivering scientific outputs.

OWSMRF was launched in 2019 to support the UK's ambition to combat climate change by achieving Net Zero by 2050 and leading on offshore wind development. More recently the UK Government's targets for offshore wind capacity increased from 40 to 50 gigawatts of electricity to be generated by 2030.



While rapid expansion of offshore wind farms in UK waters will contribute to mitigating climate change impacts there are still important knowledge gaps about potential environmental effects of large-scale offshore wind developments, particularly on marine birds. Uncertainty in impact assessments means that offshore wind may not be deployed at the scale required to achieve Net Zero by 2050. OWSMRF has worked with UK's Statutory Nature Conservation Bodies, experts, academics and others involved in the offshore wind sector, to identify, prioritise and promote robust research that will reduce uncertainty when assessing ornithology impacts.

OWSMRF has completed its Continuation phase (2021-2023), focusing on Manx shearwaters (*Puffinus puffinus*) and European storm-petrels (*Hydrobates pelagicus*), a group of seabird species that may become a future consent risk for large-scale offshore windfarm development in the Irish and Celtic Seas. OWSMRF Continuation concludes with the publication of two research products: a series of concept notes summarising 20 research ideas on the ecology and behaviour of these species, and a detailed scope of work to gain more confidence in UK population abundance and status.

The concept notes provide an overview of each of the research ideas developed in the Knowledge Gap 4 (KG4) report ([Baker et al. 2022](#)). They include a summary of the proposed work, anticipated outcomes and how these may benefit the offshore wind industry. These will provide prospective funders with an easily digestible package of information and signpost to the full detailed report.

The Scope of Work, 'Review, modelling and trials of annual monitoring for Manx shearwaters and European storm-petrels' combines work packages identified in the KG4 report, elaborating on two of the most promising research ideas, setting out aims and objectives, detailed tasks and contractor requirements. The project's overall aim is to evaluate and explore methods for monitoring shearwater and storm-petrel colonies in the UK, identify drivers of uncertainty in population estimates and make recommendations for future modelling and monitoring. While these species can be challenging to study in the field, this scope of work proposes making use of existing datasets, expert knowledge and commonly used monitoring methods to provide results and improvements in the short-term. Refined population estimates would benefit the offshore wind industry by contributing more accurate data to impact assessments.

OWSMRF thanks the range of stakeholders who contributed significantly to its success, especially the British Trust for Ornithology, the Council for Nature Conservation and the Countryside, Marine Scotland Science, Natural England, Natural Resources Wales, NatureScot, the Royal Society for the Protection of Birds, as well as researchers and ornithology experts from UK and European organisations. Forum partners and stakeholders continue to discuss future engagement and opportunities, and plans will be announced in due course. For more information about OWSMRF, visit the [OWSMRF webpage](#).



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Monitoring Pollinator Monitoring



A new pollinator monitoring partnership agreement between JNCC and UK Centre for Ecology and Hydrology (UKCEH) ensures the continuation of the UK Pollinator Monitoring Scheme (PoMS) from 2022 until 2025, adding pollinators to the set of long-term UK-wide biodiversity monitoring schemes supported by JNCC, UKCEH, and a range of non-governmental organisations.

Insects such as bees and hoverflies play a vital role in our environment, pollinating agricultural crops and wildflowers to enable them to set seed and produce fruit. Understanding how and why insect populations are changing is essential to conserving pollinators and the crops and wild plants that depend on them. Moreover, effective biodiversity monitoring is key for tracking progress and guiding plans to achieve the goals agreed by all four UK countries in the Nature Positive 2030 report.

The UK Pollinator Monitoring Scheme (UK PoMS) began in 2017 and was the first scheme in the world to start generating systematic data on the abundance of pollinators at a national scale. PoMS collects annual data on bees, hoverflies and other flower visiting insects across the UK between April and September. The scheme includes pan trap surveys and Flower-Insect Timed (FIT) Counts, both of which rely on dedicated volunteers following standardised methods to ensure comparability. Data generated by UK PoMS are made available via UKCEH's Environmental Information Data Centre, allowing their use by scientists and practitioners in research and decision making.

An additional important aim of the FIT Counts is to encourage wider participation in pollinator monitoring; these 10-minute surveys are designed to be suitable for non-specialists and offer a wonderful way to connect with nature in gardens and beyond. To date, a total of 12,187 FIT Counts have been submitted to PoMS, representing an incredible 2,031 hours of observation.

The UK PoMS partnership has benefitted greatly from the involvement of thousands of dedicated volunteers and many organisations, spanning government, research institutes, and NGOs. The 2023 survey season began on 1 April 2023.

UK PoMS is funded by the UK Centre for Ecology & Hydrology (UKCEH) and JNCC (through funding from Defra, Scottish Government, Welsh Government, and DAERA). Project partners include the Bumblebee Conservation Trust, Butterfly Conservation, British Trust for Ornithology, Buglife, Hymettus, Natural History Museum, the University of Reading and the University of Leeds.

To find out more and how to get involved, visit the [PoMS website](#).



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ng focus

Monitoring Scheme



Conservation Conversation

This issue we focus on JNCC Committee member **Professor Peter Higgins, Professor of Outdoor, Environmental and Sustainability Education at the University of Edinburgh and Director of the United Nations University Regional Centre for Education for Sustainable Development (Scotland). He is a Board Member of NatureScot and Chair of its Scientific Advisory Committee.**



Q Species that inspired you as a child?

Great-crested newts in a local cow-pond. I was amazed at their dark skin, and called them 'salamanders'. I collected sticklebacks and kept them in a small fish tank. I was interested in birds, their calls and names and how, as my grandfather informed me, a bird could be both, 'peewits'!

Q What concerns you most about the natural world?

We don't appreciate that we are part of, not apart from the natural world. A lot of my work is about finding ways to make this evident and to encourage people to act to address the twin nature and climate emergencies.

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

I'd like to help where I can to address the enormously important issues JNCC deals with.

Q Where is your favourite place?

The west coast and Western Isles of Scotland. So much of this area is important to me.

Q Desert Island Disc?

Beethoven's 9th Symphony. When I listen to it, I'm unable to think of anything else.

Q Place you'd most like to visit?

The west coast and Western Isles of Scotland.

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

My school-teacher (Brian Gibson) introduced me to the 'outdoors', taking me and my peers camping, kayaking, and hillwalking. My PhD supervisor Prof John Thorpe taught me to think rigorously. Nev Crowther taught me to think ecologically. Sir Patrick Geddes (1854-1932) posthumously taught me to think interdisciplinarily. I'd like to thank them. But maybe I'd invite their wives instead to show my gratitude for their undoubted support!

Q Who is your human hero in the natural world?

Sir David (Attenborough) of course! He's been part of my life since I first saw a television. Another is Neville Crowther, my academic predecessor, the best naturalist I know, whose commitment to nature, and teaching in and about the natural world, inspired me.

Q What do you do away from the office?

I like to run or cycle in the countryside and along the coast where I live (East Lothian); and sea-kayak, often to the Bass Rock.

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

I've had a number, and I wouldn't swap the one I have, though at times I'd like to 're-size': less time on screens and more with my students, especially outdoors.



Lapwing or Peewit © iStock

