# JNCC Nature News Summer 2020

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## Chief Executive's Introduction

Welcome to the summer edition of Nature News, bringing you updates and information on our UK and international work. Since the last edition we've been continuing to work from home while pushing forward to deliver our priorities. Supporting the organisation through the challenges have been our Corporate Services teams, whose response and resilience has kept the JNCC machine running smoothly and enabled our science staff to focus on their work.

In June we held our first virtual Joint Committee meeting, bringing together our members from across the UK. It was a great success that highlighted the benefits that collaborative technology can bring in enabling people to interact constructively. The highlight of the meeting for me was the discussion on JNCC's international advice, which was informed by a series of presentations from staff on various aspects of our global work.

JNCC's new strategy signals that we "will increase our international engagement, broaden our support for the international agendas of government and strengthen bilateral relationships with selected countries". That's great as a high-level statement of intent – but what does it mean in practice? Fundamentally, it means that we will be expanding beyond our traditional role, which has been focused on advising government on international environmental agreements, such as the Convention on Biological Diversity and the Convention on International Trade in Endangered Species. In this edition we explore our evolving international activities.

Just as Nature News went to press, Scottish Natural Heritage launched their new branding – NatureScot – reflecting their role in ecological restoration in Scotland and investing in nature- based solutions to climate change. Their work will support a post-COVID 'green recovery'. We look forward to supporting them, and the other country nature conservation bodies, in their endeavours.

**Marcus Yeo, Chief Executive, JNCC**

# News in Brief

## UK CBD Clearing House Mechanism Refreshed

JNCC has refreshed the UK's Clearing House Mechanism (UK CHM), ensuring that the latest information on the UK's implementation of the Convention on Biological Diversity (CBD) is available to all.

Every Party to the CBD is obliged to create a digital platform, known as a Clearing House Mechanism, to provide easily accessible information on how they are implementing the Convention. The UK's CHM hasn't been updated for several years. However, with this refresh we have not only updated the content, but also completely revamped its design.

The refreshed UK CHM provides information on the implementation of the CBD in all four countries of the UK, as well as the UK's Overseas Territories and Crown Dependencies to which the CBD has been extended. To improve the user experience, the updated UKCHM focuses on signposting users to where information can be found, linking them directly to the work of related country governments and organisations. It's hoped this streamlined approach will allow users to find relevant information quicker, and enable our team to easily maintain an up-to-date UKCHM.

## Red kite re-introduction

July saw the 30th anniversary of the re-introduction of one of Britains's most distinctive birds – the red kite – to the Chiltern Hills. Once practically extinct due to persecution,13 young red kites flown over from the Navarra region in Spain, took to the skies on their maiden flight in the Chilterns Area of Outstanding Natural Beauty in 1990.

Danny Heptinstall, JNCC's Senior International Biodiversity Adviser, said: "In 1990, the UK had only a few dozen red kites, 30 years later there are over 10,000. JNCC is delighted to have played its part in this ground-breaking conservation success story, and look forward to the continuing success of the project and others like it."

## Bird study boasts successful pilot year

An offshore wind energy collaboration to better understand how large-scale development may impact marine birds has completed a successful pilot year, identifying high- priority ornithological knowledge gaps. The Offshore Wind Strategic Monitoring and Research Forum (OWSMRF) led by six offshore wind developers – EDF-Renewables, Equinor, Ørsted, RWE (formerly innogy), ScottishPower Renewables, and Vattenfall – was launched 12 months ago following the announcement of the joint government-industry Offshore Wind Sector Deal which included plans to see offshore wind capacity reach 30 gigawatts (GW) by 2030.

Being delivered by JNCC, the initiative aims to improve the understanding of how UK marine bird populations are affected by offshore wind farms and reduce consenting risk for planned projects. The objective is to identify knowledge gaps and define high-priority scopes of work to address them.

The pilot year has been a collaborative process with invaluable input from academics, regulators, consultants and stakeholders. The forum will continue to work to identify opportunities to fund the high-priority areas identified during the pilot and on how to best evolve and continue to address key knowledge gaps that pose consenting risks to offshore wind projects in the UK.

## First World Albatross Day!

JNCC took part in the inaugural World Albatross Day, sharing stories on our work and wider albatross conservation messages via our social media platforms. During the Agreement on the Conservation of Albatrosses and Petrels (ACAP) Advisory Committee meeting last year in Brazil it was declared that a conservation crisis continues to be faced by its 31 listed species, with thousands of albatrosses, petrels and shearwaters dying every year. Threats to their survival include fishing, invasive species, predators, climate change and pollution. To increase awareness ACAP inaugurated a World Albatross Day, to be held annually on 19 June, the date the Agreement was signed in 2001. JNCC provides UK representation for the Falklands, South Georgia, British Antarctic Territory and Tristan da Cunha Overseas Territory governments to ensure effective engagement with ACAP and other international fora. We also help these governments develop their national plans for action on conserving albatrosses and petrels.

## Workshops and webinars

A number of successful JNCC remote workshops and webinars were held throughout July. The Monitoring Soil Moisture using Earth Observation virtual workshop was a great success with over 170 delegates from 23 countries attending. Funded by the Caroline Herschel Framework Partnership Agreement for Copernicus User Uptake, the workshop had a truly collaborative feel with ‘ask the expert’ Q&A sessions, plus knowledge, ideas and potential future work sharing which resulted in many connections and proposals being initiated.

July webinars included:

- *Mapping From Space: Remote Sensing for Migratory Shorebird Conservation at Bahía Lomas Ramsar Site* on Using Earth Observation (EO) for Intertidal Mapping and Shorebird Conservation. The webinar brought together shorebird ecology experts from the University of Santo Tomás in Chile and EO specialists from JNCC to showcase collaborative research funded by Defra.
- JNCC’s Susan Zappala presented at the Institute of Air Quality Management’s *Integrating Tools for Air Pollution Assessment (ITAPA) – Learning from the Dutch Approach* webinar, exploring how AERIUS can help address air pollution effects on ecosystems and recognising the benefit from emission reductions at a local scale.
- *Introduction to the Simple ARD Service* on how JNCC is working with Scottish Government, Department of Agriculture, Environment and Rural Affairs, Northern Ireland and the Centre for Environmental Data Analysis to provide Sentinel-1 and Sentinel-2 Analysis-Ready Data for environmental applications.

## Supporting a green recovery

Governments across the UK are currently considering their response to the economic crisis that COVID-19 has created. Action to stimulate economic recovery is urgently needed. There is a strong emphasis on finding opportunities to 'build back better' and to integrate environmental considerations into recovery packages. If long-term economic and social benefits are to be achieved, action to tackle the inter-related crises of climate change and biodiversity loss is also essential.

As plans are developed, it is critical that the UK's strong environmental credentials are maintained and enhanced. There is an opportunity to increase the UK's international credibility and influence by showing how to grow a greener economy and using this as an exemplar to encourage other countries to take similar approaches. Equally, it's important that we are open-minded and prepared to learn from what has worked in other parts of the world.

As new policies to stimulate the economy are developed and implemented, a strong focus on managing ecosystem services will ensure that the right things are happening in the right places to get the best return.

At the heart of building a greener economy is a recognition of the benefits provided by the natural environment. Examples include locking away carbon dioxide to help tackle climate change and managing the flow of water to reduce the risk of flooding under increasingly uncertain weather patterns. These benefits are often referred to as "ecosystem services". The value provided by ecosystem services can also be affected by human activities, both directly (for example, by changes in land-use practices) and indirectly (for example, as a result of the impacts of air pollution).

JNCC's role in relation to a green recovery is not to set policy nor to take action on the ground. We will support those who make policy and operational decisions through the provision of sound evidence and advice. Good evidence will help decision-makers to weigh up benefits, costs and trade- offs, and so make well-informed choices.

Much of our work involves bringing together the scientific knowledge of diverse elements of the research community to develop an integrated approach to problem-solving. Our experts are actively developing knowledge in a range of areas, including:

- Mapping environmental change – integrating satellite imagery and other data sources to map and assess the state of the environment. How this is changing will be key to decisions in many sectors including agriculture, forestry and tourism.
- Air pollution – air pollution affects crop yield and biodiversity as well as human health. Our focus is on enhancing UK joint working to make better use of modelling and evidence to target emission reductions and streamline decision making.
- Offshore renewable energy – we are working to understand the impacts of increased offshore renewables development on the marine environment and how these can be mitigated and managed. Improving this evidence base includes working with government and advisers across the four UK

countries, as well as directly with industry, via initiatives such as the Offshore Wind Strategic Monitoring and Research Forum (OWSMRF).

- Monitoring the natural environment – the species surveillance schemes run by JNCC with a range of NGOs provides a world-leading example of cost- effective monitoring and detection of change in the natural environment. Combined with other data sources this provides evidence to inform policies and assess their impact on critical species.

The approaches being developed across the four UK countries to grow their economies following COVID will differ but have many similarities. Ensuring they are green recoveries will require making best use of existing and emerging evidence. JNCC is helping to develop the approaches to support this and to share experiences. Real impact means also looking beyond the UK itself. As well as accelerating and improving the development of problem-solving approaches within the UK, we are increasingly turning our attention to how these innovative approaches might be applied elsewhere around the globe. Thus, in bringing the latest scientific evidence, tools and techniques to meet the challenges of our changing environment and struggling economy we are helping to create a more environmentally sustainable outcome from the COVID pandemic.

The COVID pandemic is having an unimagined impact on health, livelihoods and economies. There is an opportunity now to salvage something positive from the crisis by making best use of the science and evidence to highlight the value and benefits provided by the natural environment and to ensure these are central to the recovery and ultimately a more sustainable future. JNCC has a key role to support this both across the UK and elsewhere across the globe.

**Contact:**

Steve Wilkinson, Director of Ecosystem Evidence and Advice

## JNCC's evolving international advice role

Since its formation JNCC has advised on the negotiation and implementation of Multilateral Environmental Agreements (MEAs), such as the Convention on Biological Diversity and the Convention on Migratory Species, which set a global framework for environmental action. As the UK transitions out of the EU, these agreements will provide a basis for co- ordination across the four countries of the UK. There is an opportunity for fresh approaches in implementation, including enhanced use of nature-based solutions and more sustainable use of natural resources. If successful, domestic implementation will provide a valuable example to the rest of the world and be a model that the UK can use to focus aspects of its overseas aid.

### The future of domestic implementation

For the last forty years the UK has been working as part of the EU to agree a framework for nature conservation. Various EU directives have shaped much of the UK's national activity. There have been many achievements, including the establishment of the Natura 2000 network of protected sites, strict protection of a range of threatened and endangered species, and improved management of marine fisheries. The approaches taken have largely followed a traditional approach to nature conservation and such measures remain important. However, more recent thinking emphasises the benefits that the natural environment provides to people through ecosystem services. Actions are focused on preserving and enhancing these ecosystem services, including through the use of nature-based solutions.

As the UK leaves the EU, England, Scotland, Wales and Northern Ireland will each adopt their own distinctive approaches to the environment, but the UK still needs to retain enough consistency to meet its international commitments. The mechanism to achieve this is most likely to be a revised UK biodiversity framework which would be based on implementation of the MEAs.

All of this will require an increased role from JNCC, working with the UK Government, devolved administrations and country nature conservation bodies, to support the necessary co-ordination across the countries. JNCC's extensive knowledge of the international context will be key.

### International implementation

As countries across the globe develop, it is important that they are encouraged and supported to do so in a sustainable way that takes full consideration of the natural environment.

The UK has a long-term pledge to commit 0.7% of its Gross National Income to Official Development Assistance (ODA), a mechanism that supports developing countries to fight poverty and promote development. Historically a significant proportion of this has been spent directly on poverty alleviation. However, there is increasing focus on ensuring the long-term sustainability of any investment and one area of growing emphasis is the importance of the natural environment and the benefits it provides in the form of ecosystem services.

A focus on ecosystem services is a key element of sustainable development, particularly in relation to climate change and poverty alleviation. Appropriate management of the natural environment will mitigate climate change, through absorbing carbon dioxide, as well as helping communities adapt to the impacts of climate change, for example by providing protection against sea-level rise and more extreme weather conditions. However, these benefits need to be balanced against broader economic development. It will be crucial to build local understanding of the issues to ensure any investment is backed by other policies and actions. This means, particularly for developing states, that it needs to make economic sense.

JNCC has gained valuable experience of implementing this sort of approach through its work within the UK Overseas Territories. The work has emphasised those aspects of the natural environment that really matter to the local economies and identified the action that is needed to preserve and enhance the benefits they provide. JNCC is now exploring how the experience and approaches can be applied more widely within the UK's ODA spend.

Whilst ODA investment can catalyse development of emerging economies, ultimately they need to be supported by international trade. It is important that as the UK develops its trade policies it considers the impact on the natural environment and ensures that UK trading patterns are encouraging better use of natural resources. To inform decisions, JNCC is exploring how to draw together emerging research and data to assess the potential impact of trade on the natural environment.

With increasing focus on sustainable use of the natural environment and a desire for the UK to have increased impact internationally there is huge opportunity to apply JNCC's international knowledge and experience. JNCC can help co-ordinate the UK's domestic activities and advise on how the lessons learned here can support implementation in other parts of the world.

**Contact:**

Steve Wilkinson, Director of Ecosystem Evidence and Advice

## Meet the Expert

In this issue we focus on our Marine Management and Marine Species Co-Team Leader Declan Tobin who will introduce us to the JNCC's fisheries advice work

### What prompted your interest in the natural environment?

My parents. My mother for propping me up on the kitchen counter to document the comings and goings of birds moving in and out of the garden and my father for his propensity to bring roadkill home for closer inspection. Every year during the holidays we would be carted off to the rocky surrounds of the Burren National Park (County Clare on the West of Ireland) for a dedicated wildlife symposium full of nature walks and talks and I used to absolutely love it. It really set a fire going that still smoulders today. As I got a little older, I ventured out with my grandfather netting salmon on the river, which became my summertime distraction for several years. Although I could count the number of salmon we caught on one hand, the thrill of pulling the net up to see what was under the bobbing corks and the occasional sound of the Shannon dolphins cruising the estuary was all that I needed to keep me coming back.

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

Inspired by my failed exploits as a fisherman, I went on to do a fish-themed degree and PhD, eventually securing a postdoc at The University of Aberdeen. From there I had a brief stint as an aquarist at Macduff Aquarium on the amazing Moray Coast of NE Scotland where I got paid to dive, to look after fish and to talk all-things-marine to paying customers. For some reason, I left that job and found myself back in the scientific fold at the Marine Laboratory in Aberdeen, where I started to become increasingly interested in commercial fish and fisheries and the potential impacts of fishing on the marine environment. I guess it was inevitable that gravity would eventually roll me down Baxter Street to Inverdee House and JNCC where work to support the establishment of a UK Marine Protected Area (UK MPA) network was gathering pace. Since that time, my role at JNCC has involved data management and analysis, stakeholder engagement, drafting fisheries impacts advice and more recently, strategic planning and management.

### What are the biggest challenges you face in your current role?

Bridging the knowledge gap in our understanding of the marine environment, both in terms of the distribution of its constituent species and habitats as well as its sensitivity and/or resilience to anthropogenic impacts. Although it makes up approximately 3.5 times the terrestrial extent of the UK, this marine area has only a tiny fraction of survey or monitoring capability. From a conservation viewpoint, fishing is frequently perceived as being negative or bad, a view that is influenced by most press stories using emotive images of damaged tropical reef systems and illegal fishing practices. The reality is typically far more complicated than that! The immediate reaction of many, therefore, when we talk about marine conservation is to want to ban fishing without any consideration of the consequences. However, the fishing industry has a greater stake in the health of the marine ecosystem than most. They are routinely operating in the very areas that we wish to conserve, collecting

valuable information all the while, so getting industry buy-in is critical to delivering successful management outcomes. As such, the single biggest challenge we face is developing the mechanisms to enable industry to bring its knowledge and expertise to the table and to work in conjunction with regulators and the scientific community to deliver effective sustainable management.

**What has been your greatest achievement working at JNCC?**

I'm very proud to have played a small role in establishing the UK MPA network. In a roundabout way, one of the reasons I ended up doing what I do today is by being inspired by terrestrial protected areas. Not only do they provide a mechanism to protect representative samples of specific habitats, they also provide an invaluable focal point to engage people and to fire imaginations of all ages. Who would have thought that 'sands and gravels' could inspire but wrap them in an MPA, create a narrative of all the amazing plants and animals that inhabit that world and the amazing ways they interact with one another and then throw in some high-quality video footage and you're hooked. I hope the UK's network of MPAs create a positive legacy for all and inspires generations to come to work, play and respect the sea. I'm incredibly proud to have had a very small part in making that happen.

**Looking forward, how can we ensure the impact of fisheries on the marine environment is minimised?**

In a word – communication. One of the key functions of our role is to ensure that we provide the scientific rationale for protection and to communicate this clearly to stakeholders, regulators and policymakers. Fisheries management has traditionally been very focused on management of specific commercial stocks rather than on the impacts on the wider environment. However, over the last 10–20 years the emphasis has started to shift towards a more holistic approach to managing the wider ecosystem impacts of fishing. This is underpinned by international obligations to improve the overall status of the marine environment (e.g. MSFD, OSPAR) which includes both the species/habitat management model as well as a suite of broader ecosystem level targets. In responding to this shift, whether it be better commercial stock management, avoidance of vulnerable marine ecosystems (e.g. cold water coral reef), bycatch avoidance measures or fisheries restrictions within MPAs, the industry has made huge strides in a short space of time to help reduce potentially adverse environmental impacts associated with fishing. There's no doubt that more may be required over the coming years but maintaining open dialogue with all key actors, avoiding demonisation of the industry and promoting sustainable fishing practices are all key to continue the recent successes in reducing impacts from fishing.

**How is your team supporting fisheries management in the UK Overseas Territories?**

We've been working with the Government of Montserrat as part of the Natural Capital in the Caribbean and South Atlantic Overseas Territories Project. The team has worked closely with the Government of Montserrat's Fisheries Unit to install solar-powered fishing vessel tracking units, deliver training to build capacity for fisheries data collection on Montserrat, develop suitable digital data management

systems for handling fisheries data, and to use these tools to map fisheries activity, landings, and the economic value of Montserrat's fisheries. This data has been important in informing local government policy and has supported stock assessments for key species in Montserrat, economic valuations of the domestic fisheries supply chain, and informed the Government of Montserrat's draft Marine Spatial Plan. Through Montserrat's Coral Reef Action Plan, the team has also scoped the potential of the development of alternative fisheries (pelagic fish aggregating devices) to reduce the fishing pressure of traps on reefs, as well as supporting detailed marine spatial planning to establish shipping routes to reduce entanglements with fishing gear.

At a global scale, fisheries provide a vital source of protein, trade and food security to many of the world's population and particularly in poorer regions. However, fishing is also one of the most widespread human pressures in the oceans. Looking to the future, as fisheries pressures change in response to changing climate and shifting resources, fisheries colleagues at JNCC see a much bigger role in helping to assess and monitor the wider ecosystem effects of fisheries and supporting the development of a globally sustainable industry.

**Contact:**
Declan Tobin Marine Management and Marine Species Co-Team Leader

## New way of working – responding to the challenges of Covid-19

The world is now a different place and our Corporate Services teams at JNCC have worked hard to meet the challenges of Covid-19.  away from our offices in Peterborough and Aberdeen. The whole organisation began working from home back in Marc the fore, our teams have worked flexibly and innovatively to keep the organisation on track and running smoothly. We' continues to be a great team effort across all of Corporate Services in adapting to working remotely, juggling domestic wider colleagues. A huge effort and a big thank you to all," said Chris Brooks, Director of Finance and Resources.

### Finance and Planning

We adapted very quickly to remote working.  A few days before we were sent home, we discussed the possible issues we saw arising and planned our mitigation measures.  Lockdown couldn't have come at a busier time as we were straight into financial year end and then had a 'virtual' end of year audit with the National Audit Office. This was a learning curve for both parties, but we persevered and laid the Annual Report and Accounts before Parliament to our deadline. We changed the way we work rapidly, from being very paper based to completely electronic. To make this work and ensure we still had robust controls we developed alternative control measures. Some things take longer as a result and we find this is symptomatic in general of remote working which we've adapted to.  Overall, we have surprised ourselves as a team which was used to being almost 100% office based. We quickly got to grips with home working and met our deadlines, despite the challenges. We pulled together as a team and have showed great resilience.

**Contact:**
Emer O'Connor, Head of Finance and Planning

### Communications and Corporate Affairs

From day one, keeping staff up-to-date on the flurry of information coming through was essential. We pulled together a team that met every morning to discuss the key issues and make decisions for the organisation. In those early weeks we produced a daily Coronavirus Bulletin to update everyone on the changes and new ways of working. Our regular staff open meetings were re-formatted using Microsoft Teams and we managed to get the whole organisation engaged and active through this platform. Another benefit of Teams was that we could set up a series of chat channels for staff – including gardening, cookery, home-schooling, virtual coffee shops, TV and films. This continues to be popular and helps bring the tearoom chat and personal contact back into working. My team are usually all office-based and despite the changes, they've risen to the challenge and adapted their ways of working to deliver some excellent outputs during this time.

**Contact:**
Kirsty Meadows, Communications and Corporate Affairs Manager

## Facilities

I joined JNCC at the point when everyone else was leaving the office; never has the phrase ‘hit the ground running’ been more apt! My team has been critical in supporting remote working over the last few months and putting all the necessary arrangements in place to allow a gradual and safe return to the office. Staff in Peterborough and Aberdeen pulled together to support the display screen equipment (DSE) and general health and safety working arrangements for all staff who overnight moved from office working to working from home. We also worked with our HR and Communications teams, and Defra Health and Safety, to be a positive part of the wellbeing support being provided to everyone. Another important aspect was working with HR to deliver a comprehensive employee survey to understand what further support was required to enable staff to work effectively. We could then work with IT and HR to develop a phased safe return to the Peterborough office, for a small number of staff, where it would enable them to work more effectively.

**Contact:**
Phil Weston, Facilities Manager

## IT

The team have had a long-term strategy in place to allow for remote and flexible working. To this end, cloud-based services such as Office 365, email in the cloud, SharePoint, Skype for Business telephony were all ready to go. Little did we imagine that it would be used in such a scenario as we have now. I remember thinking in the meeting that decided that all staff should work from home “we can do this, with very few tweaks”. The results speak for themselves. Even with all our services online and ready to go there have been challenges. Despite this, we’ve introduced new services including, Microsoft Teams for conferencing and chats, remote desktop services for heavy data analytics and spatial (GIS) functions, a new helpdesk function to capture, manage and resolve ongoing technical issues and processes for continually securing your machines while working from home. We’ve used the technology to facilitate remote interviews that have included tests and presentations. This is just the beginning; new services will be introduced such as telephony integrated in Teams for both Peterborough and Aberdeen. With the help of the Data Services team, we’re looking at new tools for hosting online conferences and workshops, better corporate mobile device management and many others features.

**Contact:**
Carl Cilenti, IT Service Manager

## Human Resources

With revisions to policies and guidance coming through daily we needed to take a pragmatic approach. We raised awareness through our weekly staff open meetings, updating the COVID-19 frequently asked questions and by encouraging staff to contact us about any personal worries they’ve had. We’ve attended a myriad of virtual meetings to keep up to date with best practice and changes being implemented to government guidance and Civil Service policies. We’ve talked to many staff about childcare/caring responsibilities and how to work flexibly and do

what they can. When there have been issues and concerns, we've encouraged them to talk to our four Mental Health First Aiders and contact our Employee Assistance Provider. Although forced upon us, more flexible and remote working has been very successful, and we will be working with our senior management team to review and revise our policies to better support this. Recruitment has become virtual and hopefully will become easier as we progress with interviews throughout the summer. We've already welcomed a number of new starters and have more virtual new faces joining us soon.

**Contact:**

Joy Corney, Head of HR and Facilities

**Governance and Accountability**

We quickly got to grips with providing virtual PA support to the Executive Leadership Team and with their secretariat roles for the various management boards they support. One of the team's big successes was the first virtual Joint Committee meeting and engagement event. Making preparations remotely and coordinating presentations, papers and information is challenging but virtual meetings have operated efficiently and effectively. The team have worked closely with their respective Chairs to learn the functions and capabilities of new meeting platforms, enabling effective chairing of meetings and accurate record keeping. Virtual meetings offer a wide range of benefits for attendees and the environment. Post COVID-19 we will be considering how this unusual time will influence how we run meetings in the future. There was even an opportunity for the Joint Committee to have virtual drinks in place of their usual pre-meeting dinner, providing a platform for those informal chats we miss in the 'new normal' at work.

**Contact:**

Tracey Quince, Secretariat and Governance Manager

## Monitoring focus: National Bat Monitoring Programme

JNCC works with partners to run several long-term terrestrial biodiversity monitoring schemes. In this edition of Nature News, we focus on the National Bat Monitoring Programme (NBMP).

In 2019, volunteers covered a total of 1,788 core survey sites across the country, contributing 17,313 hours of their time

The NBMP began collecting data on abundance of UK bat species in 1997. Initially, the scheme was commissioned by the Department of the Environment, Transport and the Regions (DETR) in 1996 and run by Bat Conservation Trust (BCT). Since 2001, the scheme has operated as a partnership between JNCC, BCT and others. Bats are counted in the summer months while they are foraging ('Field Survey' and 'Waterway Survey'), emerging from summer roost sites ('Roost Count) and during the winter while they are hibernating ('Hibernation Survey'). By using a combination of these four core survey methods, we can get reliable trends on as many species as is possible. None of this would be possible without hundreds of dedicated and highly skilled volunteers. In 2019, volunteers covered a total of 1,788 core survey sites across the country, contributing 17,313 hours of their time.

Every year, the NBMP partners collate and analyse the results of the surveys and release these as 'Official Statistics' on the population trends for UK bat species, the latest release was 14 May 2020. Last year, trends were produced for 11 of the 17 bat species breeding in Great Britain (GB). These trends are produced at the GB level and where the data allow it, at the UK and country level (this year, additional trends were produced for 11 species in England, five species in Scotland, seven species in Wales, one species in Northern Ireland and one species in the UK).

This year's results show that for Great Britain, all bat species surveyed appear to be stable or increasing since the baseline year of monitoring (1999 for most species). These are encouraging results for our bat species, however there are a few important things to consider. Firstly, it is generally considered that there were declines in bat populations during the early 20th century and so the stable or positive trends for GB bat species are thought to be relatively recent changes in populations. Secondly, we are not currently able to produce population trends for some of the rare and more habitat-specialist bat species. And thirdly, there are regional and country differences in population trends, some of which we can explore with the data we have (details of which can be found in the NBMP annual report).

The NBMP is highly valued by government, NGOs and research organisations, producing important information to support nature conservation. The annual population trends feed into the UK Biodiversity Indicators (which contribute to reporting towards the Aichi Biodiversity Targets), the English Biodiversity Indicators and have been a key source of evidence for reporting on bat conservation status under the European Habitats Directive. Because the NBMP is a long-term dataset with a good spatial coverage, it is possible to use its data to answer a wide range of research questions. For example, data from the NBMP was used as part of the Biodiversity Impacts of Climate Change Observation Network project (BICCO-Net).

All species of bats in the UK are nocturnal which means they can be a tricky group to study. For most NBMP surveys, volunteers use a handheld bat detector to allow them to hear the ultrasonic sounds that bats make and enabling them to identify the bats. Since the inception of the NBMP, bat detector technology has greatly improved. The NBMP partners have been engaging with researchers and industry to spot opportunities with new technology. In recent years, BCT (in partnership with several other organisations) have been developing a survey using passive acoustic detectors that can be left in the field, generating huge volumes of data that can be stored and processed in the cloud, automatically identifying recordings to bat species using artificial intelligence. If successful, this survey could complement the current suite of NBMP surveys, helping to fill some of the geographic and species gaps and increasing the power of the NBMP.

**Contact:**

Julie Day, Evidence Specialist

## Investing in wildlife monitoring

COVID-19 continues to impact us in many ways – from our personal lives, to society, the economy and the environment. It's clear going forwards that things will not be the same. Following lockdown there is a greater appreciation of the value of access to greenspace and engagement with nature, as well as growing calls to ensure there is a 'green recovery'. The monitoring of wildlife can help in both these areas, providing an opportunity for participants to get out into the natural environment and contribute to meaningful conservation science, whilst also supporting a green recovery by providing crucial evidence on how wildlife is faring and the pressures it's under.

At JNCC we partner with many conservation NGOs and research organisations to run monitoring schemes for groups such as birds, bats, butterflies and plants, as well as supporting the ad hoc recording of any other species. The schemes benefit from the dedication and expertise of thousands of volunteer citizen scientists who take part – across our main monitoring schemes, the value of volunteer time contributed is worth a staggering £20 million a year!

We have long prioritised support for this area, doing our best to continue our funding and input into monitoring scheme design and analysis, despite financial pressures over the years. Over the last decade we have largely been able to maintain the funding going into schemes, although once inflation is taken into account the picture is less positive. Our team has worked hard with our partners to make schemes as efficient as possible and to ensure they provide the best value for money, for example by developing online data entry. However, we are conscious that it hasn't been easy for schemes to keep running with diminishing budgets, and at times we have had to make hard decisions about what's achievable. Many of our NGO partners have been feeling the squeeze, and in recent months COVID-19 has compounded financial pressures.

In light of the ongoing ecological and climate crisis, and the growing realisation of the health and societal benefits of engagement with nature, we feel the need for volunteer-based biodiversity monitoring schemes is stronger than ever, and there is a clear case for additional investment in this area. JNCC will work with governments and others to explore options for filling the funding gap.

Additional funding of just £200k per year would allow us to handle the immediate vulnerabilities being faced by our partners and schemes and enable us to invest in other key priority areas, ensuring we continue to have robust biodiversity data to promote a green recovery, as well as addressing other needs at this challenging time.

**Contact:**

Chris Cheffings, Terrestrial Evidence Team Leader

## Shining the LiDAR light in Scotland: Working together to explore the benefits of Lidar data

LiDAR (Light Detection and Ranging) is a form of remote sensing that uses pulses of light to measure distances. The speed, directionality and position of the reflected light are recorded to produce a detailed three-dimensional model of the earth's topography, surface structures and vegetation. In vegetated areas, LiDAR sensors detect the 'first return' reflected from the canopy as well as the 'last return' reflected from the ground. From this information a digital surface model (DSM), which includes the elevation of objects such as buildings and vegetation, and a digital terrain model(DTM), which is the earth's surface without these objects, can be generated.

These are fundamental datasets with many planning, engineering, mapping and modelling applications. In environmental management flood risk modelling, flood response, slope stability, and coastal applications provide the strongest drivers for Lidar data acquisition but the data have many further benefits – including waste management, biodiversity, forestry, historical environment – so it is critical that the data are shared and accessible.

Our experts have been working to help Scottish Government, and the bodies collaborating through the Scottish Remote Sensing group, to access their existing Lidar data assets and to harness the benefits of major new purchases of data.

In 2015, we helped Scottish Government with a review of mechanisms being used in Wales and England for disseminating large datasets and an assessment of Scottish user requirements. This quickly led to JNCC building a web portal for Scotland's Lidar data, re-using technology already developed for disseminating Earth Observation data. The original portal was launched in September 2017 and this year an updated version was developed with more data (the Phase 3 dataset) and a more intuitive access point to the data through the map. Since its establishment the portal has successfully removed the administrative burden of sharing large datasets for Scottish Government as well as ensuring that more data is shared openly with the public in line with the Scottish Digital Strategy.

Captured for the first time in one place, the practical steps highlighted are recognised as critical to delivering usable data and will be of benefit to those procuring LiDAR data in Scotland and across the UK

Working with the Scottish Environment Protection Agency (SEPA) and Historic Environment Scotland (HES) and drawing on our relationships with the Environment Agency (EA) and Natural Resources Wales (NRW), we have produced *A synthesis of best practice to ensure and evaluate the quality of LiDAR data*. This report includes an extensive literature investigation and draws on the quality control (QC) and quality assurance (QA) experience and expertise across Scotland, England and Wales.

**Contacts:**

Lawrence Way, Ecosystems Analysis Co-Team Leader

Lynn Heeley, Technical Project Manager

## Developing country road maps for Earth Observation

In 2015 JNCC, a founding member of the Defra Earth Observation Centre of Excellence, managed a programme of research and innovation projects which have helped to deliver a five-year road map ambition for Earth Observation (EO). These projects have contributed to policy effectiveness across key environmental areas such as water, biodiversity, marine and the agri-environment.

Our experts facilitated the early involvement of Scotland, Wales and Northern Ireland in the Centre, increasing the range of applications trialled. Five years on, Scotland and Wales have their own collaborative channels for public sector environmental applications of Earth Observation. Our team are engaged with these channels and have been active in supporting the establishment of a Northern Ireland group, Defra, Scotland and Wales are each developing forward plans to drive the next generation of benefits from EO and JNCC is making a significant contribution to each planning process.

Each country's plans seek to make the most effective use of a step change in commercial EO data provision – increasingly accessible very high-resolution imagery and high- performance data platforms providing new ways of accessing data services. Even with these new developments there are still many benefits from the European Space Agency's Copernicus Programme of paired Sentinel satellites. These carry a range of technologies for monitoring the land, ocean and atmosphere and the data collected is free to access and use. There is now a body of expertise and proven techniques, and ways of accessing the data.

JNCC's Copernicus User Uptake Project is part of the Caroline Herschel Framework Partnership Agreement between 48 organisations from 23 countries. Our project is focused on ensuring each country in the UK benefits from the last five years' knowledge gained in applying EO for practical environmental gain. The project, which runs until the end of December 2020, has a broad programme of activities including monthly technical teleconferences, training sessions, themed workshops and seven application-based projects where methods developed and code generated can be re-used by other countries and organisations.

Project highlights so far:

- Sixty-three individuals from 23 organisations regularly participating in monthly teleconferences.
- A soil moisture workshop attended by 151 delegates from 78 organisations across 22 countries.

Our experts are now helping:

- The Environment Agency (EA), aided by the National Centre for Earth Observation (NCEO), to apply Sentinel 5 data for methane monitoring.
- Natural England (NE), NatureScot, Historic Environment Scotland (HES) and Natural Resources Wales (NRW) to spot potentially undesirable change on protected and historic sites.
- SNH to develop an operational wildfire and muirburn monitoring system for Scotland.

- The Scottish Environment Protection Agency (SEPA) to increase detection of certain types of waste across the central belt.
- The Animal and Plant Health Agency (APHA) to assess whether EO can contribute to horizon scanning of emerging infectious diseases.

If you would like to find out more information about the project, including future workshops and training sessions, please visit the JNCC Copernicus User Uptake Project webpage.

**Contacts:**

Lynn Healy, Technical Delivery Manager

Lawrence Way, Ecosystems Analysis Co-Team Leader

## Using Earth observation to face the challenge of habitat management

In recent years there have been large increases in the amount of satellite-derived data and aerial imagery from drones available to tell us about the environment. The breadth of remotely sensed data available has great potential for the environmental sector, particularly when used in conjunction with fieldwork. Field data is used to develop and evaluate Earth Observation (EO) models, helping us to quickly and efficiently understand habitat extent, change, and condition. EO data can also be used to target fieldwork to the areas on the ground where there will be the greatest benefit.

For the countries of the UK, adding remotely sensed data into the mix is a game changer – helping them to marry up ambitious conservation targets and policies with the need to make careful use of financial resources. JNCC has been leading the way in the EO arena – our experts have been spotting potential opportunities, working with partners to develop EO research applications, and crucially, working alongside the country nature conservation bodies to turn the research into practical, useful, applications that can be implemented across the UK.

One area that we have been investigating is how this EO data can be used to detect habitat change. This is useful at multiple scales – understanding how the local picture fits in with the national context allows us to keep track of changes in the total extent of a habitat type. This can be particularly useful in monitoring restoration programmes. It can also inform users about management practices taking place (e.g. mowing, grazing intensity) and other changes affecting the condition of the habitat such as more gradual changes in the vegetation or the wetness of a site. This knowledge can be used to help with the optimal targeting of conservation interventions. Our experts have combined EO knowledge with programming skills to develop an app to help with this, initially covering an area on the edge of Dartmoor as a ‘proof-of concept’. The concept proved very successful, with Natural England, Natural Resources Wales, NatureScot and Historic Environment Scotland all keen to partner with us to further develop the app under the Copernicus User Uptake project and to test the method in other locations around the UK.

### The change detection app

Users can filter for specific habitat types on a map based on EO Sentinel 2 satellite data. Indices have been calculated for each land parcel from the multiple optical bands recorded in the raw Sentinel 2 data. For this proof of concept, we have tested a vegetation index, which gives a proxy measure for the vigour of plant growth. By analysing the index value across land parcels within a habitat, the variation of plant growth across the year can be graphed to show the seasonality and identify points where the measured pattern deviates from a 'normal' seasonal pattern.

Having a quick and cost-effective means of keeping track of the extent and condition of peatland habitat is crucial, and this is where Earth Observation data can help. Another project that we have been working on is providing data on the condition of peatlands. Peatlands could be described as the UK’s ‘Cinderella’ habitat. Superficially less appealing with fewer flowering plants than other habitats such as

woodlands and meadows, they are none-the-less incredibly valuable. As well as directly supporting the economy, e.g. through supporting rural farming and sport, peatlands provide many valuable ecosystem services such as habitat provision for nationally and internationally important species, regulation of water quality and flood risk, and crucially provision of an important carbon store, helping to regulate our climate. Peatlands in the UK hold as much carbon as all the forests in France, Germany and the UK combined! Worryingly, whilst peatlands cover 10% of the UK's land surface, 80% of this is thought to be in poor condition due to threats such as drainage, extraction, burning and overgrazing. Peatland in poor condition does a much poorer job at providing ecosystem services – damaged peat releases carbon dioxide back into the atmosphere, contributing to climate change instead of mitigating it.

The value of peatland is such that each of the UK countries has developed strategies and/or policy statements covering the conservation and management of peatlands: Scotland's National Peatland Plan, 'Peatlands for the Future' (Wales), Northern Ireland Peatland Strategy, and Defra are soon to publish their England Peatland Strategy. IUCN have also developed the UK Peatland Strategy.

Degraded peatlands experience vegetation loss, which can be picked up by signals from EO data. NatureScot has used Sentinel imagery to create a national overview of bare peat, whilst Natural England has used EO to monitor managed burns in these upland areas. To complement and develop this work, our analysts have demonstrated how high-resolution imagery, such as aerial photography, can be used to create detailed maps of bare peat in the landscape, indicative of poor peatland condition. Through regression modelling, these fine-scale maps can then be used alongside Sentinel-2 satellite imagery to predict bare peat cover across a wider region. As with the change detection project, JNCC's peatland work is showing great potential for operational use within the countries of the UK, and further development is now taking place through the Copernicus User Uptake project.

**Contact:**

Paul Robinson, Senior Natural Capital Evidence Specialist

## UN climate change conference 2021 – the road to Glasgow

Postponed for 12 months because of the health crisis, the UK-hosted United Nations Framework Convention on Climate Change Conference of Parties (UNFCCC 'COP26') will be held in Glasgow in early November 2021. During the event, the UK will assume the Presidency (in partnership with Italy), taking over from the COP25 President, Chile.

The UK will hold the Presidency for one year and will use this role to inspire others into ambitious action to meet global targets designed to halt global temperature rise.

The four key themes of the UK's COP26 presidency are *Nature*, *Adaptation and Resilience*, *Finance* and *Clean Growth*.

Our experts made an important contribution to COP25, held in Madrid, in the following thematic areas:

- Nature-based solutions: from ambition to action.
- Earth observation and climate change: a critical capability in understanding our changing world.
- Marine Protected Areas as tools for adaptive marine resource management in the face of a changing climate (UK event).
- Marine Protected Areas and climate action: Science and decision making (International event led by Chilean Ministry of Environment, MMA).

Building on this role – our team's familiarity with the COP processes, links into the Department for Environment, Food and Rural Affairs (Defra), and our growing international expertise in project implementation, including in the Overseas Territories and South America – we are exploring options to contribute to two of the major themes for the 2021 event. These are the *Nature* and the *Adaptation and Resilience* themes, led by the new Foreign, Commonwealth and Development Office with contributions from Defra.

The *Nature* theme emphasises the need to place Nature Based Solutions (NBS) alongside other climate solutions in terms of mitigation and adaptation measures. The IUCN defines NBS as 'actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and provide human well-being and biodiversity benefits', but the links to adaptation and mitigation need to be made more explicit.

Our marine and terrestrial work in the UK, in partnership with the country nature conservation bodies and Defra, and in the Overseas Territories and South America (Peru, Colombia and Chile) shows how implementing NBS in these varied biogeographic settings, and at different scales, can have important implications for facing climate change challenges.

The work demonstrates how NBS support building disaster resilience in the Caribbean and economic resilience in various agriculture systems in South America with important complementary benefits for biodiversity.

Building on successful events at COP25, JNCC expects to use COP26 to showcase our work on Marine Protected Areas (MPAs) and climate change. We are working with Chile, France, Costa Rica and the USA as part of an International MPA Knowledge Collaboration. This aims to create synergies and explore opportunities for partnership working, to fill knowledge gaps and further understanding of the role of MPAs in the face of the changing climate. We are also continuing to build the evidence base to support climate smart decision making around MPAs, as part of our Climate-Smart MPAs programme of work.

The *Nature* theme also promotes the importance of securing green supply chains. We are working with Defra to build an assessment framework to provide information on the direct and indirect links between consumption of goods and services in the UK, and the environmental impacts that occur due to the production of these goods and services in other countries. This support for identifying and securing green supply chains is part of JNCC's joint work with Defra on developing indicators as part of the 25 Year Environment Plan. It aligns with the monitoring and reporting objectives of the Global Resource Initiative, and its 'greening the UK's environmental footprint' aspirations.

In the UK, and globally, peatlands are a major carbon store. In the context of nature-based solutions, each UK country is undertaking a significant peatland restoration programme focused on 'carbon and water services' provided by these landscapes. The possibilities to use Earth Observation to help guide and target interventions and measure their progress, especially satellite data combined effectively with ground observations, have grown rapidly in recent years. We are working with NatureScot, Northern Ireland's Department of Agriculture, Environment and Rural Affairs, Natural England and Natural Resources Wales on the development and practical application of these techniques. These clearly demonstrate the effective return on investment in a variety of peatland management interventions and provide the means to track peatland condition and carbon storage capacity. The techniques we have developed with our UK partners have international applications and COP26 will provide an opportunity to demonstrate these.

With COP26, and the United Nations Decades of Ocean Science and Ecosystem Restoration both starting in 2021, along with the UK also taking on the G7 Presidency, 2021 is shaping up to be an exciting year for the UK. JNCC looks forward to playing a part in making these events successful.

**Contacts:**

Tony Weighell, International Implementation Co-Team Leader

Sarah Harrison, International Collaboration Lead

## Showcasing our marine work on World Oceans Day 2020

World Oceans Day 2020, held on 8 June, was marked by a day of ocean optimism. The day came at the end of the Virtual Oceans Dialogue, a week-long global online conference for ocean action, hosted by the World Economic Forum and Friends of Ocean Action.

JNCC celebrated the day by launching the report for UK Government entitled 'Developing the evidence-base to support 'climate-smart' decision making around Marine Protected Areas (MPAs)'.

Dr John Goold, our Director of Marine Evidence and Advice, said "This report, released on World Oceans Day, provides important evidence to further understand the susceptibility of protected features within MPAs to climate change and their functional role in building overall resilience to the impacts of climate change. Outputs from this collaborative project will help support concepts such as climate-smart decision making in the marine environment."

Defra Minister Rebecca Pow said: "Our Blue Belt of marine protection around our coast is now an area twice the size of England and truly a world-leading level of protection; however, there is always more that can be done. We have a duty to ensure that our marine life recovers and thrives for future generations.

“This research, published on World Oceans Day, gives us the tools to measure the impacts of climate change on some of our most sensitive habitats and provides an important insight into the benefits of Marine Protected Areas – not just for nature but for our own resilience in the face of a changing climate.”

Project outputs are available on the Project webpage.

On the same day, the independent Review into Highly Protected Marine Areas (HPMAs) was published. Our experts supplied evidence to the review led by former Fisheries Minister Richard Benyon, which calls for the introduction of HPMAs in English waters. The review was commissioned on last year’s World Oceans Day by then Environment Secretary Michael Gove, as part of the Government’s drive to protect our waters.

**Contact:**

Beth Flavell, Senior MPA Advisor

## Biodiversity in Europe's Seas

"Our seas and marine ecosystems are suffering as a result of years of severe over-exploitation and neglect. We may soon reach a point of no return, but, as our report confirms, we still have a chance to restore our marine ecosystems if we act decisively and coherently and strike a sustainable balance between the way we use our seas and our impact on the marine environment."

This was the overriding message from the European Environment Agency (EEA) in Copenhagen on the release of the EEA's "Marine Messages II" report on 12 June. The report is a wide-ranging synthesis of the state of the marine environment for all 33 EEA member countries, supported by the European Topic Centre for Inland, Coastal and Marine Waters (ETC-ICM). The ETC-ICM is a partnership of 14 agencies, consultancies and research institutes. Within the ETC-ICM, JNCC has led the biodiversity assessment and ecosystems services tasks, and has been the lead partner producing the technical report on Biodiversity in Europe's Seas – one of the core feeder reports into the EEA's Marine Messages.

This ETC-ICM report was an international collaboration led by JNCC with partners from Finland, Norway, Denmark, Spain, Italy, Slovenia, Greece, and Turkey. The analysis spans all regional seas in Europe from the Arctic to the Mediterranean, and the Atlantic Ocean to the Baltic Sea, and draws on the assessments presented by the four Regional Seas Conventions on the status of their seas (with JNCC also having a significant role in the OSPAR Convention biodiversity assessments in 2017), and other European-wide assessments. The report also introduces possible tools for integrating data and assessments at a pan-regional scale.

The report cites notable success stories, including the increase in Marine Protected Areas and targeted efforts on specific species and habitats. Improved fisheries management in some areas shows what can be achieved for biodiversity components with a direct economic relation. As stated in the Marine Messages, the challenge is to demonstrate the value of the rest of marine biodiversity through approaches like natural capital accounts.

While there are far fewer known cases of species extinctions in European seas than on land, there are significant risks that continuing declines in biodiversity will lead to more extinctions in future. Marine Messages II highlights the need to fill existing knowledge gaps to better understand these risks, through more coordinated monitoring and consistent use of indicators in these interconnected marine systems.

**Contact:**

David Vaughan, Team Leader ETC-ICM

## Under the skin of JNCC – secondment experience

A walk at Castor Hanglands National Nature Reserve (Cambridgeshire) on a sunny summer's evening was a very positive start to my two-year secondment from Natural Resources Wales (NRW). JNCC has a history of using secondees to support its work, often from our sister conservation organisations. My personal objectives were to get under the skin of JNCC, understand how it operates, and to add to my UK and international understanding of nature conservation.

In my first year I was linked to the Biodiversity and Ecosystem Services Team which provided insights into the natural capital approach and the UK Overseas Territories, with their unique wildlife of global conservation importance. It was fun to hear Megan talk about albatrosses directly from the Falkland Islands. Responsibilities to deliver common standards monitoring work landed on my desk and I joined inter-agency groups focused on climate change issues and nature-based solutions. My organisational governance experience was employed on the Science Management Board and the Resource Planning Board.

I brought a new network and skills to JNCC in terms of freshwater expertise and an in-depth understanding of the Welsh environment and devolved government. We became associate members of the Environment Platform Wales, while I was working from office space in NRW and the UK Centre for Ecology & Hydrology (Bangor). JNCC recognised my interest in England, Scotland, Wales and Northern Ireland so this year I am a co-lead for the new Nature Conservation Policy and Advice Team. We will be building a UK overview of nature conservation issues and our capacity to work bilaterally to provide policy advice.

My main secondment reflection relates to the fantastic convening power of JNCC. For example, during an early stage of the UK lockdown I chaired a virtual meeting to review progress with Terrestrial Nature Networks across the UK. JNCC has a unique capability to be a trusted space where the countries can meet to discuss and compare approaches, develop collaborations, and learn from each other. Nature conservation works best when we all work together. My secondment to JNCC has given me new knowledge and welcome challenges. At times it has been an intense experience thinking about and providing clarity to complex issues. I have especially enjoyed working with colleagues across the UK. Understanding their perspectives means I can see things differently too.

This summer I wanted to hear the Castor Hanglands nightingales but it can wait until the world turns again. If you see a chance to go on secondment to JNCC – go for it! Diolch yn fawr JNCC.

**Contact:**
Catherine Duigan, Nature Conservation Policy and Advice Co-Team Leader

Secondments work both ways in JNCC with opportunities for our people to spend time in other organisations – outward – as well as the experience Catherine has described – inward. They happen in a variety of ways with some being formally advertised through fair and open competition on the Civil Service Jobs website and our own website JNCC.gov.uk. Others are arranged because there is a perfect

match of both work and an individual being available to take up the secondment – usually because of the collaborative work that is already in place with other organisations. With all secondments the individual needs to talk with their line manager to see if there are any barriers to applying as an important first step. Although the manager with the secondment opportunity (host) is responsible for the process of onboarding the secondee, HR will oversee the process and approve the formal secondment agreements to ensure the terms and conditions are fair for both the secondee and JNCC.

Secondments can be for a minimum of three months and a maximum of two years and although there are a number of steps to follow and forms to complete, the process is designed to make it as easy as possible for secondment opportunities to be arranged across the Civil Service in a straightforward way.

**Contact:**

Kim Croucher, HR Manager

## Covid Blip to Covid Flip? Lockdown increased JNCC's opportunity to engage

Coronavirus has meant restriction on movement and even shortages of essentials for many of us. However, we have also had real changes in how people work and, in the case of JNCC air pollution advice, how they engage with our work. During this time, our experts have been supplementing typical approaches to engagement with virtual workshops, live anonymous online polls, videos and interactive online resources. This might be expected for large projects, but until lockdown, was not part of everyday working. What a change five months can make! For cross-cutting work like air pollution advice, this may be a more permanent change – a COVID Flip to new methods rather than a fleeting COVID Blip.

Air pollution advice has benefitted in particular due to the UK-wide, multi-sector and transboundary nature of the work. The work convenes partners from across the UK and internationally to identify and solve emerging challenges whilst facilitating joint working and collaboration to maximise cost-benefit from public funds. Our experts and the UK Inter-Agency Air Pollution Group (IAPG) are working to understand how to reduce air emissions in the right places to maximise benefit for ecosystems. The IAPG tackle joint challenges at UK and international level to support UK countries in their strategic approaches to air pollution and enhancing the natural environment.

Additionally, IAPG are reviewing the UK country approaches to risk assessment and investigating how this can be streamlined. One aspect of this is the ITAPA (Integrating Tools for Air Pollution Assessment) initiative that aims to streamline risk assessment. It could potentially save £1m each year in regulator time and extra modelling from applicants. ITAPA also drives improvement of inputs such as habitat maps and emission activity data. Future work could incorporate advancements using satellite imaging as seen in our Earth Observation articles in this issue of Nature News.

ITAPA builds on previous information on UK user needs for air pollution risk assessment and an options appraisal that concluded a UK integrated tool would be most cost beneficial. This is outlined in the ITAPA Case Study on JNCC's website and in the IAPG Air Pollution Bulletin 2018/19.

Remote working meant we were able to reach almost 250 attendees across groups that might not automatically think JNCC related to their work. In May, we hosted over 130 attendees across three ITAPA project planning webinars. In July we were invited by the Institute for Air Quality Management, to discuss the Dutch integrated approach to nitrogen and their risk assessment tool, AERIUS and present with Mark Wilmot, the AERIUS project manager. Over 117 attendees gained insight along with continuing professional development points. Attendees included UK country representatives from farming groups, policy teams, modellers, consultants and local authorities. We even saved enough money from not travelling to produce videos about ITAPA for anyone to use.

JNCC has a unique set of skills and relationships that mean we can quickly react to opportunities and provide evidence to enable change. In the rapid move toward a UK Green Recovery highlighted in Steve Wilkinson's blog, JNCC's convening power is

important to ensure this is underpinned by sound science and a practical approach to addressing air pollution effects on ecosystems.

To learn more contact ITAPA@JNCC.gov.uk or visit the ITAPA Workshop webpages.

**Contact:**

Susan Zappala, Senior Air Pollution Advisor

## Conservation Conversation

This issue we focus on Jane Hawkridge, who jointly heads our International Implementation Team with Tony Weighell, and leads our work in the Overseas Territories. Jane has a PhD in coral reef biology and has been with JNCC since 2005. She is delighted to bring 30 years' experience in freshwater and marine monitoring, assessment and advice to her new role.

**Species that inspired you as a child?**

Surprisingly for a marine biologist, I grew up inspired by the African savanna and thrived on the stories of Elsa the lioness and Slowly the elephant, both immortalised on film by Virginia McKenna and Bill Travers. Marine biology came later.

**What concerns you most about the natural world?**

Gosh, that is a big question. Over-population and the resulting ecosystems collapse that has already started. Our insatiable appetite for more as a species is putting the whole planet in jeopardy.

**What do you do away from the office?**

Well normally lots of things! The global pandemic has somewhat curtailed my visits to the pub, galleries, theatre or cinema, sadly. Although I am now out again walking, jumping on my bike or more recently getting back in the water for a spot of open water swimming. Sadly, I am too far from the sea to dive much these days.

**Where is your favourite place?**

Under or on the water, and ideally somewhere with a healthy coral reef.

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

Judi Dench, Billy Connolly, Julie Walters, and Michael Johnson – life's already too serious to ask the politicians, the movers and shakers.

**Who is your human hero in the natural world?**

Johnny Morris from Animal Magic inspired me as a child – he brought the animals into your living room and gave them a voice, quite literally. Sir David and Jacques Cousteau must be mentioned of course but my wildlife filmmaker babysitter, Lee Lyon, was my true heroine.

**Desert Island Disc?**

Sooo much to chose from! I think that it has to be Octopus's Garden by the Beatles, or the whole Abbey Road album if you'll let me!

**Place you'd most like to visit?**

The Okavango Delta, Botswana, or Palmyra Atoll in the middle of the Pacific. Both magical places that have been on my bucket list for years.

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

I would like to build on the already very strong relationships we have with the UK Overseas Territories to support them to achieve their biodiversity goals, and to grow the skills of our hugely talented staff to deliver international nature conservation solutions.

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

As a child I would have said big game wildlife photographer and film maker. And in many ways that dream hasn't changed, except that I would make it marine and find a way to spend more time doing hands-on nature conservation; to be in the water.