

ANNUAL REVIEW 2019–20



SUPPORTING ECOLOGY IN A PANDEMIC



A CHALLENGING YEAR FOR SO MANY

This Annual Review contains highlights of all the Society has been involved in between November 2019 and October 2020. Coronavirus has divided these 12 months completely in two. There was before the pandemic and there has been the time since, full of uncertainty, upheaval and challenge in all areas of our lives and work.

I believe we need to find a balance as we look forward, whether as individuals or organisations like the British Ecological Society (BES). We can be sure that in time we will get back to all the things we most hold dear. But we also should realise that coronavirus is likely to be with us for some time yet, and allow ourselves and each other some care and understanding, given the challenges we all face.

I became President of the Society as the BES Annual Meeting came to a close in Belfast last December. That vibrant meeting – the first time the Society had been to Northern Ireland for such an event – was bustling with 1200 people filling auditoriums, sharing high-quality research and making new connections. Hard to think of now, of course. But I can't wait for this year's online Festival of Ecology in December. A huge amount of planning has been put in place to make sure it offers all the elements that make our Annual Meetings special.

At that meeting in Belfast, we launched a new strategy for the BES for the years 2020-23. This review demonstrates the achievements we have begun to make under each of our three strategic goals. Not only have we retained our focus on these goals in the face of a pandemic, I am proud of the remarkable amount the Society has done to respond to

the community's needs at this time. New technologies are keeping us connected, and the Society has been quick to make full use of them (see p3). I was delighted, for example, to give the first talk in the Ecology Live series of online seminars we got up and running within four weeks of the UK going into lockdown.

The Society also responded to the challenge presented by the Black Lives Matter protests this summer. The lack of ethnic diversity is often painfully apparent in our field and we need to ask ourselves some tough questions about why this is. The launch of a new network for UK ecologists from Black, Asian and Minority Ethnic backgrounds is a step towards greater representation (p6).

Lastly, I do want to celebrate one thing the pandemic has brought us. Many people in lockdown have discovered more of the nature that exists around us. This has always been a passion of mine and I was delighted to be able to illustrate the many small steps each of us can take to support nature in a media briefing at the beginning of the year (p7). The recognition of the importance of nature to all of us is surely one of the things we must hold onto post-coronavirus.

Jane Memmott

President of the British Ecological Society

Cover image: Spirit bears are a rare, white-coated form of black bears that have great significance for indigenous communities in British Columbia, Canada. A paper assessing their rarity and level of protection was published in our new journal, *Ecological Solutions and Evidence* (see page 4).



CORONAVIRUS AND THE BES

RESPONDING TO THE PANDEMIC

The British Ecological Society moved fast to react to the coronavirus pandemic. Like so many organisations this year, we've had to consider all that we do in light of the virus. We made the health and wellbeing of our staff, members and all those involved in our activities the absolute priority. And we've constantly modified our approach as the year has unfolded and our members' needs evolve.

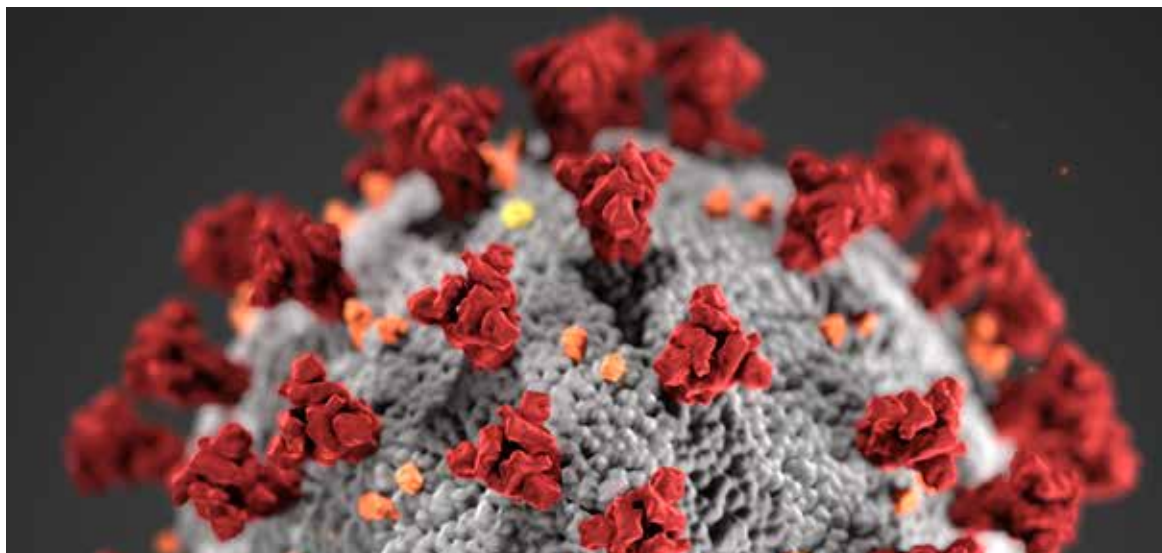
We've understood when people haven't been able to use their grant money as planned when research has been halted or changed. We know that many researchers are facing challenging circumstances, and that will affect the peer review of journal papers.

We closed our London office when the UK went into lockdown in March, though we have since been able to re-open it for

staff who find they need the office to work effectively. And we've cancelled a number of events and activities that simply can't take place face-to-face.

But we're also really proud of the way the Society has reacted to provide new opportunities. In addition to the examples on this page, we published top tips for online teaching, carried stories of researchers' responses to the virus, changed our newsletter to better stay in touch, run online policy workshops and training and produced a range of training resources for improving science communication and engagement skills.

It'll all be crowned with a Festival of Ecology this December, when we move our whole Annual Meeting online in a real celebration of our science.



MOVING ONLINE BRINGS REWARDS

Several of our volunteer-led Special Interest Groups (SIGs) embraced online platforms for their events this year, and were rewarded with much greater numbers of people joining in.

The Palaeoecology SIG was first out of the blocks with an online communication workshop, followed by annual meetings of the Aquatic and Quantitative SIGs, both of which attracted more than twice as many delegates as usual.

Unlike in-person SIG events, which typically attract UK-based audiences, moving online meant SIGs could connect with ecologists internationally, with delegates from Canada, Nigeria, Singapore, and beyond.



#ECOLOGYLIVE

We launched a weekly series of free online talks on the latest ecological research shortly after the start of the coronavirus lockdown, when campuses were closing and little research was possible for many.

The first Ecology Live talk was broadcast in April and the series ran until September, 20 talks later. With ecologists from around the world giving fascinating insight on a wide range of topics, Ecology Live proved very successful. Several hundred people watched each talk live on Zoom, with the recordings receiving thousands more views on YouTube.



MAINTAINING MENTAL HEALTH

Coronavirus meant many people had to deal with changes to working environments, delays to field seasons and no access to labs. We hosted a number of webinars through the spring and summer that brought members together to share their experiences and hear about strategies that help maintain good mental health.

ADVANCE AND PROMOTE ECOLOGICAL SCIENCE AND ITS APPLICATIONS

THE MULTIPLE VALUES OF NATURE

We welcomed over 140 delegates to a broad-reaching meeting for two days in early March to explore the multiple values of nature: what these are and how they can be conceptualised, measured and applied.

The joint symposium from our journal, *People and Nature*, and the Valuing Nature Programme brought together experts from a wide variety of disciplines and organisations. Several of the sessions included speakers joining remotely, which was warmly welcomed by the delegates.

A public debate at Bristol Zoo discussed the purpose of nature documentaries as entertainment versus their role in encouraging conservation efforts.



SEPARATING BIRDS OF A FEATHER WITH AI



An international team of scientists demonstrated for the first time that artificial intelligence (AI) can be trained to recognise individual birds, a task humans are unable to do. The research published in *Methods in Ecology and Evolution* was one of many stories to get widespread media coverage this year.

Individually identifying animals is one of the most expensive and time-consuming factors in animal behaviour studies, limiting the scope of behaviours and the size of the populations that researchers can study. AI models could help solve these issues.



The researchers trained the AI models to recognise images of individual great tits, sociable weavers and zebra finches. When tested with images of birds the AI models had not seen before, they had an accuracy of over 87%.

André Ferreira, the lead author of the research said: "The development of methods for automatic, non-invasive identification of animals completely unmarked and unmanipulated by researchers represents a major breakthrough in this research field."

A HUB TO EXCHANGE KNOWLEDGE IN APPLIED RESEARCH AND PRACTICE

Applied Ecology Resources (AER) was launched this year as a dynamic searchable platform for research papers and grey literature (a catch-all term which includes project reports, policy documents and technical reports). This totally new platform can be used for free by ecologists anywhere in the world to search for and access information on ecological management and environmental resources.

The first phase of the AER website launched in March, and the full searchable repository will be live by the end of the year. AER welcomed its first Founding Members, who will be uploading their content to the resource. These include the UK Department for Environment, Food and Rural Affairs (Defra), Field Studies Council and the Association for Tropical Biology and Conservation. A series of virtual interactive workshops has also been established to cover a range of useful topics for applied ecologists and practitioners.

Our newest journal, *Ecological Solutions and Evidence*, sits at the heart of AER. The inaugural issue published in July with a fantastic mix of articles from research and practice, just six months after opening for submissions during the 2019 BES Annual Meeting. The journal adds a range of novel article types into the BES portfolio, including Data Articles and Registered Reports, which will appear in coming issues.



RAISE THE PROFILE OF ECOLOGY TO MAKE A DIFFERENCE

NATURE CAN HELP REACH CLIMATE GOALS

In September, the BES Policy team responded to an inquiry by the Environmental Audit Committee of MPs in the UK House of Commons into 'Ecosystems and Biodiversity'.

Our response focused on a question the Committee was looking at regarding the efficacy of nature-based solutions (NBS) for climate and biodiversity goals. We made recommendations on the most effective NBS and the need to monitor their contributions to climate and biodiversity, and made suggestions for funding mechanisms and frameworks.

While acknowledging the complexity of NBS and the need for simultaneous emission reductions, we highlighted the high potential of peatland restoration, afforestation and protection of native broadleaf woodlands, well-managed commercial forestry, numerous interventions in agricultural landscapes, and saltmarsh restoration.



INSPIRING FUTURE ECOLOGISTS

The BES teamed up with partner universities earlier this year to develop a UK Schools Outreach pilot project. It aimed to spread a message of positivity in tackling some of our biggest ecological challenges to secondary school students. Year 8 pupils and their teachers were invited to take part in a day of workshops to explore ecology.

Schools were asked to encourage pupils from low-income backgrounds, those who may be the first in their family to consider university and those belonging to ethnic minorities.

It was an opportunity to cover the breadth of opportunities available in ecology and address diversity within our science.

The UK Schools Outreach pilot will feed into future projects, and will develop further using the positive feedback received from both pupils and teachers. We aim to expand to reach more pupils in more locations, and demonstrate that ecology is for everyone no matter what your background.



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HIDDEN WORLDS EXHIBITION

Thousands of visitors were welcomed to our 'Capturing Ecology: Hidden Worlds' exhibition at Ulster Museum in Belfast, which ran throughout February and March.

The exhibition revealed ingenious methods used to explore unknown aspects of the natural world and uncover its complexity. BES members brought their knowledge to life through objects ranging from 3D-printed pollen grains to infrared drone cameras. On a wall of links, visitors also shared their 'Hidden Connections' to nature, adding how they aim to protect their environment.

We thank our exhibition partners at National Museums Northern Ireland (NMNI), Ulster Museum and Northern Ireland Science Festival.



FOSTER A STRONG AND DIVERSE ECOLOGICAL COMMUNITY

REDUCING INEQUALITIES

We have launched a BAME Ecologist Network for People of Colour based in the UK. The group is for individuals of all career stages and ages currently studying or working in the UK who identify as Black, Asian or other Minority Ethnicities (BAME), and for whom systemic racism is impacting their education and career progression.

This has been an important step in a year when Black Lives Matter protests have illustrated the experience of Black people in all areas of society.

The BES's Equality and Diversity working group worked with early-career ecologist Reuben Fakoya Brooks to launch the new network in September. With many expressing interest in joining, the group was able to hold an inaugural meeting in October.

The BAME Ecologist Network is already very busy and developing a clear action plan for supporting BAME ecologists. They are also raising the profile and importance of diversity in ecology and its related disciplines beyond the BES, speaking to other societies and organisations and joining their events.



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EDITORS DRAWN FROM AROUND THE WORLD

This year we conducted a second open recruitment process for Associate Editors across the BES journals. We received a whopping 906 applications from all over the world, a huge increase on the 351 applications we received the first time we did this in 2017.

Successful applicants came from 35 countries and we have increased the geographic diversity of all our editorial boards as a result.

There were many more good applicants than spaces on our editorial boards, and we will go back to the applicant pool to fill gaps in the team that arise in the future.



FIELD COURSE MAKES SUCCESSFUL MOVE ONLINE

Our usual week-long residential course for undergraduates was not able to go ahead this year because of the pandemic. However, we decided to move the Undergraduate Summer School online. We wanted to provide the students with the same content, careers guidance and opportunity to progress in the ecological sciences that makes our summer school so unique.

30 undergraduate students from across the UK took part virtually with a programme full of workshops they could take part in, whether they were in an urban or rural location. It included fungi finding, bird and tree surveys, insect adaptations through macro photography, and even a field trip and methodology session in a Minecraft world.

The Summer School also benefited from the input from this year's team of mentors, PhD students who added a huge amount into the programme and supported the undergraduates. As one student put it, "Even though it was online, I feel like I have gained so much experience and knowledge that I can use to further my career in ecology." A successful adaptation!

YOUR SOCIETY

The British Ecological Society is the largest scientific society for ecologists in Europe with over 6,000 members in 125 countries around the world. We support the global community of ecologists at all stages of their careers through our journals, meetings, grants, and education and policy work. The first ecology society to be established anywhere in the world, we have been the champion of ecology for more than a century.



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LEAVE THE DANDELIONS IN YOUR LAWN

At the start of her presidency of the British Ecological Society, Jane Memmott gave a media briefing to environment journalists from outlets including *The Guardian*, *Telegraph*, *Daily Mail* and *BBC Radio 4*.

From pollinators putting food on our tables to trees providing pollution control and water regulation, Jane began the briefing by illustrating the ways ecology impacts every aspect of our lives.

Jane gave simple advice on how we can support pollinators by growing plants that flower at different times of the year. Dandelions, for example, are fantastic for early season pollinators. When we support nature through small acts like this it returns the favour, benefiting our well-being.

Jane concluded by championing the goals of the BES: advance and promote ecological science and its applications, raise the profile of ecology to make a difference and foster a strong and diverse ecological community.

FUNDING ECOLOGY IN 2020

£490,000

£490,000 in funding available through our grants in 2020

50+

We'll be making over 50 awards to support the best research and outreach

£55,000

That's an increase of £55,000 from 2019

150

150 people will access training and conferences they wouldn't otherwise be able to

A GROWING, INTERNATIONAL SOCIETY

Total number of members in Sep 2020:

6438

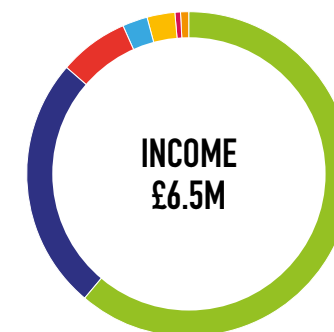
Growth in membership in last 12 months:

9%

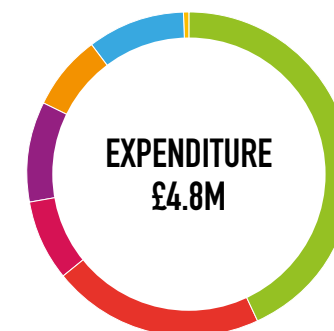
Proportion of membership outside the UK:

36%

IN 2019, WE INVESTED OVER £6.5M IN FOSTERING ECOLOGY



Publications	£4.00m
Profit on sale of old offices	£1.66m
Conferences	£0.46m
Membership fees	£0.15m
Investments	£0.18m
Donations	£0.04m
Other	£0.05m



Publications	£2.06m
Conferences	£1.00m
Grants	£0.38m
Education	£0.48m
Policy	£0.36m
Member engagement	£0.46m
Investment fees	£0.02m

SUPPORTING THE NEXT GENERATION OF ECOLOGISTS

The BES launched a new bursary scheme in 2019 to support aspiring ecologists without the finances or opportunities to pursue their passion for a career in ecology.

The scheme was founded through the generosity of John Condron and Naomi Condron, directors of the ecological consultancy, Ecology Resources Ltd. It is now supporting a growing number of individuals who have attended our BES Summer Schools. The Ecology Resources Ltd Bursary, administered by the BES, has provided support for equipment, training and work experience opportunities.

It's making a difference too. Our bursary awardees are now successfully pursuing a range of ecological careers, from consultancy and conservation to environmental outreach and filmmaking.



WITHOUT THE BURSARY I WOULDN'T BE ABLE TO ACCESS THESE LEARNING OPPORTUNITIES. IT'S GIVEN ME THE BOOST I NEEDED TO GET A FOOT IN THE DOOR IN SUCH A COMPETITIVE SECTOR.

Isabel Commerford



THE BURSARY HAS MADE SUCH A HUGE DIFFERENCE TO ME ALREADY, EVEN BEYOND THE EQUIPMENT AND TRAINING I HAVE BOOKED USING THE FUNDS.

Lucy Wilde



HELP MAKE A DIFFERENCE

Those with the lowest income and fewest opportunities will continue to face the greatest barriers to pursuing a career in ecology. We must act now if we want to nurture a diverse and vibrant future ecological community.

If you would like to develop the next generation of ecologists by supporting our bursary schemes or summer schools, please contact Paul Bower at paul@britishecologicalsociety.org



**BRITISH
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