

TRUSTEES' ANNUAL REPORT & FINANCIAL STATEMENTS 2019/20



BTO

Inspired by birds,
informed by science





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Outstanding science inspiring action for a wildlife-rich world

FROM OUR CHAIR PROFESSOR JENNY GILL

The end of this financial year has, of course, coincided with the global pandemic which has changed all of our lives. Despite the many challenges that charities have faced during this period, the power and resilience of the collaboration between volunteers and staff that lies at the heart of BTO activities has been amply demonstrated. Through the design, development and delivery of surveys, and the reporting and publicising of the resulting knowledge and information, BTO continues to deliver world-class citizen science that empowers volunteers and stakeholders alike. BTO data continue to be widely used across government and society, providing a robust basis for policy development and the testing of conservation solutions. The extraordinary journeys and experiences of individual birds, revealed by our tracking studies, continue to hit the headlines and the connection between people and the world around them is enhanced by participation in schemes like Garden BirdWatch, now in its 25th year.

Maintaining long-term bird surveys requires skilled birdwatchers across the generations. BTO staff and volunteers invest substantial time and energy in the training and support of existing and new surveyors. These training initiatives play a key role in encouraging participation in our surveys and in facilitating deep and fulfilling connections with wildlife and science. While the future will continue to be challenging, as society adjusts to the current and future impact of the pandemic, our ongoing investment in digital capacity, online training, and access to surveys places us in a strong position to continue to deliver our vision of a world inspired by birds and informed by science.



FROM OUR CEO DR ANDY CLEMENTS

The year will always be remembered for what all of us faced as it ended and the unprecedented levels of uncertainty as the government's and society's response to the COVID-19 pandemic took hold in March 2020. However, BTO's year was strong, with sound financial performance and real progress on making our data count. We now see the benefits of putting our modern, user-friendly website in place to support a growing focus on digital communications. Internally we have strengthened our customer database so that making our data available for different communities of support has improved. A highlight celebrating the stories we can tell through our data was the BTO's publication of *Red Sixty Seven*, a collaboration between artists and writers showcasing the 67 Red List bird species in the UK.

Training future citizen scientists at home and abroad is crucial to the maintenance of BTO's reputation for the gathering and use of gold-standard environmental data. Online training has served us well during the current need for remote working. Building capacity in Africa saw us working with the Tropical Biological Association to train African citizen scientists in the collection of ornithological data. Looking towards the future, we are delighted with the BTO Youth Advisory Panel who will make recommendations to the BTO Trustees for improved working with young people. BTO listening and acting on the ideas and experiences of future conservation leaders seems more important than ever. All of our work reported here is reliant on the wonderful support of our members, volunteers and funders, and of course the excellent work of our committed and passionate staff.



AT A GLANCE

Thanks to our members, funders and supporters, **£4.78 million** was spent during the year on carrying out, supporting and communicating our ornithological research.

Some **221,881** 'missions' were submitted from over **130,000** gardens across the UK, thanks to the efforts of participants in Gardenwatch, a partnership between BTO, BBC Springwatch and the Open University.



BTO has contributed in excess of **800,000** records and led on delivery of c.40 species accounts for the new European Breeding Bird Atlas, being published at the end of the year.

In 2019, volunteers contributed **1,745,559** hours to BTO's work, some **81,325** hours more than last year, thanks to an increase in volunteer contributions to BirdTrack.

71 peer-reviewed papers by BTO staff were published in 2019.

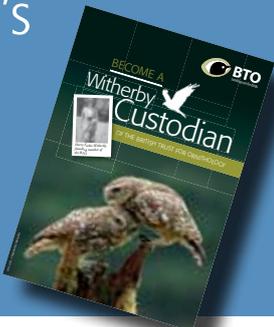
"It is always good to listen to passionate and knowledgeable professionals and to hear interesting questions from other enthusiasts..."

Nigel Hewitt, tracking supporter



ARCTIC SKUA CHICK - SARAH HARRIS / BTO

Since it launched in autumn 2018, the Witherby Custodians scheme has raised in excess of **£80,000** to support BTO's core activities.



During 2019–20 our Bird Identification videos on YouTube received **825,860** views, with **29,712** hours watched. We were able to deliver these videos thanks to generous support from NatureGuides.

BIRD RINGING DEMONSTRATION - ROB READ / BTO

DELIVERING SCIENTIFIC IMPACT

BTO has a global reputation for delivering high quality science and for engaging volunteers in the collection of scientific data. We are recognised for our remarkable impact on policy and practice, and widely regarded as impartial experts in our field. Together these enable partnership working across a very broad suite of constituencies.

MARINE RENEWABLES

Over the last year BTO science has continued to deliver advice and evidence on the potential effects of marine renewables on birds, informing government, industry and NGO stakeholders. Our ongoing work tracking the movements of seabirds and waterbirds has greatly increased our understanding of the magnitude of risks posed by offshore wind developments to their populations. It has helped to refine the modelling approaches used in the impact assessment process and highlighted areas where placement of new wind farms could lead to significant collision risk between seabirds and turbines.

Data from tracking provide vital information on both the movements and behaviour of the species under study. A high profile paper, published in the *Journal of Animal Ecology* and using GPS tag data from multiple Lesser Black-backed Gull colonies, revealed that vulnerability to potential collision with wind farms was not only high near to the breeding colonies themselves, but also at some migration bottlenecks and wintering sites much further south. The study, funded by the Department for Business, Energy and Industrial Strategy (BEIS), underlines the need to consider the potential impacts of proposed developments at much larger spatial scales, reflecting the wider movements of these birds across their annual cycle.

The need to improve our understanding of the risks posed by offshore wind farms to migratory species, such as Shelduck, was highlighted by further work support by BEIS this year. Following a BTO research report that identified knowledge gaps on the routes used by Shelduck on their moult migration across the southern North Sea, a pilot tracking study was commissioned and four adult Shelduck were caught and tagged. All four subsequently migrated across the North Sea, initially to the Dutch Wadden Sea, with three showing further onward movements to the Helgoland Bight. Details of the birds' migration routes and data on flight timings, height and speed provide valuable information on potential interactions with offshore wind farms and demonstrate the feasibility of a larger study.



SHELDUCK: PHILIP CROFT / BTO

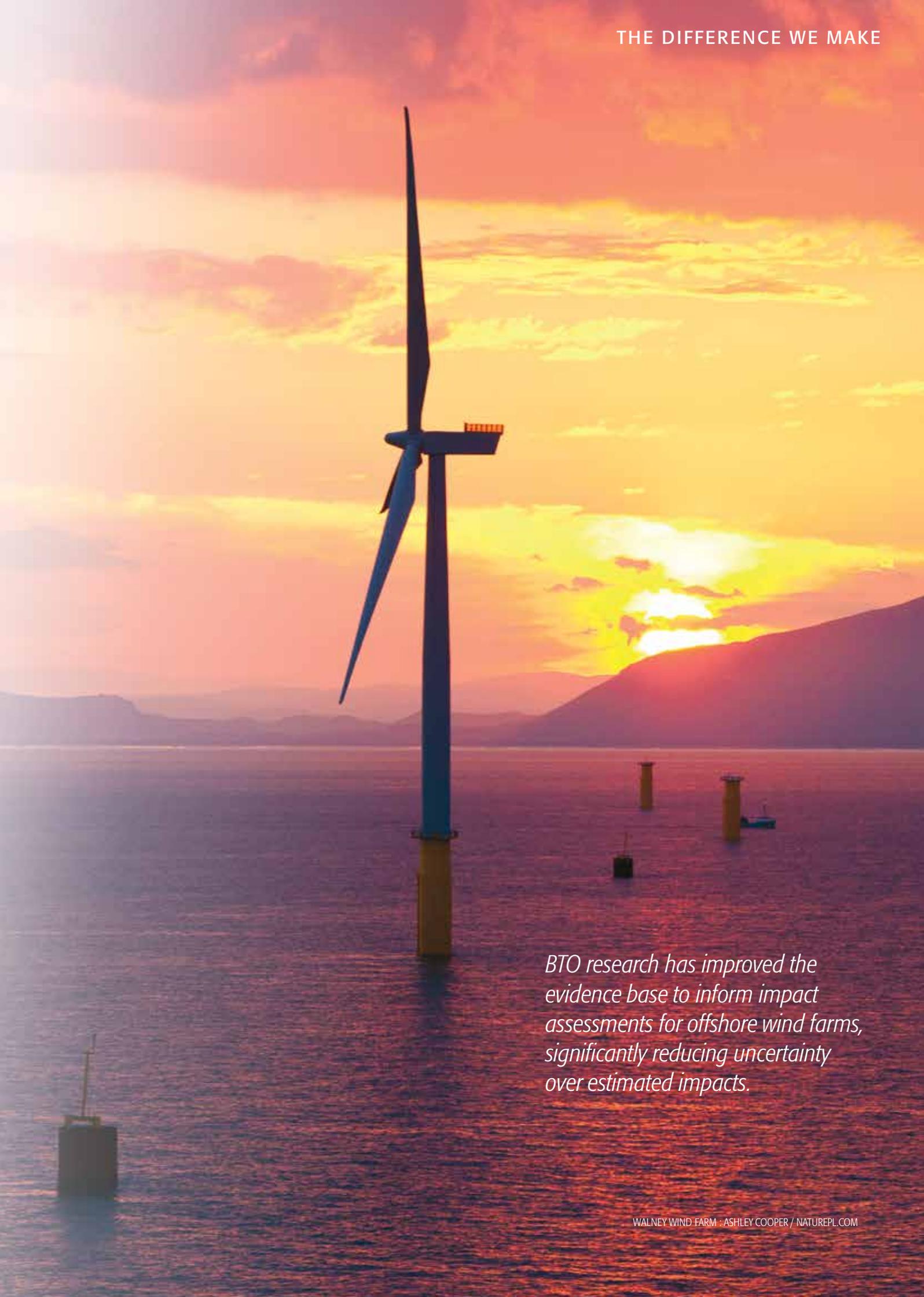
SUPPORTING PROTECTED AREAS

The European Union's Natura 2000 is one of the largest coordinated networks of protected areas in the world, with the aim of ensuring the long-term survival of the region's most threatened species and habitats. While aimed at a predetermined set of species and habitats, the presence of the network may also benefit non-target species. This potential additional benefit has been studied by a broad partnership of researchers, including BTO, through the use of key long-term datasets. The analyses revealed that in almost half of the 155 bird species assessed, abundance increased as the proportion of landscape covered by Natura 2000 sites increased. The particularly strong relationships with Natura 2000 cover for woodland birds like Lesser Spotted Woodpecker suggest that the network could be a suitable tool to help mitigate the overall decline of bird woodland specialists seen across Europe. This analysis did not consider the potential impacts of site protection on population trends, so we are currently seeking additional funding to support more in-depth analysis focused on the UK. Being able to demonstrate the impact of significant schemes like Natura 2000 is only possible because of the monitoring data and scientific expertise of BTO and its partner organisations elsewhere in Europe.

EVIDENCE OF CLIMATE IMPACTS

Birds are a taxa for which we have been able to document responses to a changing climate, and BTO researchers have led on some of the most significant work in this area. A 2019 paper showed that population growth rates for one-third of 68 English breeding birds were significantly affected by climatic variables, leading to notable population increases in 13 species and declines in three.

Considering how the effects of climate change may vary spatially or between habitats can inform conservation responses. A Rothamsted Research led paper, in partnership with BTO, UK Centre for Ecology and Hydrology, Butterfly Conservation and the Science and Advice for Scottish Agriculture, showed that whilst trends in the timing of key biological events across 269 species were progressively earlier over time, they were later at higher altitudes and varied between habitats. The value of such information was highlighted by a Natural England-led review, co-authored by BTO. This identified the importance of ongoing monitoring to measure the success of climate change adaptation and mitigation in terrestrial systems. Given the interest in developing nature-based solutions to climate change, such monitoring is critical to identify where multiple benefits for climate change mitigation, people and ecosystems are possible. Distinguishing these from other potentially attractive solutions, which may have perverse consequences, such as the planting of trees across naturally open ecosystems to the detriment of open-country species of conservation concern, is vital.



BTO research has improved the evidence base to inform impact assessments for offshore wind farms, significantly reducing uncertainty over estimated impacts.

ENABLING PEOPLE TO LEARN & GROW

Inclusive and supportive, we are working to provide more and better opportunities for people to contribute to our scientific work. Through participation we are helping people to learn new things and to grow in confidence as they develop new skills as birdwatchers and as citizen scientists.

BROADENING INTERESTS

Participants in the BTO/JNCC/RSPB Breeding Bird Survey make a valuable additional contribution to the UK's Wider Countryside Butterfly Survey (WCBS), which is a key part of the UK Butterfly Monitoring Scheme. Some 436 BBS squares are currently also registered for WCBS and 2019 saw a fantastic 21% increase in the number of BBS squares being surveyed for butterflies compared with the previous year. The increase has been supported by additional functionality added to the BBS Online system, enabling Regional Organisers to better promote the survey to potential participants. Together with volunteers from Butterfly Conservation, a total of 1,957 WCBS squares was covered out in 2019, with 129,866 butterflies of 46 species recorded. These included 18 habitat specialists, 25 wider countryside species and the three regular migratory species.

TRAINING AND MENTORING

During the year we ran a series of one-day 'Train the Trainer' events, made possible through a generous donation from the late Pamela Rhodes. Pamela was involved in several BTO surveys and a strong advocate for the value of robust, large-scale data. She recognised that it is essential to have a pool of suitably-skilled volunteers to help collect such data, and wanted to support our efforts to develop and recruit the next generation of surveyors. Thanks to her support we were able to run seven one-day events for members of BTO's Regional Network. These were designed to build skills and confidence in giving presentations, using social media and running outdoor activities to promote BTO work and recruit survey volunteers. Some 32 Regional Network volunteers participated, with others set to participate at another event, which will take place once restrictions linked to the pandemic enable this to be delivered safely.

GARDENWATCH

In May 2019 we launched the UK's largest ever garden audit in partnership with BBC Springwatch and the Open University. Gardenwatch sought to collect information on the resources available for wildlife in UK gardens, together with much-needed data on their use by birds, mammals and invertebrates. The responses, received from more than 130,000 gardens, have given us fascinating new information on what people do to help wildlife in their gardens, additionally revealing where there is still more that can be done. Structured around a series of four separate 'missions', the study proved incredibly popular; some 221,881 missions were completed by adults and children from across the UK.

Of particular interest was the 'Worm Detective' mission, which built on the method used for the BTO's 'What's Under Your Feet?' project. Soil invertebrates, including earthworms, are keystone species in the environment but we know relatively little about their abundance across different habitats. Submissions were received from 8,849 gardens, recording a total of 340,791 invertebrates. Worms were the group most frequently encountered, occurring in 86% of surveyed gardens. Of the soil invertebrates counted, ants were recorded from a higher percentage of gardens in the south than the north of the UK. Previous research shows that ants are found in warmer areas, and they are thought likely to be positively impacted by warming, with many species projected to expand their UK range in response to climate change.

The main findings from the project were announced on Springwatch in May 2020, supported by more detailed results on the BTO website. Alongside the results were a series of more practical guides, using different bird and mammal species to highlight some of the things that people can do to improve their gardens for wildlife.



WORM DETECTIVE : VITEC40/STOCK.ADOBE.COM, CLOUDED YELLOW : MIKE TOMS / BTO, BLACKBIRD : EDMUND FELLOWES / BTO

CASE STUDY: YOUTH ADVISORY PANEL

Our strategy challenges us to increase the size of our younger audience. In response we have established a number of initiatives aimed at engaging young people, including our annual BirdCamp, the Young Bird Observatory Volunteer Fund, the student ambassador programme in Wales, the Young Birders' Blog and our Young Birder membership. We have additionally invited young people to speak at conferences, established awards for young people and hosted a number of work experience placements. We are excited about the prospect of engaging many more young people in our work and the activities that we have done so far have given us confidence that we can do this well.

Experience shows that the best youth engagement strategies are developed in collaboration with the young people with whom you wish to engage. In order to achieve this we have established a Youth Advisory Panel whose remit is to help us develop a strategy for the future. We promoted the opportunity to be part of the panel widely and from more than 60 candidates we now have a panel of 10 amazing individuals with a wide range of experiences, perspectives and skill sets, including both experienced "BTO-ers" and people new to our organisation. We have been working with the panel since January to develop a new strategy for engaging young people in our work. The panel presented some of their initial findings and recommendations to BTO Board in summer 2020, and we look forward to implementing these over the coming months.



INSPIRING & EMPOWERING PEOPLE

As an organisation we seek to inspire and empower people with an understanding of birds and the importance of scientific, evidence-based knowledge. Over the past year we have been working to present the results of our science in new ways, reaching out to new audiences with inspiring stories.

TELLING STORIES

Stories are a powerful tool, helping us to navigate the world around us. While we hold information in the form of data and figures, it is only through an associated and compelling narrative that we can then use this information to shape our understanding and beliefs. Our evidence-based approach, built on the foundations of robust and impartial science, delivers the hard facts on which decisions can be based. However, there is an increasing need to bring these facts into a narrative form, so that we can engage more people in our work and demonstrate the impact of our findings across society.

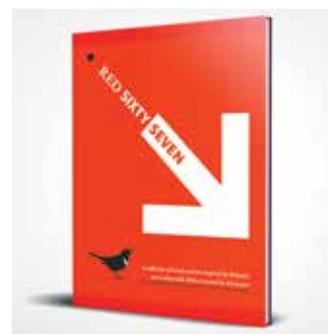
Telling effective stories means bringing our work together into a series of themes or ‘focal areas’, such as breeding wader decline or summer migrants. Through this approach our supporters see how their efforts contribute to the work being done, frame the questions being asked, and shape the stories being told. We also need to form our stories so that they are both audience-led and appropriate for the communication channel through which they are being delivered. Partnerships with the BBC, national newspapers, magazines and radio continue to be key channels for sharing our stories and inspiring audiences, but we also recognise the rapidly increasing opportunities (and challenges) of the digital world.

We have seen significant growth in our social media channels: by year end our Instagram account had passed 12,000 followers (up 119%), Twitter 94,000 followers (up 12%) and Facebook 28,000 fans (up 10%), with all three platforms showing good growth across the year and very good metrics for engagement. Our website continues to attract very significant levels of traffic and work is underway to move the site to a new cloud-based service in order to increase page response times and cope with the continued increase in traffic.

RED SIXTY SEVEN

The latest figures reveal that while public support for conservation is growing, society still does not place sufficient value on the natural world. One consequence of this is that, faced with finite resources, conservationists must prioritise where they spend the money they have. Resources are usually directed towards the species most in need of help or to the best places for nature. Formal processes, based on the best available data, are needed to inform such decisions. For UK birds this is done through the Birds of Conservation Concern (BoCC) system, a periodic appraisal that places species onto the Red, Amber or Green List depending on various measures of status. The most recent review, BoCC4, was published in December 2015. While the report has been widely used by conservation practitioners, little has been done to engage a wider audience with the 67 species placed on the Birds of Conservation Concern Red List.

BTO has a role in the assessment process through the data and expertise that it contributes. This year, working in partnership with RSPB and the Probable Bird Society, we took our involvement further. Through the Red Sixty Seven project we sought to engage new audiences with the



research and conservation work being done for Red-listed birds. In February 2020 we published a book entitled *Red Sixty Seven*. This told a personal story for each Red-listed species, the text written by some of the UK’s most exciting writers, from Ann Cleeves and Patrick Barkham to Chris Packham and Melissa Harrison. Alongside the texts were 67 artworks by leading wildlife artists, including Derek Robertson, Keith Brockie and Carry Akroyd. All of the contributors gave their time for free, enabling funds to be raised from both sales of the book and an auction of the artworks.

The idea for the project came from Kit Jewitt of the Probable Bird Society and it was thanks to his hard work that we managed to attract so many fantastic contributors. The money raised is being split between BTO and RSPB to support work on Red-listed Birds of Conservation Concern. The project has also been a very powerful vehicle for introducing new audiences to the 67 species that feature on the UK Red List. Many readers have been surprised to learn that such familiar species as House Sparrow, Starling, Puffin and Herring Gull appear on the Red List. Hopefully inspired by the stories in the book, readers will increase their engagement with the work being done to secure a future for these species.

ARTS, CULTURE & MIGRANT BIRDS

Through our involvement with the University of Cambridge’s MPhil in Conservation Leadership (see page 18), we have continued our work investigating arts and culture approaches as tools for connecting people, both here in the UK and elsewhere along the fly-way, with research on migrant birds. Working with BirdLife International and MPhil student Danny Flenley, we have investigated how *in situ* arts practices can drive understanding of conservation issues and influence behaviour. A particular focus has been the degree to which European arts and culture approaches might work in West Africa. This work, which involved fieldwork in Ghana, explored the scale of opportunity for co-creation of conservation-focused art with in-country creatives, resulting in valuable guidance to conservation organisations that should inform and improve future attempts to deliver arts, science and conservation work in this arena.

RED SIXTYSEVEN HERRING GULL / CROW ARTIST



OUR VOLUNTEERS



LEARNING HOW TO FIND AND MONITOR NESTS : MIKE TOMS / BTO

BTO's 60,000 volunteers monitor change in the environment, delivering the information used to plan and assess conservation action, and informing decision-making processes for the benefits of society, wildlife and the natural world. They are the beating heart of our organisation, working in partnership with our staff.

TRAINING NEW VOLUNTEERS

Developing new skills is a core part of an individual's development as a birdwatcher, volunteer or surveyor. Recognising this, BTO is committed to supporting our volunteers (and the wider birdwatching and professional surveying communities) through a range of training opportunities, largely coordinated by our dedicated Training Manager. These include the training courses offered through our survey schemes, such as those delivered to support volunteers participating in the Ringing and Nest Record Schemes. In 2019, for example, two dozen volunteers attended the annual Nest Record Scheme courses in West Sussex (Knepp Estate) and Norfolk (BTO Nunnery). Led by BTO staff, but heavily supported by local volunteers, these

courses provide volunteers with a solid grounding in nest finding and monitoring techniques across a range of species. Over the course of a weekend, the volunteers also learn how to collect the monitoring data that form a nest record, and to operate within the Nest Recorders' Code of Conduct. These courses simply would not be possible without the support of local volunteers, such as Tony Davies (see opposite), whose expertise and sites are key to delivery of a successful course.

The desire to see more local Nest Record Scheme courses is now being realised, thanks to the efforts of volunteers who had attended a BTO-led course in an earlier year. In December 2019, BTO's Annual Conference heard from Tara Okon about her development as a nest recorder. Tara became involved in nest recording after participating in a nest recording taster course in Glamorgan, organised by volunteers Wayne Morris and Daniel Jenkins-Jones. Tara and her tutors now form part of the Fledgmore Nest Recording Group, a team that continues to grow and which has been able to significantly increase the number of nest records collected for Glamorgan.

The approach adopted by Fledgmore Nest Recording Group mirrors the group-based approach often seen within the Ringing Scheme, where groups of individuals support each other in a coordinated manner to deliver monitoring data on avian demography. Many of the individuals attending the Nest Record Scheme courses are already involved in the Ringing Scheme, developing their skills in new ways to broaden the types of data they can collect and, through this, greatly increase our understanding of some of the reasons behind the changes seen in our bird populations.



WATER RAIL NEST : MIKE TOMS / BTO

WORKING TOGETHER

Many staff-led fieldwork projects also rely heavily on the support received from volunteers. BTO staff working on Nightjars in Thetford Forest are regularly joined by volunteers, who help with nest finding activities. Our work tracking Cuckoos and Short-eared Owls in Scotland (see page 32) has greatly benefited from the tremendous hard work of local fieldworkers who have helped to locate breeding owls and then catch and tag individual birds. Similarly, volunteers have been instrumental in enabling us to carry out tracking work on Arctic Skuas in an attempt to understand why their breeding populations are in decline.

Volunteers also make an important contribution within the BTO offices, for example supporting staff in our Fundraising (see page 24) and Science Teams (see page 26). Others help with our archives, at events or in support of our Regional Network (see page 17) and committees. The contribution that our volunteers make is recognised in many different ways, including through two annual medals, presented at the Annual Conference.



INSPIRING THE NEXT GENERATION : ROB READ / BTO

VALUE FOR NATURE

The contribution made by volunteers to our understanding of Britain's birds is considerable. Channelled through the surveys we operate and working in partnership with our staff, participants in BTO's surveys contributed a staggering 1,745,559 hours to BTO's work in 2019. This is an increase of 127,209 hours on the figure for last year, thanks mainly to a 33% increase in volunteer contributions to BirdTrack.

While such figures are staggering in their own right, the monetary value of this incredible effort represents a societal benefit in excess of £16.2 million pounds (based on a UK living wage figure of £9.30 per hour). Of course, it is not just the time invested that delivers so much for society, it is also the expertise and knowledge invested in these volunteers. It is essential that we continue to support, nurture and encourage these volunteers and, additionally, ensure that this expertise and knowledge is passed on to the next generation of birdwatchers, surveyors and volunteers. We are already starting to see new cohorts coming through in our core schemes: the growing number of BTO/JNCC/RSPB Breeding Bird Survey participants, the new young ringers joining the scheme, and an increasing in the diversity of our participants; all these bode well for the future.

MY CONTRIBUTION

TONY DAVIS

How long have you been involved with the BTO surveys and how did you get started?

I first started 'helping' my father with ringing and nest recording when I was about four or five and can remember one of our childhood chores was to help extract Redpolls and Siskins from the mist net before we could have Sunday lunch! I have probably been making a genuine contribution of my own for about 35 years now.



What do you get back from training and mentoring others?

My regular team are a great bunch and it is a pleasure to spend time with them. It is immensely satisfying to see them developing and starting to gain their independence and develop projects and interests of their own. Even with those where I have just made a minor contribution to their development, it is still pleasing to see them go on to use the skills that they have learnt and in some cases to make really important contributions.

What's been your surveying highlight?

This is a difficult question as in many ways the highlight is learning more about the species that I have a particular interest in but, if I had to pick one specific thing, it would have to be retrieving three geolocator tracking devices from Wood Warblers, which have provided our first insights into the migration routes and winter quarters of this declining species.

Do you feel that your volunteering makes a difference?

Feeling that I, or what I do, is important does not sit easily with me, but when you get positive feedback about what you are doing from BTO staff, or from other volunteers who you respect, then you cannot help but feel that you are doing something worthwhile and helping to make a difference.

What's it like to work closely with BTO researchers?

It just feels like I am working with friends or fellow enthusiasts. I have never felt that I am inferior or an outsider, just part of a team working together to achieve something, and usually having a bit of a laugh along the way.

OUR STAFF

BTO's professional staff are recognised for both their expertise and commitment, working in partnership with volunteers and staff at other organisations to drive forward our charitable activities. Most of our staff also volunteer in BTO surveys and projects, something that underlines the strong bond within our community.

MENTORING AND TRAINING

Last year we reported on the investment made in a new Head of People and Organisational Development post to look after our staff, noting an expectation to bring in a specialist HR system and increased HR staffing. Both objectives were realised during the year, increasing the resource available to support staff. This has enabled us to focus on a number of key areas, including leadership competencies and well-being. Staff health and well-being is an important part of the regular quality conversations that take place between line managers and their staff, something that is written into the framework of these meetings.

Sam Franks - Research Ecologist (Wetland and Marine Team)

I completed a PhD in Canada on shorebird migration, and worked for government and consulting for a year before relocating to the UK in 2013. I started at the BTO in November 2013 as a research ecologist, and have worked on a diverse range of projects, mainly focusing on waders, migration and climate change. In 2014, I initiated an informal group of mainly early-career researchers to discuss relevant themes such as career development. This evolved into a wider staff group, supported by Board member Frances Hurst, which focused on topics such as supportive management and managing stress at work.

I am a birder, photographer, ringer and mother (not always in that order). I enjoy what Canadians would call 'hiking', camping, canoeing and travelling with my family, and am also an orienteer, and when time allows, a singer and pianist. Soon I'll be juggling building a house alongside work and family responsibilities.

I have been informally providing support and guidance to my friends and colleagues since graduate school, and find it extremely rewarding and fulfilling to help others grow their confidence and abilities and to realise their own potential and value to those around them.

AREAS I WOULD BE HAPPY TO COACH/MENTOR PEOPLE IN:

Work-life balance, personal development, building confidence, setting goals and priorities, improving productivity, time management

SPECIFIC SKILLS/KNOWLEDGE:

Analysis, giving presentations, paper-writing, problem-solving, women in science and conservation. I would be happy to mentor new members of staff joining the BTO.

AVAILABILITY

Tuesday, Wednesday, Thursday, Friday
I am available to mentor now
I am happy to mentor in Thetford, Cambridge or remotely by GTM



MENTORING PROFILE / BTO

However, this is not the only way in which we have been working to support staff and their well-being. Thanks to support from staff across the organisation we have been able to roll out a mentoring programme. Staff who have offered to be mentors have profiles outlining the range of skills and topics around which they are happy to act as a mentor. This enables other staff, looking for help in these areas, to approach the mentor and begin a conversation. All of those who have offered to be mentors have received training in the role and the responsibilities that come with it. In some cases, we have also used external mentors to support staff working in particular roles. The mentoring programme, together with other new initiatives, recognises the benefits that come from investing in staff, supporting them in their roles and providing them with the skills and opportunities to develop within the organisation.

SHARING OUR EXPERTISE

We have continued to share our expertise through academic opportunities. In 2019 this included building capacity in Africa, which saw us working with the Tropical Biological Association to train African citizen scientists in the collection of ornithological data. Closer to

home, we continued our close involvement with the University of Cambridge's MPhil in Conservation Leadership. Several BTO staff lecture on the course and work with the students in other ways.

LEADING BY EXAMPLE

Through both their staff roles and outside work interests, BTO staff contribute to a very broad range of conferences, events, workshops and other NGOs. For example, our Head of Surveys, Dawn Balmer, represents BTO in the CEH-led Pollinator Monitoring Scheme, is Chair of the Rare Breeding Birds Panel, and Secretary of the European Bird Census Council. In her own time she is a member of the British Birds Editorial Board, a Trustee of the Eric Hosking Charitable Trust and a member of the British Ornithologists' Union Records Committee.

During the year, BTO staff helped organise the International Wader Study Group Conference in Morecambe and, among others, a successful British Ecological Society climate change special interest group meeting on the impacts of extreme events. Conferences provide important opportunities to showcase BTO work, build partnerships and network with other researchers in the field. BTO was very well represented at the 5th International Conference on Wind Energy and Wildlife Impacts in Stirling, with several presentations on our work on seabirds and offshore wind farms and on a global assessment of collision risk for bird and bat species. Principal Ecologist Gavin Siriwardena gave a talk on potential uses of BTO data in planning to the national body for environmental consultants, part of the BTO's strategic drive to grow awareness of our urban work.

BTO has continued to provide input to a review of the Seabird Monitoring Programme (SMP), which delivers annual monitoring for 25 species of seabird that breed regularly in Britain and Ireland. This programme, which is a partnership of 19 organisations and coordinated by the Joint Nature Conservation Committee (JNCC), collects information on seabird numbers and breeding success, enabling their conservation status to be assessed.

Research Ecologist Samantha Franks represented BTO at a Curlew Summit held at 10 Downing Street in July 2019, to discuss the conservation issues facing the species in the UK. The summit, which attracted a broad range of stakeholders, highlighted the importance of monitoring and the need for coordination in conservation actions. BTO also provided input to an annual horizon scanning event, identifying emerging global issues for nature conservation, organised by Professor Bill Sutherland at the University of Cambridge. The aim of this horizon scanning approach is to focus increased research and policy attention on the issues identified, thereby improving the capacity of the research and policy communities to mitigate impacts of those likely to have negative effects, and maximise the benefits of issues that provide opportunities.



OUR COMMUNITY



SPURN MIGRATION FESTIVAL : DAWN BALMER / BTO

Only through the support of our members and volunteers can we, as a charity, continue to inspire people about birds and inform society through the evidence base that our science provides. We are fortunate to have an amazing and vibrant community around us, as our work over the last year continues to demonstrate.

SPURN MIGRATION FESTIVAL

Few events capture the vibrancy of the birdwatching community as well as the Spurn Migration Festival. First launched in September 2013, this now annual event is staged jointly by the Spurn Bird Observatory Trust, BTO and Westmere Farm. This successful partnership has helped the festival to grow, while at the same time keeping the friendly, welcoming feel so obvious in the festival's early years. BTO staff now help to deliver a range of birdwatching activities, including leading guided walks and running ringing demonstrations. One of the highlights of the festival is the Martin Garner Spurn Young Birder of The Year, supported by Swarovski Optics. This prestigious award is open to all young British birders up to the age of 16 and has helped to raise the profile of young birders and to foster a community of young voices. It is also helping to extend our relevance and interaction with young birdwatchers, one of the aims of our 2015–20 strategy.

MEMBERSHIP MATTERS

Our community of volunteers, members, funders and partners support the BTO in many different ways. Many of our members volunteer for our surveys, make additional donations and collectively ensure our long history of impartial science continues – informing our understanding of birds' lives in a changing world. We ended the financial year with 18,379 members, only a small increase on the previous year and below the strategic objective set out in our ambitious 2015–2020 strategy. However, as noted last year, we have invested in a new Customer Relationship Management Database to realise our aspiration for engagement with members to be supported

by communications that are relevant and personalised. The move to the new system has not been without its challenges and early on we took the decision to divert additional efforts towards this process, rather than to planned recruitment work. This decision has put us in a strong position going forwards; the new database, coupled with refined processes for engagement and support, will ensure that new joiners receive the best possible experience as a BTO member. This should increase the value of future investment in recruitment opportunities, and also enable us to maintain our excellent rates of member retention.

SHARING SKILLS AND KNOWLEDGE

We are really keen to help birdwatchers improve their knowledge and skills, whether they are just beginning to explore their interest in birds or are further along their journey and looking to take the next step. In addition to the training courses delivered with particular BTO surveys in mind and the associated mentoring schemes (see pages 12–13), we have continued to invest in resources accessible to all. These include the identification videos available online through the BTO YouTube channel. During 2019–20 these received 825,860 views, with 29,712 hours watched, underlining the incredible demand for this resource. The appetite for material delivered online is likely to grow; following the emerge of COVID-19 at the end of the financial year we have seen increased interest in online training and the use of other online resources. A strategic response to this is in preparation as we consider how digital platforms can be used to deliver training and support the development of birdwatching and survey skills across a wider audience.

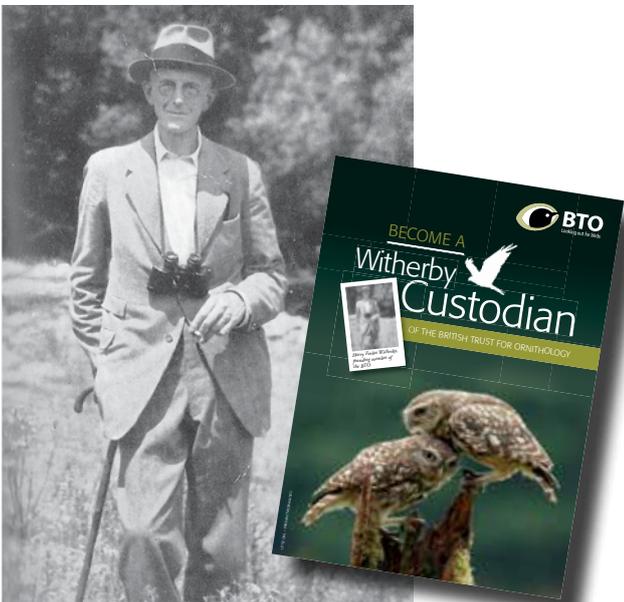
DELIVERING CORE SUPPORT

The Regional Network sits at the very heart of BTO. The dedication and commitment of our Regional Representatives, Regional Ambassadors and Regional Organisers is truly remarkable and the work of BTO would simply not be possible without their support. A new Regional Network Handbook was produced in February, bringing together the latest information on surveys and important guidance on handling personal information, and interacting with social media. A vibrant meeting of Regional Representatives in Sheffield in February 2020 provided the opportunity for staff and the network to meet and share experiences. The new Regional Network Pilot, involving Wiltshire, Oxfordshire, Suffolk, Cornwall and Mid & South Glamorgan BTO regions, progressed well and aims to provide guidance to enable growth of the Regional Network by demonstrating what works well and what resources are required for successful engagement with the local BTO community.

OUR WITHERBY CUSTODIANS

Harry Forbes Witherby was the founding father of the BTO. In 1933 he gave £1,400 to establish BTO, the money coming from the sale of his collection of bird skins to the Natural History Museum. Today a small group of members, called Witherby Custodians, are following in his footsteps by helping BTO to become even stronger and more focused on producing the scientific evidence that is needed to tackle the challenges that many birds face today.

Witherby Custodians help by sharing their experience and advice, by giving their input to our plans and strategy in meetings with BTO's leadership team and staff, and through their financial support. A get-together of the Custodians was held at the Natural History Museum in London during the autumn, when BTO CEO Andy Clements and our Associate Director for Research Rob Robinson gave presentations about our strategy and the year's achievements. The Custodians were able to share their views and discuss the work being carried out. Some of the Custodians came together in February for an evening in North Norfolk with Chair of BTO Board Professor Jenny Gill and CEO Andy Clements, followed by an early morning trip for the high tide wader spectacle at Snettisham. For details of the Witherby Custodian group, contact David Agombar at david.agombar@bto.org.



OUR CONTRIBUTION

TOM & MURIEL CADWALLENDER

BTO Regional Representatives

How long have you been involved with BTO?

Tom – My first involvement was in the mid 1970s when I got my first ringing permit. That one act, and the action surrounding collecting data, planted a seed in my brain that just hasn't gone away. In fact, that seed blossomed into a major driving force in my life. We need to know more about the lives of birds if we are going to have any chance of helping in their conservation. **Muriel** – As a novice birdwatcher in 1973 I joined the Surbiton Ornithological Society in Surrey, a very active club, and was immediately encouraged to go along to Arbrook Common, a BTO Common Bird Census site. Here I learnt the techniques of identifying and recording birds from very notable ornithologists who encouraged me to attend BTO conferences. These became biannual fixtures in my life.



SARAH MACDONALD

What do we get back from participating in BTO Surveys?

Participating in structured surveys, such as BBS, WeBS etc. or recording a daily list for BirdTrack, gives a purpose to our birdwatching and, using the old cliché 'give something back' for the pleasure and enjoyment we've got out of birdwatching. Even though we've lived in Northumberland a very long time, Tom's whole life in fact, there are still plenty of places to explore to get to know the 'local' birdlife. Some of those census areas have even become our 'patches'.

Do you feel that your volunteering makes a difference?

Sometimes it is difficult to see the value in some of the things that you do. However, just taking a little step back to see the bigger picture is all we need. Go online to the BTO website and check out BirdTrends, for example, and it is all right there in front of you, your contribution feeding into our collective knowledge and understanding about bird populations and knowing those data, our data, are helping to inform key policy decisions that can have a positive impact on the world we live in.

You are part of the Regional Network supporting and coordinating volunteers and members. What persuaded you to take on those roles and what do you enjoy about them?

After almost 30 years as Regional Reps for Northumberland it is hard to remember exactly why we took on the role. We were both involved with the Tyneside Bird Club and a local breeding Atlas but we had a desire to help and make a difference; we were intrigued and in the right place at the right time. Going out into the field collecting data is great fun, our job is to persuade volunteers that this is indeed the case. However, what gives great satisfaction, pleasure and enjoyment is standing up in front of groups of people and recruiting volunteers for BTO surveys or sharing the latest BTO information with the general public or bird clubs. **Muriel** – As BBS Regional Organiser I am able to help observers find a suitable site, and enjoy hearing all about their experiences. It's always a pleasure to see the species' lists come in, and to be able to make annual comparisons. **Tom** – I really enjoy communicating and enthusiastically spreading the word. Being the BTO Regional Representative for Northumberland gives me the opportunity and wherewithal to do just that.

A PARTNERSHIP APPROACH

Partnership is a core feature of our approach. Recognised for the quality of our scientific work, and our impartial, evidence-based position, we are able to work with a very broad range of partners. This enables us to tackle important questions in sometimes difficult areas of policy or research.

THE MONITORING SECTOR

BTO's work, monitoring the changing status of bird populations, is part of a wider surveillance and monitoring framework facilitated by the Joint Nature Conservation Committee (JNCC) and bringing together information from across a broad suite of taxa. The framework is supported by a strong and effective partnership of NGO's, Statutory Nature Conservation Bodies and JNCC. In addition to the core monitoring and surveillance aspects of the partnership's work, BTO is also involved in supporting projects, including the Terrestrial Surveillance Development and Analysis (TSDA) initiative. This provides cross-scheme development and analysis functions, recognising that most schemes face common problems, such as ensuring adequate geographic coverage and developing effective data management systems. Through TSDA, BTO (working with Bat Conservation Trust) is developing protocols for national bat monitoring, drawing upon its successful citizen science approach to monitoring bats with passive acoustic devices – as deployed in the Norfolk Bat Survey. Being able to use our expertise to support the broader partnership is just one way in which we contribute to the framework.

ECOSYSTEM HEALTH

During the last year we hosted a workshop which explored the potential for monitoring data from core schemes to inform about ecosystem health. The workshop, which was jointly hosted with the UK Centre for Ecology & Hydrology (CEH), brought together staff from JNCC, the Statutory Nature Conservation Bodies and NGOs concerned with biodiversity monitoring. Building on scoping analyses using BTO/JNCC/RSPB Breeding Bird Survey and other monitoring scheme data, including biological records from the National Biodiversity Network, the aim of this meeting was find common ground between the policy needs of the agencies and the metrics that the data would support.

BIRD OBSERVATORIES COUNCIL

BTO has continued to work closely with the Bird Observatories Council, supporting the Council as it coordinates and promotes the work of bird observatories at a national level. The two organisations have signed a new Memorandum of Understanding, underlining a mutual wish to strengthen the relationship and to develop new collaborative projects. An integral part of observatory work is bird ringing, undertaken within the national Ringing Scheme coordinated by BTO, but the observatories also carry out a much wider range of work, including that to encourage volunteers to participate in scientific studies of birds and the environment. The results of these studies are made freely available to researchers and the public, many of whom visit the observatories to see the work taking place.

TRACKING THE IMPACT

BTO is supporting the 'Tracking the Impact' initiative of the Chilterns Conservation Board, which has Heritage Lottery Fund support to enhance local citizen science monitoring. BTO is supporting the training of new volunteers in bird identification and survey techniques, as well as providing additional online BTO/JNCC/RSPB Breeding Bird Survey functionality to support data collection from new survey squares in the Chilterns. The aim is to survey a total of 50 1-km squares in the target region every year. This is particularly interesting from a BTO perspective, because volunteer recruitment via this sort of local monitoring focus has not been attempted previously in a way that is coordinated with national surveying. This will facilitate comparisons between local and national patterns of change, and could be a model for application elsewhere to retain and to enhance volunteer effort. Butterfly Conservation, PlantLife and the Biological Records Centre (CEH) are also supporting the programme, via butterfly and plant surveys.

SUPPORTING INDUSTRY

Our relationships with industry include a strong Corporate Membership scheme, together with a number of long-established partnerships. BTO has been working with wild bird care specialist Gardman since 1996, supporting the company in product development and providing guidance to Gardman customers on feeding practices and approaches to encourage birds in gardens. The partnership with Gardman has revitalised under its new owners, Westland Horticulture, contributing vital funding to our work on garden birds and enabling us to reach and inspire many more people with our messages. Working with the sector's largest wild bird care supplier provides a unique opportunity for our scientific research and specialist expertise, contributing towards achieving the highest standards in garden bird feeding.



LONG-TAILED TIT : LIZ CUTTING / BTO; MARSH HARRIERS : DAVID TIPLING / BIRDPHOTO.CO.UK



EUROPEAN MIGRATION ATLAS

BTO has continued its involvement in the *Eurasian-African Bird Migration Atlas*, which forms the first component of the Convention on Migratory Species *Global Animal Migration Atlas*. This ambitious project led by EURING (the coordinating organisation for European bird ringing schemes) aims to bring together both ringing and tracking data to showcase their combined power to tell complementary stories about avian movements across space and time.

It draws on 20 million records from EURING ringing schemes, as well as thousands of tracks in the Max Planck Institute of Animal Behaviour's Movebank database, to deliver 300 species accounts through an online portal. Users will be able to view migratory connectivity patterns between different breeding and wintering populations, examine patterns of recoveries according to different conditions (for example, ringing recoveries vs shot birds), and see week-by-week animations of movement patterns between breeding and wintering locations.

A partnership team drawn from 12 different European research institutions is overseeing the project's delivery. BTO's expertise in managing large datasets and developing novel online applications to visualise and interact with survey data means we are playing a vital role in the project. In addition to hosting the EURING database, BTO has led on data management, developed a set of interactive mapping tools allowing account authors to visualise patterns for their species, and is in the process of building the online portal. The Atlas would not be possible without the huge efforts of thousands of ringers and researchers operating across the flyways, together with the observers and members of the public who have reported ringed birds.



INFORMING POLICY & PRACTICE



Our independent, impartial and evidence-based approach reinforces the value of our data, research and expertise within the sphere of policy and practice, supporting land management and other decisions, testing solutions and enabling the work of government, NGOs and corporates.

INFORMING PLANNING DECISIONS

Urbanised landscapes are expanding at a rate of 5–10% per annum across all major regions, leading to the loss and fragmentation of natural, semi-natural and agricultural land. There is a pressing need to identify the impacts of urbanisation and to inform the design of environmentally friendly approaches to development. Data from large-scale projects, such as *Bird Atlas 2007–11* and our acoustic monitoring of bats, can be particularly valuable in providing the evidence base from which such decisions can be made.

Research studies have tended to focus on the fragmentation of natural habitats that results from urbanisation, but here in the UK such studies have limited application. This is because it is agricultural land that is the prime target for development in the UK, and such land has typically experienced decades of intensive management leading

to diminished levels of biodiversity. BTO work published in 2019 examined the impacts of urbanisation on the bird populations present within these farmland landscapes. Using data from *Bird Atlas 2007–11*, which was a joint project between BTO, BirdWatch Ireland and the Scottish Ornithologists' Club, Principal Data Scientist Simon Gillings revealed that, even in heavily degraded agricultural landscapes, a high proportion of species will be negatively impacted by residential development; some will require spared land to persist in the wider landscape. The findings can inform urban planners wishing to design bird-friendly developments, who will need to make difficult decisions over which aspects of the bird community to prioritise.

GAMEBIRD RELEASES

Gamebird shoots are supported by management approaches to enhance habitat and food availability, and to reduce predation. Habitat and predator management may often, but not always, deliver benefits for wider biodiversity. The impacts of game management have been well-studied, but those of releasing very large numbers of gamebirds into the environment are relatively understudied. BTO work, published in 2019, examined the spatial relationships between reared and free-roaming gamebirds, and explored spatial and temporal associations between these and five avian predator species across lowland rural Britain. The results of the work, led by Research Ecologist Henrietta Pringle, reveal predominantly positive associations between gamebird abundance and the abundance of the avian predators tested. Such associations may have implications for populations of other prey species if the releases cause increased predation pressure. If this occurs (and this is yet to be tested), game management could have an indirect negative impact on some prey species, partially counteracting previously reported positive or benign effects of game management on wider biodiversity.



WHITETHROAT : EDMUND FELLOWES / BTO



KNOT FLOCK : DAVID TIPLING / BIRDPHOTO.CO.UK



DUNLIN : PHILIP CROFT / BTO

CASE STUDY: WETLAND BIRD SURVEY

Data from the Wetland Bird Survey provide vital evidence on the use of coastal and other wetland habitats by non-breeding waterbirds. Such data support research, conservation and land management decisions across the UK.

WEBS ALERTS

Many of the UK's wetlands are given protected status as a result of the number of waterbirds that use these sites during the winter months. Information on the numbers of waterbirds present at the sites is collected by volunteers taking part in the Wetland Bird Survey (WeBS), a partnership jointly funded by the BTO, RSPB and JNCC, in association with WWF. The WeBS Alerts system uses these data to identify those protected sites at which notable changes have occurred, flagging-up issues that may require further investigation. Some of these declines are because of large-scale changes in global waterbird distributions due to climate change. Others may be due to problems at the site itself. The most recent set of WeBS Alerts was published in October 2019, the first such assessment for six years.

WeBS Alerts assessed change for 471 site-species populations on 82 Special Protection Areas (SPAs) of international importance. Long-term High Alerts were triggered for 118 of these and Medium Alerts for a further 110. This means there is evidence of long-term declines of 25% or more for almost half of the featured species on our most important wetlands. Over 6,000 trends were produced, compared to under 1,400 for 2013.



PURPLE SANDPIPER : LIZ CUTTING / BTO

For the first time, a further 1,266 assessments were also carried out for 220 nationally important sites (Sites of Special Scientific Interest and Areas of Special Scientific Interest). Several declining waterbirds, including Scaup, Goldeneye and Purple Sandpiper, are becoming increasingly reliant on the SPAs designed to protect them. One species, Pochard, Red-listed under the UK Birds of Conservation Concern and IUCN Global Red List, clearly demonstrates the immense value of these protected areas. Whilst overall winter numbers in the UK are half what they used to be, numbers at protected sites have declined at a comparatively slower rate, so that protected sites now hold up to 40% of the British wintering Pochard population, compared to just 15% in the 1970s and 1980s.

WEBS REPORT

The UK hosts internationally important numbers of wintering waterbirds. One of the principal aims of WeBS is to provide data to facilitate their conservation. Data collected by WeBS volunteers feature in the annual WeBS Report, underlining the value of a survey that has now been running for over 70 years. The report comprises a summary report and statistics, with additional maps and plots accessible through an interactive online interface. Having a long-term dataset of this kind is immensely valuable, helping us to understand what is happening to our waterbirds and to identify the sites that are most important to them. It also enables us to assess how sites, designated for the conservation of particular species, are delivering.

The survey provides a broad range of outputs in addition to the WeBS Alerts and WeBS Report mentioned above. Information from individual sites is used by consultants and other individuals to inform land management and development decisions. They are also well-used by academic researchers, providing valuable data that can be used to study the potential impacts of a changing climate on waterbird populations and their distribution. None of this would be possible without the dedicated volunteers who go out and count the birds that use our wetland sites.

SHARING DATA & INFORMATION

BTO data fed into a wide range of projects over the past year, supporting conservation, land management and policy work being carried out across the UK and, more widely, elsewhere within Europe. We want to be outward facing and 'arms-open' in our approaches to data collection, curation, interpretation and communication.

STATE OF NATURE

Data from the core schemes operated by BTO, working in partnership with others, feed into the periodic *State of Nature* reports, the latest of which was published in 2019. The report presents an overview of how the country's wildlife is faring, looking back over nearly 50 years of monitoring to see how nature has changed in the UK, its Crown Dependencies and Overseas Territories. As well as this long-term view, the report places particular emphasis on what has happened over the last decade. This approach highlights whether things are getting better or worse for nature.

The most recent report was produced by a partnership of more than 70 organisations involved in the recording, researching and conservation of nature in the UK. BTO data fed in alongside monitoring data for other taxa to reveal broader patterns about changes in UK biodiversity. Many of the figures used also provide information on the UK's progress towards the Convention on Biological Diversity's Aichi 2020 targets, demonstrating how the core work being done by BTO and others can support policy decisions, and measure the effectiveness of policy frameworks at global scale.

NON-NATIVE SPECIES WORK

Over the past year BTO has continued its work in support of the GB Non-Native Species Information Portal, which seeks to bring together key information on all non-native species that occur here, many of which are a threat to biodiversity, the economy or society. Developed by the UK Centre for Ecology and Hydrology (CEH), and funded by Defra, the portal is updated at least annually and is dynamically linked to the National Biodiversity Network Gateway – this allows the distribution of arriving non-native species to be mapped.

An important component of the portal is an alert system, used to ensure that information on a core suite of species can be pushed

through to where it is needed, facilitating early warning and detection. With more than 3,000 non-native species in Great Britain, there is also a need to have supporting material available to end users of the system. Over the past 12 months, BTO has been involved in maintaining the data registry, production of new species fact-sheets, advising on indicators and meeting with the Parliamentary Environmental Audit Select Committee in Cambridge. We were also involved in a horizon scanning workshop at CEH Wallingford in December 2019, where we led the Vertebrate Expert Group. A joint paper on this assessment is almost complete.



UK LANDSCAPE : MIKE TOMS / BTO

LANDSCAPES PARTNERSHIP

BTO monitoring scheme datasets are able to provide valuable information on bird population changes in those areas where landscape-scale conservation has been implemented by the UK's four largest landowning conservation charities – National Trust, RSPB, Wildlife Trusts and Woodland Trust. These four charities have come together in an ambitious partnership to maximise opportunities to deliver landscape-scale conservation within the UK. During the past year we have carried out some preliminary work to assess existing monitoring scheme coverage in these landscapes and to make recommendations for further exploration of.

MAPPING EUROPE'S BIRDS

It is more than 20 years since publication of the first *European Breeding Bird Atlas*. Work on its successor has been ongoing for several years now, involving the European Bird Census Council and its partner organisations from 48 countries. BTO has contributed in excess of 800,000 records and BTO staff have led on the delivery of c.40 species accounts. Publication is due in late 2020 and, with data contributions from nearly 120,000 fieldworkers, the atlas is about to deliver one of Europe's biggest citizen science projects.



RUDDY DUCK : DAVID TIPLING / BIRDPHOTO.CO.UK



COMMON BUZZARD : MIKE TOMS / BTO

HOME IS WHERE THE HEART IS

Gardens enable a wider audience to engage with birds and the natural world. Over the past year, BTO has continued to develop new opportunities for people to participate in science through their gardens, increasing our understanding of this important habitat.

CELEBRATING 25 YEARS

We now have a complete quarter-century of weekly garden bird observations from the length and breadth of the country thanks to our Garden BirdWatch project. Launched in 1995, the project set out to fill an important gap in our understanding, namely how do birds use our gardens and how does this use change over time? The survey, which has been funded through the generosity of its participants and was launched with financial support from CJ Wildlife Ltd, continues to be a huge success. Not only has the project seen the active participation in citizen science of 56,000 volunteers, between them contributing a staggering 8.7 million weekly bird lists, it has also contributed to more than a dozen peer-reviewed papers and reports.

The project has provided valuable information on the changing use of gardens by species like Goldfinch, Woodpigeon, House Sparrow and Greenfinch, among others. In the case of Greenfinch, it was through Garden BirdWatch that we were able to identify the emergence of finch trichomonosis and its impact on Greenfinch populations using gardens.

During the last financial year we carried out a review of Garden BirdWatch, looking at what it has achieved and identifying new opportunities to develop the project going forwards. One of the findings from the review was that the small annual subscription of £17 – used to fund the running of the project and some of the research – appears to be a barrier to participation for many people. If we want to engage more people with citizen science through their garden birds then we need to find an alternative to the annual subscription. Might it be possible to secure sufficient funding through an optional donation ask? This is something that will be investigated further in 2020–21.

STOP TO WATCH

BTO has long been interested in the health and well-being benefits that come from watching birds. Thanks to the combined efforts of volunteer Sally Beevor and our Head of Engagement Deb Lee, we have been able to offer a free mindful birdwatching podcast, entitled 'Stop to Watch', to increase well-being and alleviate stress by mindfully connecting people with nature. This follows on from the mindfulness walks based at our Nunnery Lakes nature reserve, which became popular with the local community. At the time the idea was forming, in spring 2019, we could not have known how timely the launch of the podcast would prove to be.

Sally also practises mindfulness and so had a good understanding of the concept. She worked with Deb to develop a case for support to take to charitable trusts which have an interest in promoting health and well-being. After writing to just six such trusts Sally secured sufficient funding from The Daniell Trust and The Hamamelis Trust to produce the podcast and promote it to potential users. The podcast was recorded as a voluntary contribution by actor Martin Shaw, a friend of Sally's, whose marvellously rich voice brings the subject to life for the listener.

'Stop to Watch' launched on the BTO website in time for Mental Health Week in May this year and has since featured in *BirdWatching Magazine*, as well as in health and well-being publications, and on social media, reaching a whole new audience and helping people to cope better with socially distanced living by really appreciating the natural world.

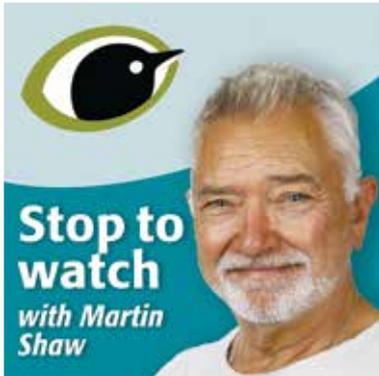
NESTING NEIGHBOURS

The investments made over recent years in our online systems for ringing and nest recording have now enabled us to update and relaunch our Nesting Neighbours project (formerly called Nestbox Challenge). The project widens our portfolio of citizen science opportunities, broadening the audience with which we can engage, and collecting additional information on the breeding ecology of urban-nesting birds.

By asking people to monitor nests in their gardens and local area, we can build up a detailed picture of breeding success in these target habitats. This is needed to help understand why some species are increasing while others are declining, for example whether warmer weather and the provision of food can make a difference to the number of chicks that birds are able to raise. The project was successfully relaunched in March 2020, utilising the Demography Online system. Uptake has been encouraging, with 1,501 participants submitting 4,316 records, the highest figures since 2015 and a great platform on which to build future growth.



GREENFINCHES : JILL PAKENHAM / BTO



SONG THRUSH NEST : MIKE TOMS / BTO; HOUSE SPARROW : JOHN HARDING / BTO

“The expansion of Garden BirdWatch to include other animals was something I loved and has expanded my interests”

Garden BirdWatcher **Keith Jones**, who has submitted 1,300 GBW lists from the same garden over 25 years, from 1995 to 2019.



ROBIN : DAVID TIPLING / BIRDPHOTO.CO.UK

LEARNING THROUGH INNOVATION

BTO has a proven track record of innovation, and of using emerging technologies and approaches to support the development of its work in new areas. This has been particularly evident with regard to our work tracking the movement of migratory birds, and in the collection and use of acoustic information for monitoring.

TRACKING DEVICES REVIEW

Tracking devices have revolutionised our understanding of the movements and migrations of birds and other animals, becoming an important tool for both conservation and for species management. Although the risks associated with using such devices are generally small and restricted to specific circumstances, it is important to assess them accurately so they can be minimised. Recognising a need for wider review, BTO volunteer Graham Geen spent many months collating and assessing nearly 3,500 primary references, from which key information could be extracted for formal analysis.

Graham, working alongside two BTO researchers, established that many of the negative effects were small, and that their occurrence was related to both the size of the device used and the method by which it was attached. Invasive attachment methods were associated with a high incidence of effects, while tail and leg attachments showed relatively few effects. The probability of an effect being reported declined over time, suggesting that approaches designed to minimise potential effects of devices on individual birds have advanced substantially. However, roughly half of the studies examined provided no information on potential effects and it is clear that more systematic documentation is needed to support more rigorous science and to further improve bird welfare.

Another important piece of work published this year investigated the design of geolocators, tiny tracking devices used to follow the migrations of small birds. It has been shown that light stalks can increase the accuracy of geolocators because they reduce potential shading of the light sensor by feathers. However, the addition of a light stalk may be detrimental, increasing the weight carried and the amount of drag. The research team, which included staff from BTO, the University of St Andrews, the AP Leventis Ornithological Research Institute, RSPB, Deakin University, and Fauna & Flora International, found that using a light stalk to bring the sensor above covering feathers did substantially improve the precision and accuracy of locations, but also highlighted that there is no advantage from using longer light stalk lengths than those necessary to just expose the light sensor above the feathers. These results will help to shape the design of future geocator tags.

DEVELOPING EXPERT SYSTEMS

One of the challenges that comes with the collection of large quantities of biological data is that of record validation. BTO uses a combination of approaches for the validation of the data it receives through its monitoring schemes, bringing together automated validation routines (that alert users of online systems to potential errors during data entry) and volunteer-based 'expert' verification (through regional organisers and others). Over the past year, working with the School of Computing Sciences at the University of East Anglia, we have supported studies looking at the use of a novel approach – a Hybrid Expert Ensemble System that combines an Expert System and machine-induced models to perform the task of record verification. The results of this work, published in the journal *Engineering Applications of Artificial Intelligence*, demonstrate that the approach could be used as an alternative or additional means to validate observations in a time- and cost-effective manner, especially where very large amounts of data require validation. This sort of approach could help BTO manage some of its very large datasets, and demonstrates the benefits of forming partnerships with academics who have very different skills to our own.

NEW STATISTICAL APPROACHES

BTO has continued to support the development of new statistical approaches, particularly in relation to how we can combine our different datasets, for example the BTO/JNCC/RSPB BBS and BirdTrack, to improve population trends, or ringing and BBS, to better understand population change. We also work with EURING to coordinate periodic meetings that bring together analytical experts to support the development of new methods. The proceedings of the latest meeting, published in 2019, highlight the continuing refinement of traditional approaches and the opportunities offered by new ones.



SKUA TAGS : SARAH HARRIS / BTO

ACOUSTIC MONITORING

Over the past year, BTO has continued its work developing approaches for the collection of acoustic data for the purposes of biodiversity monitoring. The use of Passive Acoustic Monitoring (PAM) devices has increased exponentially over recent years, with researchers and conservation practitioners deploying PAM across a wide range of taxa. The devices can be particularly useful when carrying out surveys of cryptic taxa (such as those active at night) or in habitats that are difficult to access or monitor (such as those that are the focus of our work with the Endangered Landscapes Programme – see pages 36–37).

In addition to our work examining the capture, management and storage of PAM data, we have also been working in partnership with colleagues in France to investigate and refine methods for the automated analysis of captured sounds. A peer-reviewed paper, published in 2019, provides a good example of this work. The study, which examined approaches for setting different levels of false positive tolerances, identifies significant opportunities to reduce the amount of time required to manually check data.

Thanks to generous support from the Esmée Fairbairn Foundation which is allowing us to continue to innovate in this field, the proposed approach will facilitate the improvement of large-scale monitoring, and ultimately our understanding of ecological identification using this rapidly developing technology.

ENGLAND

Although much BTO work takes place at larger spatial scales, some of our work is directed to addressing topics and evidence needs of a more regional nature. As the following pages demonstrate, during the last year we have been working across different countries to provide much-needed information.

NEW FARM WOODLANDS

Planting new woodland on agricultural land can be beneficial for many species; it can also contribute to the ambition for habitats to be 'bigger, better and more connected.' Two schemes to create new woodland habitat on farmland were introduced in the late 1980s and early 1990s. The patches of habitat created under these schemes have now developed into young woodland and scrub, important habitats for a range of bird species. Last year, through the English Farm Woodland Bird Survey, we assessed these sites and their importance for bird communities.

Thanks to the support of over 300 landowners and the efforts of 228 volunteers, we were able to survey 749 of these new woodland plots. The results were very encouraging, demonstrating that planting suitable trees on previously farmed land can be beneficial for many species, including woodland specialists like Nuthatch and the Red-listed Marsh Tit. The project was made possible thanks to funding from Defra and the Forestry Commission.



GOLDFINCH : DAVID TIPLING / BIRDPHOTO.CO.UK

MONITORING DISEASE

Diseases that affect trees and shrubs may impact bird populations in different ways. Tree disease may provide opportunities for species, like woodpeckers, associated with dead or decaying wood. Where a disease results in defoliation it may reduce the abundance of the leaf-feeding moth caterpillars on which many small woodland birds feed. Birds may also be involved in the spread of disease, accidentally carrying the disease agent on their feet or feathers. Two pieces of work carried out over the last year underline the contribution that BTO staff are making to this field of study.

'Ash dieback' was first confirmed in native Ash in 2012, since when it has become widespread across the country. There is an urgent need to understand how dieback might drive changes in woodland structure and shifts in species composition. BTO Research Fellow Rob Fuller has been monitoring the impacts of Ash dieback at Bradfield Woods National Nature Reserve since 2014. The wood, which has a history of coppicing back to the 13th century, is managed by Suffolk Wildlife Trust and functions as both a nature reserve and a demonstration site for other woodland managers.



ASH DIEBACK: SIMON GILLINGS / BTO

Rob's research, monitoring the condition of both Ash stools and larger mature trees, reveals young growth is especially rapidly infected. While older trees tend to show more variable symptoms, the taller (and therefore older) trees tend to have lower levels of infection. Ash dieback has implications for the wider flora and fauna at the site. A reduction in canopy foliage, associated with Ash dieback, has probably contributed to the increase in bramble growth over coppice stools, together with encroachment by other plants. The long-term monitoring plots established in Bradfield Woods will enable Rob and other researchers to track how long the canopy gaps persist, and which species colonise them. It will also be possible to determine whether there is any interaction between deer browsing and Ash dieback, and to study effects on other taxa.

The water mould *Phytophthora ramorum* is known to cause extensive damage to more than 150 plant species, including commercial forest species such as Larch and Sweet Chestnut. BTO Research Ecologist Daria Dadam, working in partnership with researchers at the University of the West of England and the University of Aberdeen, has examined whether birds might act as vectors, facilitating the spread

of *Phytophthora*. By taking swabs from the feet and flanks of some 1,014 birds over a 12-month period it was possible to test for presence of *Phytophthora*. The sampling was carried out in western Britain, reflecting the predominantly western distribution of the disease.

Ten positive samples were identified: three in Cornwall, one in Devon, three in Gloucestershire, two in north Wales and one in Merseyside. The bird species concerned were Redwing, Blackbird, Song Thrush, Fieldfare and Chiffchaff, all of which have migratory components to their populations. The work demonstrates that migratory birds can carry *Phytophthora*, albeit at low frequency, and so many be involved in its spread over long distances.

FOOD AND FARMING

The effects of agricultural intensification on farmland bird populations have been widely documented, and are one of the reasons for the introduction of agri-environmental schemes (AES). One AES measure that has had a poor uptake in the UK is pond management, despite evidence that management and restoration of farmland ponds can offer significant biodiversity benefits. With input from Principal Ecologist Gavin Siriwardena, PhD student Jonathan Lewis-Phillips (supported by the NERC London Doctoral Training Programme) has investigated the benefits of pond management to farmland birds. Through two 2019 papers, Jonathan's work reveals that bird abundance and species richness, as well as foraging and parental behaviour, are significantly higher at managed ponds. This highlights the value of pond management, which has until now been undervalued as a conservation measure for farmland birds.

Work at a larger spatial scale, and involving BTO/JNCC/RSPB Breeding Bird Survey data, examined two contrasting strategies for reconciling food production and nature conservation. This work, which brought together researchers from RSPB, the University of Cambridge and BTO, examined 'land sparing' and 'land sharing' approaches to land management in two English lowland regions – The Fens and Salisbury Plain – by modelling species responses. In both regions, more species achieved their maximum regional population size under the land sparing than land sharing approaches. However, while this highlights which might be the better approach, a novel three-compartment strategy, (combining high-yield farming, natural habitat, and low-yield farming) often performed better than either the land sharing or land sparing approaches.



GREY PARTRIDGE: MOSS TAYLOR / BTO

WALES

BTO Cymru gives a Welsh voice and perspective on issues that are important to the birds of Wales. This is achieved by working closely with partners across Wales, including the Welsh Government, Natural Resources Wales, The Welsh Ornithological Society, RSPB, bird clubs, and our members and volunteers.

COUNTING URBAN GULLS

The distributions of Herring Gulls and Lesser Black-backed Gulls have changed substantially over the last 50 years, and increasing numbers now breed on rooftops in many urban areas, both on the coast and sometimes far inland. In contrast, populations at more 'traditional' coastal colonies have recently been in decline. Understanding the changes to these populations is key to their conservation. Work carried out this year in North Wales has delivered the second phase of a two year project being undertaken on behalf of Defra, and supported by Natural Resources Wales and Natural England, to examine survey approaches.

Determining the size of urban gull populations is challenging. We know that observers surveying from ground level are unable to detect some rooftop-nesting birds. Through comparison with data from aerial surveys, the project seeks to determine the degree of underestimation that may come from ground level surveys, such that counts might be adjusted. Through this approach the project has provided a formal assessment of the potential of volunteer ground-based surveys to deliver robust national population estimates of urban breeding gulls. The work is being carried out in support of the national seabird census 'Seabirds Count'.



HERRING GULL : SIMON COLMER / NATUREPL.COM

TESTING NEW APPROACHES

Tracking devices, such as those that use the Global Positioning System (GPS) to follow the movements of gulls and other seabirds, provide a powerful tool for identifying foraging areas and determining the potential impacts of fishing activities or marine renewables on birds from particular colonies. It is essential that the addition of a tag to an individual should not alter its behaviour and introduce bias to the movement data obtained.

A joint study, involving researchers from RSPB, BTO Cymru and ECON Ecological Consultancy Ltd, investigated whether the use of GPS tracking devices on Arctic Terns breeding on the Skerries islands, which lie 3 km off north-west Anglesey, had any impact on their foraging behaviour, nest attendance and chick provisioning rates. The behaviour of the tagged birds was compared to that of untagged birds, whose movements were followed by a more traditional boat-based survey. The results revealed that despite slight effects of GPS-tagging on behaviour, the spatial data on movements and foraging distribution were very similar to those of untagged birds. This suggests that GPS tags can be used on breeding terns, reducing the need for more resource-intensive boat-based surveys and delivering spatial data with greater levels of precision.

ASSESSING POLICY TOOLS IN WALES

Agri-environment schemes (AES) are widespread policy tools, used to address a range of environmental priorities, including wildlife conservation, on farmland across Europe. BTO work, published in 2019, has examined the effectiveness of Tir Gofal, the first widespread AES to operate in Wales. The scheme, which was launched in 1999 and ran through until 2013, set out to encourage agricultural practices that could enhance Welsh landscapes, cultural features and wildlife. Using data from the BTO/JNCC/RSPB Breeding Bird Survey, Research Ecologist Daria Dadam and BTO colleagues examined the different Tir Gofal options to determine their effect on target bird populations across more than 400 survey squares.

Tir Gofal options associated with woodland, scrub and hedgerows were the most successful, each showing a predominance of positive effects across the bird species tested. Arable and grassland open-field options produced some positive effects but failed to deliver detectable benefits for priority species, with wet grassland and waders being a particular gap. Overall, however, this study provides good evidence that Tir Gofal had positive effects on many target bird populations in Wales, showing that the scheme contributed to key conservation policy targets, even if significant effects were not detectable for all target species.

TACKLING WELSH CURLEW DECLINE

BTO Cymru Curlew research took a major step forward in 2019–20 with support from Natural Resources Wales (NRW) allowing us to deploy a further 17 GPS tags and analyse the tracking data collected since 2016. Data from three seasons and three years supported novel approaches to tag data, not only providing fascinating insights into how these birds use complex landscapes but also recognising how their needs and the birds' movement patterns change as individuals shift between pair establishment, incubation, chick-rearing and



ARCTIC TERNS : SARAH KELMAN / BTO

non-breeding behaviour. We supported student research on habitat resources in farming landscapes which, alongside the behavioural analysis work, is being written up for publication.

Alongside the tracking work, NRW also supported a suite of population and demographic modelling work on the species. BTO Cymru research staff modelled the current population and predicted future trends at both national and regional policy-relevant scales. The results from the project have been well received by NRW, who are taking them forward into their own planning programmes, as well as funding our continuing fieldwork. The sharing of knowledge on this declining species, both within and outside BTO, will help expand our wider understanding of this and other declining waders.

ENGAGEMENT

Engagement continues to be a vital part of our activities in Wales, as it does elsewhere. Our activities have extended from those focused on the provision of training – such as the Welsh Ringing Course, held on the Gower in early September each year – through to talks and conferences. The joint Welsh Ornithological Society/BTO/RSPB conference was held at Aberystwyth University in November and attracted an exceptionally high attendance for what was the 50th anniversary for the Welsh Ornithological Society. In February it was followed up by a Welsh Ringers conference, held in the Elan Valley.

We continued to enjoy a strong presence across Welsh media channels with a regular BTO Cymru presence on S4C natural history programmes and Radio Cymru, delivering topical news items that showcased BTO research and the efforts of our staff and volunteers.

BTO Cymru staff are guest lecturers on several environmental modules run at Bangor University, through which they present BTO-led research and introduce field skills during the academic year, both in the lecture theatre and out in the field. They are also part of the teaching staff on the Ornithology module where, alongside BTO research, they lecture on specific avian research from across our staff's own research backgrounds. This continues to provide an opportunity to engage future scientists and conservation practitioners with BTO and its work.

SCOTLAND

The staff in our Scottish office understand the specific needs of their country. They provide an important point of contact for our regional volunteer network and our many members, funders and partners. Their deep Scottish knowledge is fed back to BTO's headquarters to ensure that UK-wide schemes are relevant to Scotland.

SCOTLAND'S NOMADS

BTO's ongoing work on Short-eared Owls, led by Senior Research Ecologist John Calladine, continues to deliver much-needed information on these enigmatic birds. Staff from BTO Scotland have been studying the species since 2005, often working in partnership with others. Much of this work has been done voluntarily, in staff members' own time. The current research is focused on understanding the movement patterns and habitat use of Short-eared Owls across their breeding range in the UK. By following individuals from a range of locations, John hopes to better understand how variation in local conditions affects their breeding success. Initial results from some of the tagged owls highlight the vast distances over which these birds can range.

One bird, tagged in 2017, overwintered locally, then wandered around Scotland the following spring, settling down to breed back in Perthshire. Not long after her eggs had hatched she abandoned her territory, leaving the male to rear the chicks, flew to Norway and bred again. Another was followed south from Scotland to a wintering site in North Africa. John has been supported in his efforts by a dedicated team of volunteers, without whom the tagging project would not have been possible. Also key to the project has been the financial support so generously given by a range of individuals, trusts and others.



SHORT-EARED OWL : LIZ CUTTING / BTO

SUPPORTING BREEDING WADERS

The precarious conservation status of several widespread breeding wader species has prompted concern across the UK and Ireland, with Curlew recently recognised as one of the highest bird conservation priorities. This has prompted a multitude of initiatives from a broad suite of conservation practitioners, many of whom have sought input from BTO in terms of guidance about study design and methods, provision or interpretation of existing data, and logistical support with various aspects of the work, including training, equipment, fieldwork, data processing, analysis and reporting.

BTO has been considering how best to draw together the findings and recommendations from individual projects, to consolidate guidance and methodological approaches used by these projects, and to identify ways in which the time and money spent by BTO can yield the greatest possible benefits for waders and wader workers alike. BTO Scotland staff have carried out audit of the different initiatives in order to understand their aims, methods and outputs, pulling this together into a BTO Research Report alongside a series of recommendations. The audit is seen as an important step in identifying the needs of stakeholders, and delivering a common approach to data capture, curation, analysis and reporting.

The audit also identified that improved monitoring of wader populations more broadly could be aided through the appointment of a Wader Project Officer and the development of a bespoke wader information hub. These could deliver over-arching support for individuals and organisations working on waders, leading to the development of best practice and encouraging a more collaborative effort to help declining wader populations. The audit, together with BTO's wider work on waders, underlines how our impartial and evidence-based approach can help to increase opportunities for knowledge transfer, greater mutual understanding and increased tolerance across stakeholders with potentially divergent views.

ESTABLISHING NEW WOODLANDS

With support from the J & JR Wilson Trust, BTO Scotland staff have been carrying out surveys of birds and habitats as part of an important 20 year programme of monitoring new woodlands in Scotland. Changes in grazing pressure from deer, sheep and cattle, coupled with ambitious targets for expansion of woodland cover, are driving one of the largest changes in land use and habitat in Scotland. Such initiatives may result in both opportunities and threats to nature conservation and to the communities of birds that use these landscapes. BTO researchers have been examining the opportunities for birds in the early and middle stages of woodland regeneration, and exploring those management interventions that might maintain or improve these.

Survey work began in the first of these new woodland sites in 1998, and surveys have been carried out at these, and other, sites at five-yearly intervals since then. The 20-year time series provides a rare opportunity to examine both changes in habitat structure and in the bird communities present. It also allows comparison between naturally-regenerating sites and those that have been deliberately planted, enabling researchers to tease out detail about how birds respond to these changing habitats. The results of this work will



REGENERATING WOODLAND IN THE CAIRNGORMS : MIKE TOMS /BTO

enable the production of a document for policy makers and land managers, helping to maximise the conservation opportunities provided by the ongoing expansion of woodland in Scotland.

SENSITIVITY MAPPING

BTO Scotland staff have also been leading on a wider piece of work examining the constraints and opportunities for breeding birds associated with forest expansion across Britain and specifically in northern England (Northumberland and Cumbria), the Cairngorms National Park and in the Scottish Borders. Funded by Forestry Commission England, the CNPA, Scottish Forestry and Scottish Borders Council, data from national atlases of breeding bird distribution were analysed in order to develop tools that could be used by decision-makers considering the creation of new woodlands.

The resulting tools will indicate areas where new woodland would pose a risk to birds of open landscapes, such as certain breeding waders, together with those areas where opportunities to enhance the conservation of forest and woodland birds are greatest. Such tools should enable plans for new forests to more effectively target areas where conservation conflicts would be minimised and net benefits maximised. The tools have been developed through modelling the relationship between the abundance of a species and various environmental variables that determine its distribution

ON THE UP

The BTO/JNCC/RSPB Breeding Bird Survey coverage in Scotland exceeded 600 squares for the first time in 2019, delivering more key information on the changing fortunes of Scotland's breeding birds. This increase in coverage was helped by the Upland Rovers scheme, directing volunteers to survey squares in remote areas which tend to receive fewer visits than squares in more populous or lower-lying regions. Another contributing factor to the increase has been the training events operated by BTO Scotland staff.

NORTHERN IRELAND

BTO Northern Ireland plays an active role, working with partners and our members and volunteers to deliver much-needed information on Northern Ireland's birds. Our team works closely with BTO staff in other offices, sharing expertise and feeding in to our wider strategic work.

ASSESSING THE POTENTIAL IMPACTS OF AQUACULTURE

In addition to their importance for wintering waterbirds, Northern Ireland's sea loughs are also key sites in terms of human use. One of the most commercially important and potentially impactful uses of the sea loughs is aquaculture. Aquaculture is a growing industry in Northern Ireland; in 2016 the shellfish aquaculture sector was valued at £4.3 million and all five sea loughs in Northern Ireland host aquaculture activities. In 2019, a collaborative project between the BTO Northern Ireland team and the BTO WeBS team began, with the aim of assessing wintering waterbird trends in individual count sectors of four of Northern Ireland's largest sea loughs, and to then relate these to the locations of aquaculture farms. Results from the first of these analyses suggested that an increase in Oyster tonnage (yield) between 2010 and 2017 did not appear to result in a decline in the majority of species analysed for Mill Bay, Carlingford Lough. This initial analysis lays the groundwork for a more detailed project which will look at the potential disturbance by aquacultural activities on waterbirds using the loughs.



EIDER : MIKE TÖMS / BTO

SUPPORTING BREEDING WADERS

A combination of volunteer and professional effort in the spring/summer of 2018 and 2019 enabled new breeding data to be collected for Curlew, Lapwing, Redshank and Snipe across 75 lowland grassland sites around Northern Ireland. While previous country-level surveys have shown breeding wader populations to have suffered terrible declines in Northern Ireland, the results of this closer examination of lowland grassland sites reveals the Blackwater catchment region in Co. Armagh and Co. Tyrone to have lost the greatest percentage of waders since the last survey of sites was carried out in 1986–87.

The current study also revealed Curlew to have been the species hardest hit, declining by 80% across all study sites. Many of the sites surveyed no longer had breeding waders present on them, although sites to the west of the country were more likely to still hold pairs. Within lowland damp grasslands, waders were associated with fields containing both improved and rough grassland. Additionally, fields with damp or flooded areas were found to be important, although many sites showed evidence of draining. The study concluded that a better understanding of predation pressure, habitat use and the overall population of breeding waders across the country would improve the targeting of conservation measures to preserve breeding waders in Northern Ireland. Data from this Northern Ireland Environment Agency (NIEA) study have been used by the agency to help target Agri-Environment Scheme (AES) options aimed at preserving breeding wader habitats across Northern Ireland.

MONITORING KEY ENVIRONMENTS

Northern Ireland is a key area in the cross-border, Interreg-funded Marine Protected Areas Management and Monitoring (MarPAMM) project. This collaborative project collects data on the abundance, distribution and movement of marine protected species and habitats in the seas off western Scotland, Northern Ireland and Ireland. A key aim is to develop tools for monitoring and managing protected coastal marine environments.

As part of this project, BTO Northern Ireland is leading surveys of wintering Eider in Belfast Lough SPA and breeding season surveys of the largest seabird colony in Northern Ireland, Rathlin Island SPA. This island was the most important colony in the UK and Ireland for Razorbill and Guillemot at the last count in 2011. Additionally, funding by MarPAMM will also allow professional surveying of Seabirds Count sites along the dramatic cliffs of north Co. Antrim, as these stone giants are impossible to survey without a boat. Regular censuses such as these are essential for determining seabird population trends, assessing their conservation status and informing marine planning.

While the seabird surveys have been postponed to 2021 due to COVID-19, Eider surveys are still planned for the winter of 2020–21, lockdown restrictions permitting. WeBS counts indicate that Belfast Lough supports the majority of Eider in Northern Ireland. Although Eider numbers have increased in Belfast Lough in recent years, the species is on the Birds of Conservation Concern Ireland Amber List. Eider using the lough have the potential to be affected by human developments and other uses of the lough that may cause disturbance, for example shipping and aquaculture. While WeBS data provide an overall assessment of population size and distribution of

Eider in the lough, they do not reveal the variations in distribution that may occur through the tidal cycle as a whole, or any tidal or daily movements to and from the SPA. The information collected for MarPAMM will be key to assessing the potential pressures that Eider face in Belfast Lough, informing appropriate mitigation measures.

In addition to supplying vital information on abundance and distribution of breeding and wintering seabird species in Northern Ireland, BTO Scotland is also leading on an exciting GPS tracking study of Black Guillemots from Northern Ireland’s only bird observatory, the Copeland Bird Observatory, and the adjacent mainland colony at Bangor, Co. Down. The project aims to quantify Black Guillemot distribution and habitat use in Northern Ireland using the most up-to-date tracking technology, contributing data to Marine Protected Area (MPA) management plans in the area.

The project highlights the very collaborative nature of BTO work in Northern Ireland, and the ability to work across BTO teams to deliver different aspects of wide ranging projects like this one. Climate change is likely to have long-term impacts on our MPAs and BTO is also reviewing how this may influence our seabird populations, modelling projected impacts in response to climate and oceanographic changes to inform future conservation measures.

SHARING OUR EXPERTISE

BTO has an excellent reputation for delivering evidence on the effectiveness of AESs in supporting the UK’s bird populations. Through our close working relationship with the NIEA we have been able to provide advice and guidance to the agency’s Environmental Farming Scheme’s newly appointed bird monitoring team. In December 2019, Principal Ecologist Gavin Siriwardena and Science Officer Katherine Booth Jones attended the Department of Agriculture, Environment and Rural Affairs (DAERA) Northern Ireland Bird Monitoring Workshop. This was a full day of presentations and discussions aimed at helping DAERA to develop an approach for monitoring the impact of the current AES, the Environmental Farming Scheme, on Northern Ireland’s birds. Discussion was particularly focused on birds found in priority habitats and protected areas. Being able to share our expertise and long history of research in this area ensures that we can support those seeking to deliver the best conservation outcomes for farmland birds and other farmland biodiversity.



YELLOWHAMMER : LIZ CUTTING / BTO

ACROSS THE WORLD

BTO knowledge and expertise is contributing to projects across the globe, reflecting our strong partnership approach and the regard in which our work is held. Over the last year we have been involved in exciting new projects in eastern Europe, in Africa and in the Far East.



ACOUSTIC MONITOR : ADHAM ASHTON-BUTT; GREATER SPOTTED EAGLE : DAVID TIPLING / BIRDPHOTO.CO.UK; FIELDWORK PLANNING : DANIEL ROSENGREN / FRANKFURT ZOOLOGICAL SOCIETY

ENDANGERED LANDSCAPES

Launched in October 2018, the Endangered Landscapes Programme seeks to restore natural ecological processes, populations and habitats for a better and more sustainable future. The Programme funds projects which have an ambitious vision of hope for Europe's landscapes, including one in Polesia, a 1.2 million hectare wilderness of wetlands and forest extending across Belarus and Ukraine. This landscape faces threats from wetland drainage, agroforestry and large infrastructure projects. The project seeks to expand and enhance protected areas for wildlife and to restore and reconnect degraded habitats. It has led a process to establish a transboundary biosphere reserve of one million hectares, which has been approved by the Ukraine and Belarus governments and will create one of Europe's largest interconnected landscapes.

An important aspect of the project has been to establish baseline information on the numbers and distribution of key species, information that can then be used to inform decisions about conservation action and site protection. Working with Frankfurt Zoological Society and the Belarusian and Ukrainian BirdLife partners, BTO researchers have been leading on the monitoring work. Our expertise in the use of passive acoustic monitoring is being used to identify key habitats and the distributions of bats, bush-crickets, small mammals and focal bird species. We have been working on the globally Vulnerable and declining Greater Spotted Eagle in Belarus, deploying camera traps on 20 nest sites and fitting 21 eagles with tracking devices to study their breeding ecology and movements. This work will greatly improve our understanding of breeding habitat requirements and the threats that these rare birds face.

Ecological work on this scale is unprecedented in the region, and work in the sometimes inhospitable environments of Polesia is challenging. However, by gathering data from the top to the bottom of the food chain, on large-scale population interactions and detailed species-specific responses to environmental change, our joint work will not only inform conservation practice and scientific knowledge in the short term, but also provide an important platform for long-term research in a region so important for biodiversity.

MONGOLIAN CUCKOOS

BTO scientists are at the forefront of using new technologies to track birds and have gained considerable experience over the last 10 years, deploying devices on a number of bird species, including cuckoos. BTO is sharing this expertise and building capacity with partners across the globe. In early June 2019, BTO staff teamed up with the Wildlife Science and Conservation Centre of Mongolia, the Oriental Bird Club and Birding Beijing to tag cuckoos at Khurkh Bird Ringing Station in north-eastern Mongolia. This was a follow-up to the Beijing Cuckoo Project, which in 2016 had uncovered the migrations of East Asian Common Cuckoos for the first time.

As with BTO's own and previous international cuckoo tracking projects, the project aimed to combine science and public engagement. The team attached satellite tags to four Common Cuckoos, all apparently of the nominate race *canorus*, which remained around the tagging location for the remainder of the breeding season. A fifth cuckoo was also tagged – an Oriental

Cuckoo, which is believed to be the first of that species to be tracked. The wintering grounds of this species are poorly known, due to identification problems and the secretive behaviour of cuckoos outside the breeding season, but they are believed to include South-east Asia and Australasia. The field team visited two schools close to the tagging site, in the villages of Binder and Khurkh, engaging the schoolchildren with their visiting birds.

The project has attracted considerable media attention from across the world, highlighting the significant public interest in enigmatic migrant birds like cuckoos. Such interest draws attention to the challenges that these long-distance migrants face and, importantly, also connects human communities along the routes that the birds take during the course of their annual migration. A similar link was made in relation to UK Cuckoos, wintering in the Congo Basin, through a BBC Radio 4 documentary linking together human migrants making the journey north and the research into the movements of their avian counterparts.

TRANS-SAHARAN MIGRANTS

Every autumn, millions of small birds leave their European breeding grounds to winter in Africa, making incredible journeys. Along the way many cross ecological barriers, such as the Sahara Desert. Understanding how birds cross large barriers is important, particularly in light of climate change. If the desert expands or stop-over sites in southern Europe no longer provide the resources needed, then the ability to make these crossings may be compromised.

A major collaboratively study, co-led by BTO and Sorbonne Université in Paris, and involving a number of BTO staff, has provided new insights into the strategies used by small birds on these migrations to and from Africa. The researchers used data collected by tiny tracking devices called geolocators, fitted to individuals of 10 migratory songbird species. The results revealed that a number of different approaches were used by the birds, with variation evident between and within species. Daytime stop-overs in the desert were a common strategy in autumn, while non-stop flights over the desert occurred more frequently in spring. Temperature recordings suggest that the birds made the desert crossing at different altitudes according to species and season, ranging from low above ground to probably >2000 m above ground level. This knowledge can be used to model likely impacts of changes in the size of the barrier faced, or changes in weather patterns.



TAGGING MONGOLIAN CUCKOOS : TERRY TOWNSHEND

BEING FIT FOR THE FUTURE

Strengthening the impact of BTO's work for decision-makers and society at large requires continuing effort to integrate our engagement and science programmes. Our common purpose for a world inspired by birds, informed by science enables BTO to deliver important public benefit as we approach the next strategy period.

LOOKING TO THE FUTURE

We are coming towards the end of our current strategy period, with the knowledge that we have put in place some core building blocks over the last five years (including significant work on our membership systems and website, on our governance, on how we support our staff, and how we can broaden our audiences to make our activities more inclusive and our supporter base more diverse). During the next financial year we will also see a change in our leadership, with the appointment of a new Chief Executive. Collectively, these form the foundations from which the organisation can continue to grow, both in terms of its support and its charitable impact. We are particularly grateful to the Esmée Fairbairn Foundation for their generous support of a number of our strategic activities over the past year.

RISKS AND UNCERTAINTIES

The principal risks and uncertainties which could affect BTO's ability to deliver its objectives in the short term are the COVID-19 pandemic, public expenditure reductions leading to reduced contract, grant and partnership funding, and in the medium to long term, the final salary pension scheme deficit. Excepting the pandemic, these are able to be mitigated through the continued growth strategy.

The emergence of COVID-19, whose effects were just being felt in the final quarter of the financial year, will have significant implications for the charity and how we carry out our work over the coming period. Although stock markets made a strong recovery soon after the balance sheet date, the lockdowns resulting from the coronavirus pandemic prevented summer fieldwork taking place and a number of contracts were consequently postponed, reducing likely contract income for the financial year to March 2021. Most other work was

continued by staff working from home, but almost all of BTO's volunteer-based surveys were suspended for all or part of the field season. A small team of staff took on the responsibility of interpreting legislation and government guidance, working with our NGO and agency partners to ensure consistent messaging to fieldworkers. This was particularly important during the period over which lockdown restrictions were eased. The expected loss of income associated with the COVID-19 pandemic, with some allied reduction in costs, can be covered by the free reserves, using available cash balances. There may be indirect effects on other sources of income, but the Trustees do not expect these to be exceptional.

RESPONDING TO CHANGE

BTO is able to respond to the challenges associated with the COVID-19 pandemic, in part because of the earlier investment in our new Customer Relationship Management Database and work to restructure and relaunch our website. Work by our Information Services Team across our core systems has enabled a smooth transition to home working for the majority of staff, with key assets securely hosted on the cloud. This has enabled the majority of our charitable work to continue as normal.

The charity has also responded quickly to changing audience needs, recognising early on the significant increase in interest in gardens and their wildlife, and a growing demand for online training opportunities. BTO removed the payment barrier from our weekly Garden BirdWatch scheme early in the lockdown period, opening up the survey to thousands of new participants.

A suite of online material, much of it distributed through the BTO's growing social media networks and website, was also used to support and engage people living under lockdown conditions. The development of online training and other virtual events is not simply a solution to a current problem, but something that the organisation recognises will play an important role in how we reach and support a broader audience going forwards. The incredible response to online training opportunities suggests that this should be an area where we continue to invest going forwards. Alongside this, we will explore other virtual events, from talks and panel discussions, through to workshops and conferences. Our Youth Advisory Panel (YAP) has highlighted the role that virtual events (or combined live/virtual events) can play in supporting young people who would otherwise be excluded from BTO activities. Our work in this area will develop over the coming year, while also recognising that other, more traditional ways, of engaging with BTO activities will remain important.



EXPLORING BTO TECHNOLOGY: ROB READ / BTO

FUTURE PROJECTS

We have three current priorities that together illustrate a breadth of approaches to improving the integration and impact of BTO's work. We continue to develop our digital footprint, ensuring that the products of our superb volunteer-gathered data are widely accessible and effective in contributing the underpinning knowledge for conservation. An example of innovation here is the development of cloud-based identification and processing of sound-recordings, starting with bats, and supporting the future large-scale acoustic monitoring of birds.

Helping to deliver conservation outcomes for birds on the ground brings our priority work on wading birds to the fore. In particular we are coordinating the efforts of conservationists, landowners and managers, and government and agency staff in a powerful network aiming to slow the decline of Curlew. We know the causes of decline and need to work together to increase the productivity of this species on its breeding grounds. BTO science underpins the design and delivery of conservation solutions.

Responding to the COVID-19 pandemic has enabled BTO to further grow and broaden our constituency of support through offering BTO Garden BirdWatch to thousands of new participants. The public has shown a strong need to connect with nature during the last few months, and our urban birds focal area helps us to resonate with more diverse parts of society. We will continue to create more opportunities for inner city and peri-urban communities to benefit from engagement with birds. BTO's Youth Advisory Panel is informing our support to young birdwatchers.

Increasingly, it is the broadest partnerships that enable the environmental agenda to sit high in the minds of decision-makers and society. BTO's influence through the Cambridge Conservation Initiative is crucial as this collaboration enters a new phase during the next year of COVID-postponed international biodiversity and climate conferences. We will play our part in assisting governments to ensure a Green Recovery, as the world emerges from the pandemic.

*Outstanding science
inspiring action for a
wildlife-rich world*

BTO Strategy 2015-2020

AN AGENDA FOR CHANGE

MY CONTRIBUTION MAURA BURNS ZARAGOZA BTO Youth Advisory Panel

Why do you think BTO needs to engage with young people?

The young people that we will engage with are conservationists in the making, or scientists who will change the face of research in their field, but do not know it yet because they haven't had their imagination fired due to a lack of accessible opportunities. BTO has the chance to secure its future by showing young people that it is an organisation that welcomes their voices, values their contributions, and will support them to become the leaders of the future.



What prompted you to apply for the Youth Advisory Panel?

My background is in golf – I have volunteered for six years at my club, and successfully managed a diverse group of our juniors through the County Championships. It was fantastic to see how they became more confident and aspirational. I also am studying Biology at the University of Oxford, and so the chance to combine my passion for science with improving youth engagement and development was an opportunity that I didn't want miss!

What is YAP's vision for the future?

We aim to break down the barriers that young people face when engaging with nature, with diversity and inclusion at its heart. We want to facilitate a community of young birders, with accessible, youth-led activities. This network will provide a springboard for the future, creating a generation where pro-environmental behaviour is the norm, directed through their passion for birds. This strategy will have a lasting societal impact, which is sustainable and will bring benefits to BTO for years to come.

What do you think BTO can offer young people?

There is a large awareness of the importance of nature, but young people lack ways to make a tangible difference. BTO has so much to offer here, as it is an organisation that is uniquely placed to provide a pathway for a young person to become a skilled birder, by sharing the knowledge of established members, volunteers and scientists. BTO can also offer a way to help youth members already interested in birding to develop as leaders, and so help them reach their potential.

Which ideas emerging from YAP excite you the most?

I am particularly excited by the opportunities we can create through working with schools and universities. I think we will reach a wide audience who perhaps have not heard of BTO before, through creating resources to make birding clubs easier to start and run. We can have a really significant impact on their perception of birding and inspire them to get more involved with BTO.

How has YAP impacted you?

Working on the Youth Advisory Panel has been hugely rewarding for me. Meeting other young people who are incredibly dedicated has been really inspiring, and it is so satisfying now to see all our work coming together. The support we have had is amazing, and the enthusiasm of staff members towards our ideas has encouraged me to be more confident, especially during meetings when responding to questions. I am positive that this project will have the lasting impact that we want to achieve.

THANK YOU FOR YOUR SUPPORT

Each year we need to raise thousands of pounds to fund our research and monitoring work so that we can deliver the charitable outcomes that are so important to our supporters. We are fortunate to receive wonderful support from members, funders, trusts, corporate partners and many others, all of which help to make our work possible.

OUR YOUNG SCIENTISTS

It is such a pleasure when we are able to bring our research to life for our supporters and share insights into how we are working. Last November UEA student Harry Ewing, one of the young scientists being supported through the BTO Young Scientist's Programme (YSP) attended a meeting of the John and Pamela Salter Trust to talk about his PhD study, tracking breeding Curlews in East Anglia. Both Harry and the Trustees enjoyed the opportunity to discuss the project and we were delighted to subsequently be awarded two further grants by the Trust, one for the YSP and another specifically for Harry's research.

Our work with young scientists began in a piecemeal way over 20 years ago but we were able to develop the Young Scientists' Programme thanks to a 'living legacy' from the ornithologist Denis Summers-Smith from 2009–15. Denis was a long-time member of the BTO who sadly passed away earlier this year; because of his vision we have been able to pass on knowledge and expertise to a current total of 80 young scientists in the course of their time with us. The culture of supporting young scientists, encouraging collaboration, debate and excellence has become a vital part of how BTO works to enable the next generation.

Every year we seek to raise between £10,000 and £15,000 to help us run the YSP. In recent years we have had annual support for the programme from the John and Pamela Salter Trust and from a BTO Life Member and Garden BirdWatcher. We work with universities across the UK and internationally to provide workplace-based supervision from leading BTO scientists, primarily for PhD students, as well as access to datasets, equipment, transport, support from volunteers and BTO teams. Last year we were also fortunate to be awarded grants towards Harry's tracking project by the Lady Hind Trust, The Geoffrey Watling Charity and The John S Cohen Foundation.



MONITORING BRECKLAND CURLEW : SAM FRANKS / BTO

CHAFFINCH DECLINE

Thanks to the generosity of BTO supporters like you, who donated to our spring appeal earlier this year, we have now started work on uncovering what is driving the alarming decline in our Chaffinch populations, evident in data from our core surveys. Using the valuable data that our dedicated Garden BirdWatchers have collated over the years, your support has meant that we are now able to carry out an in-depth analysis of what has been happening in rural and urban gardens across the UK.

If the hypothesis is true that the decline has been caused by disease picked up from other garden species, we might expect to see steeper declines, that started earlier, in more built-up habitats, where different species are forced to feed closer together. It is with your donations, data and time that we are able to identify problems and solutions for our garden birds, for which we are extremely grateful. Any donation, regardless of size, can make a difference and help us understand how garden bird declines can be stopped. Thank you for your support.

SAVING SEABIRDS

Thanks to the funds raised from some incredible individuals over the past year, we have been able to gain a deeper understanding of the breeding season movements of Arctic Skuas from colonies based on Rousay and Fair Isle. We now understand how the movements have impacted the survival of these fascinating birds and the extent to which environmental factors, such as shortages of food sources, play a role in these movements and in breeding success.

Arctic Skuas are just one example of a whole range of seabird species in decline. In the UK, data from the Seabird Monitoring Programme (SMP) indicate that breeding seabird populations declined by 28% between 1986 and 2018. This is a problem that, with your help, we believe we can better understand and then, through this understanding, identify possible solutions.

If you are passionate about seabirds and are keen to help, BTO would love to hear from you. We will be using 2020–21 to plan our next seabird-focused project, a project that will seek robust scientific evidence, collected through monitoring, research and engagement, to target effective management action to help these birds. In so doing, we will be considering the effects of climate change and working with partners to share knowledge and expertise. To find out more, please keep an eye out in *BTO News*.

GIFTS IN WILLS MAKE A DIFFERENCE

In November 2019, BTO held its first event at the Nunnery for supporters who had either taken, or were thinking about taking, a very special step to pledge a gift in their Will to BTO. The event was our way of thanking these generous people for their support in their lifetime and to show them examples of how such gifts have made a real difference to science, our work and to the birds themselves.

At the event, Senior Research Ecologist Stuart Newson spoke about the importance of acoustic monitoring and how his work has helped with bats, birds and other nocturnal wildlife. There was a fascinating talk from author James Parry about Emma Turner, a pioneering bird photographer (and one of BTO's founders!), whose own legacy and archives live on at the Nunnery for anyone to see. We then heard from our CEO Andy Clements about the work BTO is planning for the future with the opportunity for people to ask questions and give feedback on our work. Quite simply, without the help of generous legacy gifts from supporters like you who are passionate about birds, all this work would not have been possible.

A significant proportion of our core monitoring work is paid for by gifts in Wills – incredibly, they make up over 55% of our fundraised income. This financial contribution means that we can carry out detailed analyses of the data and, with the body of knowledge that you have helped build, we can inform positive conservation outcomes and ultimately, play an integral part in helping bird populations thrive for future generations to enjoy for years to come.

Although our offices are shut, our plans are to offer some more events like these virtually in autumn 2020 and further into the future. If these are of any interest or you would like more information about how a gift in your Will can make a difference for the next generation of birdwatchers, then please contact Sam Rider at sam.rider@bto.org.

SUPPORTING OUR TRACKING WORK

BTO scientists have been at the forefront of using new tracking devices to understand the movements of birds and the reasons why their numbers may be declining. The most well known study is our Cuckoo tracking project; since 2011 our research team has been attaching tags to small cohorts of Cuckoos from sites across the UK, collecting vital data and enabling the public to follow their migration to Africa and back in almost real time via the BTO website.

In May 2019 we held an event for a small group of major donors, each of whom had contributed at least £3,000 to support the project. The donors joined our specialist fieldwork team at a site in Thetford Forest to see one of the 2019 Cuckoo cohort being caught and

tagged. The support of major donors for this kind of work is just one part of the story; there are many more individual supporters through gifts and donations in memory of loved ones, as well as grants from charitable trusts and from corporate sources, which collectively enable us to develop this type of research.

Cuckoos are not the only species we follow through our migration tracking programme; this also includes work on Nightingale, Swift and Spotted Flycatcher, generously supported over the past year with grants from The Dulverton Trust, The Ernest Kleinwort Charitable Trust and The Tobit Trust, as well as the very many individual donors who kindly gave to our 2019 Spotted Flycatcher appeal. We have also been successful in growing our support for the Short-eared Owl Tracking project in Scotland, which is returning astounding information about the detailed movements of these nomadic birds (see page 32). As well as gifts from major donors we benefited last year from grants awarded by The AEB Charitable Trust, The Newstead Charity, The British Birds Charitable Trust and The J & JR Wilson Charitable Trust.

The support for BTO tracking work is incredibly important and advancing technology allows us rare insights into the lives of birds whose numbers are in decline. Because of this support we can follow their journeys, identify the locations of breeding and overwintering sites, and discover important stop-over sites used to refuel during their incredible migratory journeys. This is fast developing area of our work is set to grow in the future.

If you would like to know more about any of the projects or how you might support our work, please contact fundraising@bto.org



OUR SUPPORTERS

We are very grateful for the generous support that we have received, both in time and money, in the past year. In addition to members and donors, there are many other individuals and companies who support the work of the BTO with financial contributions. The Trust is particularly pleased to acknowledge the following corporate and other supporters who have shown generous support over this past year.

CORPORATE SUPPORTERS 2019/20

Anglia Sports & Schoolwear Limited, Anglian Water, Ark Wildlife, Bird Brain UK Limited, Birding in Portugal, Brinvale Bird Foods, Carl Zeiss Limited, Eddowes Aviation Safety Ltd, Gerald Palmer Eling Trust Company Limited, Jacobi Jayne & Co Limited, John E Haith Ltd, NatureGuides, Naturetrek, Northumbrian Water, Opticron, Original Cottage Company Ltd, Parkhill Nurseries & Garden Centre Limited, R & E Bamford Ltd, Serenata Flowers.com Limited, Swarovski UK Limited, Syngenta UK Limited, Thames Water Utilities Limited, The Original Cottage Company Ltd, The Travel Chapter Ltd.

TRUSTS 2019/20

The AEB Charitable Trust, British Birds Charitable Trust, Edward Cadbury Charitable Trust, The Cecil Pilkington Charitable Trust, The Chapman Charitable Trust, The John S Cohen Foundation, The Paul & Louise Cooke Endowment, The Marjorie Coote Animal Charity Trust, The Daniell Trust, The D'Oyly Carte Charitable Trust, The Downton Banister Trust, The Dulverton Trust, The Ebenezer Charitable Fund, The Edinburgh Trust, The Esmée Fairbairn Foundation, The Gilander Foundation, The Goldcrest Charitable Trust, The Hamamelis Trust, Harris Charitable Trust, The Horace & Helen Gillman Trusts, The James T Howat Charitable Trust, The Earnest Kleinwort Charitable Trust, The Lady Hind Trust, The Tasso Leventis Foundation, The Lizandy Charitable Trust, The Newstead Charity, The John & Pamela Salter Charitable Trust, The Charles & Elsie Sykes Trust, The Geoffrey Watling Charity, The Emily Weircroft Charitable Trust, The Whaites Charitable Fund, The Maldwyn Williams Charitable Trust, The J & J R Wilson Trust.

LEGACIES 2019/20

Ruth Valerie Abrahams, John Henry Frank Brown, Audrey Mary Butler, David Clegg, Paul Collins, John Arthur Cooke, Pamela Irene Fursman, Arthur John Gozzard, Mrs M Hemming, Brayton Holt, Eleanor Howie, Royston William Jenkins, Norman Frederick Jennings John, Betty Jones, Margaret Lumley, Michael Malone, Viola Mary Matthews, Terence O'Mahoney, Colin McKerrow, Wilmer Parkes, Dinah Margaret Savage, Brian Arthur Smith, Denis Robert Stainforth, Geoffrey William Stone, Mary Lennox Taylor, David Nigel Thomas, Miss M W R Tuddenham, John Webber, Anne Cecilia Young, Arthur Ernest John Youngs.

IN MEMORIAM 2019/20

Susan Mary Austin, Sheila Ballard, Jenny Beer, Edward Cowley, Robert Edward Dimsdale, Mrs F H Freddi, Sqn Ldr David Arthur Graham, David G Hindley, Donald Jackson, Mrs Sylvia Mary James, Richard Jeeves, Fiona Livingstone-Learmonth, Mrs Jean Pitcher, Royston 'Tim' Jenkins, George Edeard Redgewell, Dorcas Slaney, Brian Mason, Keith Sutton, Julia Thornton, Lesley Tucker, Derek Williams, Benjamin Wain, Molly Whiteoak.

FUNDERS OF BTO WORK 2019/20

Agri-Food and Biosciences Institute (AFBI), Anglian Water Group, APEM Ltd, BAE Systems, Bat Conservation Trust, British Dragonfly Society, Bureau Waadenburg bv, Butterfly Conservation, Cairngorm National Park, Cambridge Conservation Initiative, Catalan Ornithological Institute, CEFAS, Centre for Ecology & Hydrology, The Crown Estate, Danny Alder Ecology & Conservation, Department of the Environment, Food and Rural Affairs, Department for Business, Energy and Industrial Strategy, Devon Wildlife Trust, Eneco – Netherlands, Environment Agency, EURING, European Commission, Forest Sciences Centre of Catalonia, Forestry Commission, Forestry Commission England, Forestry Commission Scotland, Foster & Partners, Frankfurt Zoological Society, Galloper Wind Farm Ltd, Game & Wildlife Conservation Trust, Hartley Anderson Ltd., Heather Trust, Hepple Estate, Institute of Avian Research, INTERREG, James Hutton Institute, Joint Nature Conservation Committee (on behalf of the statutory nature conservation bodies: Natural England, Natural Resources Wales, Scottish Natural Heritage and the Department of the Environment Northern Ireland), MAKE Architects, Marine Scotland Science, Milford Haven Waterway Environmental Surveillance Group (Milford Haven Port Authority), Moors for the Future, National Trust, Natural England, Natural Resources Wales, Natural Environment Research Council, Newcastle University, NIRAS Consulting Ltd, North York Moors National Park Authority, Northern Ireland Environment Agency, Northern Ireland Raptor Study Group, Ørsted, Outdoor Alternative, Royal Society for the Protection of Birds, Scottish Government, Scottish Natural Heritage, Scottish Raptor Study Group, Scottish Ornithologists' Club, The Sound Approach, Stichting Rubicon, University of Cambridge, University of East Anglia, University of Edinburgh, University of Exeter, University College London, University of Stirling, University of York, Welsh Government, Wildfowl & Wetlands Trust, The Wildlife Trust, WOOD Environment & Infrastructure Solutions UK Ltd, Yorkshire Dales National Park Authority, Zoological Society of London.



Peer-review is an important process, establishing the validity of research through review by other expert researchers in the field. It also provides valuable feedback, so that researchers can revise and improve their papers before publication. BTO reports annually across a number of indicators relating to the scientific work that it carries out; three of these relate to scientific publications, reflecting the quality of the publications being produced, their impact and the degree to which the work has been delivered through collaboration.

During 2019 our staff produced 69 peer-reviewed papers, of which 63 were in ISI-listed journals and 28 were published in high impact publications (with an Impact Factor of 3.5 greater). 18 of the publications were BTO-led (first or last author) multi-organisational papers, and a further 43 were also collaborative in nature, underlining the strong partnership approach to our work.



CUCKOO : NEIL CALBRADE / BTO

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FINANCIAL OVERVIEW

Legacies featured strongly again this year after last year's record-breaking £1.2 million, with £971k being received. Other fundraising was similar to last year overall, although trust income was higher and individual giving lower, dampened by the demands of setting up a major new supporter database. This is now working well and, with the website also refreshed, we are confident that our improved ability to engage with supporters will also be fruitful financially. Voluntary income formed 41% of total group income for the year, and we aim to raise this to over 50% in the longer term. There were further increases in income from publicly-funded contracts, and a modest recovery in consultancy work from last year's low base. We have invested in a Business Development Manager post and expect commercial income to continue to grow further.

The principal sources of funds continued to be contract research, membership subscriptions, individual donations and legacies. A total of £4,785k was spent during the year on carrying out, supporting and communicating ornithological research. Total income increased by more than 1% to £6,514k while total expenditure increased by less than 1% to £6,364k, giving a surplus before investment gains of £150k.

The sharp fall in the stock market during March 2020, since largely reversed, severely affected investment valuations at the balance sheet date, resulting in a £22k fall for the investment portfolio, but more importantly an increase in the pension fund liability valuation of £643k. This has the somewhat misleading effect of making the balance sheet total negative by £370k at 31 March 2020: this effect results from the mandatory accounting requirements of SORP (FRS102) with which the accounts comply. Members are reminded that the actual liability of the BTO to the scheme is the schedule of deficit repair contributions agreed with the pension fund trustees to bring the scheme into balance by 2033.

The Board has an unrestricted free reserves target range of 9 to 12 weeks' operating expenditure. Reserves are held against any unexpected falls in income or other unforeseen circumstances. Unrestricted funds, excluding tangible fixed assets and the defined benefit pension liability at 31 March 2020, totalled £1,101k (2019: £1,206k), equivalent to 9 weeks' expenditure (2019: 10 weeks'), and are expected to be sufficient to cover any shortfall caused by COVID-19.

These are summarised accounts. To gain a full understanding of the financial affairs of the Trust please refer to the Annual Report and Accounts published on the BTO website or request a printed copy from the Director of Finance & Services, BTO, The Nunnery, Thetford, Norfolk IP24 2PU.

The Annual Report and Accounts were approved by the Board on 17 August 2020 and will be submitted to the Registrar of Companies, the Charity Commission and the Office of the Scottish Charity Regulator. The accounts include the auditor's report which is unqualified and does not contain a statement either under section 498(2) of the Companies Act 2006 (accounting records or returns inadequate or accounts not agreeing with the records and returns) or section 498(3) (failure to obtain information and explanations). Further information is given in the accounting policies of the full accounts.

SUMMARISED ACCOUNTS: 2019/20

	£'000	£'000
	2019/20	2018/19
INCOME		
Donations and legacies	2,701	3,020
Charitable activities	2,634	2,401
Other trading activities	1,173	1,018
Investments	6	1
Total income & endowments	6,514	6,440
EXPENDITURE		
Raising funds	1,489	1,483
Charitable activities	4,785	4,612
Other – defined benefit pension scheme	90	241
Total expenditure	6,364	6,336
Net income / (expenditure)	150	104
Net gains on investments	(22)	34
Other recognised gains/(losses)	(643)	(62)
Net movement in funds	(515)	76
Total funds brought forward	145	69
Total funds carried forward	(370)	145
REPRESENTED BY		
Fixed assets	2,251	2,295
Net current assets	1,741	1,609
Creditors over 1 year	(75)	(77)
Pension fund liability	(4,287)	(3,682)
	(370)	145

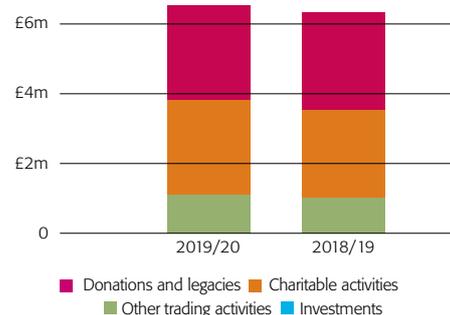
Note: the 2018/19 figures are restated. Negative figures shown in brackets.

INDEPENDENT AUDITOR'S STATEMENT TO THE MEMBERS OF THE BRITISH TRUST FOR ORNITHOLOGY

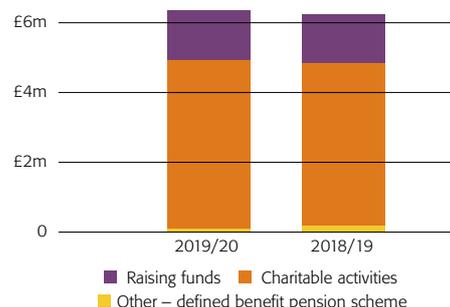
We have examined the summarised financial statements for the year ended 31 March 2020 set out above. In our opinion the summarised financial statements are consistent with the full annual financial statements on which we have reported an unqualified opinion.

Ensors Accountants LLP, Statutory Auditors, Cardinal House, 46 St Nicholas Street, Ipswich IP1 1TT 21st August 2020

INCOME



EXPENDITURE





Patron HRH The Duke of Edinburgh

President F R Gardner OBE TD VR FRGS

Board of Trustees

<i>Chair</i>	Prof J A Gill	2016-20
<i>Honorary Treasurer</i>	I Packer FCA	2016-20
<i>Chair of Finance & Risk Committee</i>	J Spencer	2015-22
<i>Chair of Governance & Nominations Committee</i>	F M Hurst	2013-22
<i>Chair of Regional Network Committee</i>	Dr D M Parker	2014-21
<i>Chair of Ringing Committee</i>	Dr I P Bainbridge	2016-20
<i>Ordinary Board Members</i>	Dr F Barclay	2014-20
	S R R Guy	2020-23
	Dr S Hunter	2017-21
	S J Marquis	2020-23
	Dr D J Reynolds	2016-21
	N A Sherwin	2017-20

Vice Presidents	Prof S Bearhop	2019-26
	K F Betton	2014-21
	Prof T R Birkhead	2013-20
	Prof I P F Owens	2016-23

Finance & Risk Committee

Chair J Spencer; Dr S Hunter; I Packer; Dr D J Reynolds.

Governance & Nominations Committee

Chair F M Hurst; Dr D M Parker; N Sherwin.

Regional Network Committee

Chair Dr D M Parker; B Galpin; C Gunn; Dr D McGarvie; W Morris; S W Petrek; S Taylor.

Ringing Committee

Chair Dr I P Bainbridge; S Bayley; J Black, A C Blackburn; A V Cross; Dr S Hunter; P Roper; Dr L Wright.
Representatives: I Lloyd; A Dodds.

Senior Leadership Team

Chief Executive Officer Dr A Clements; *Director of Science* Dr J W Pearce-Higgins;
Director of Engagement Dr D I P Evans; *Director of Finance & Services, Company Secretary* A T Scott ACIS.

Past Chairs and Presidents

<i>Chairs</i>		<i>Presidents</i>	
1935-39	The Right Hon. Earl of Mansfield	1958-60, 65-68	R C Homes
1940-41	The Right Hon. Malcolm MacDonald MP	1961-64	C A Norris
1942-47	Dr A Landsborough Thomson CB OBE DSc	1969-72	I J Ferguson-Lees
1948	Dr E M Nicholson CB CVO	1973-76	R A O Hickling
1949	A W Boyd MC	1977-80	J M McMeeking MBE
1950	Sir Norman Kinnear	1981-84	S M Taylor
1951-56	Major-General H P W Houston	1985-89	J A Hancock OBE
1957	R C Homes	1990-93	R P Howard
1988-91	G H Green	1994-96	Sir William Wilkinson
1992-96	I C Castle	1997-2001	Sir Frederick Holliday
1996-2000	Dr H P Sitters	2002-05	Lord Blakenham
2001-04	A J Martin	2006-13	Baroness Young of Old Scone
2005-08	Dr S Hunter	2014-18	C G Packham
2009-13	Prof I Newton FRS OBE	2019-	F R Gardner OBE TD VR FRGS
2014-16	Prof A D Fox		
2016-	Prof J A Gill		

BRITISH TRUST FOR ORNITHOLOGY

STAFF LIST

Chief Executive Officer: Dr Andy Clements

SCIENCE	ENGAGEMENT	FINANCE & SERVICES
<p>Director: Dr James Pearce-Higgins PA / Senior Secretary: Nicki Read Senior Secretary: Jane Chase</p> <p>Associate Director – Research: Dr Rob Robinson (Secretary: Jane Chase) Senior Research Fellow: Dr Stephen Baillie (Secretary: Jane Chase)</p>	<p>Director: Dr Ieuan Evans</p> <p>Business Development Manager James Plesse</p> <p>Supporter Services Head of Engagement Debbie Lee Senior Supporter Administrator Sam Graham Supporter Development Officer Caroline Foot Supporter Administrator Samantha Culverhouse Supporter Assistant Jamey Redway GBW Organiser Kate Risely GBW Supporter Development Officer David White GBW Supporter Development Officer Robert Jaques</p> <p>Training Training Manager Nick Moran</p> <p>Fundraising Head Susan Hughes Fundraiser (Corporate & Trust) Bonita Johnston Legacy Officer Sam Rider Fundraising Administrator Jessica Hooks Major Giving Officer David Agombar</p> <p>Communications Head of Communications Mike Toms Media Manager Paul Stanciliffe Science Communications Manager Dr Viola Ross-Smith Social Media Manager Faye Vogely Information Services Librarian Carole Showell</p>	<p>Director: Andrew Scott</p> <p>Financial Accountant / Facilities Manager Mary Gray Management Accountant Irene Bowles Finance Assistant Terri-Louise Montgomery General Sales Officer / Admin. & Finance Assistant Sonya Calder Admin. Assistant Diane Bragg Facilities / H&S Officer Sam Massimino Facilities / H&S Officer Pat Sparkes Receptionist Ronnie Hatt</p> <p>People and Organisational Development (OD) Head of People and Organisational Development Sian Knott People and Projects Officer Holly Stevenitt</p> <p>Research Support Resource Manager Virginia Cates Research Support Administrator Sandra Sparkes Research Support Officer Penny Mitchell Research Support Officer Heidi Mellan</p> <p>Nunnery Lakes Site Manager Ian Henderson</p>
<p>MONITORING</p> <p>Demography Head Dr Dave Leech <i>Ringling Licensing and Sales</i> Manager Jez Blackburn Licensing Assistant Nicola Bugg Ringling Sales Officer Anne Trewthitt <i>Ringling Data Management</i> Ringling & Nest Records Process Mngnr Bridget Griffin Ringling Officer Sabine Schäfer Ringling Officer Kevin Leighton</p> <p><i>Demographic Monitoring Projects</i> National Survey Coordinator Lee Barber BirdTrack Organiser Carl Barimore BirdTrack Support Officer Ruth Walker BBS National Organiser Hazel McCambridge</p> <p>Surveys Head Dawn Balmer National Survey Coordinator Scott Mayson BirdTrack Support Officer Stephen McAvoy BBS National Organiser Sarah Harris</p> <p><i>Wetland Bird Survey</i> WebS National Organiser Dr Teresa Frost Data Request Coordinator Neil Calbrade WebS Counter Network Organiser Gillian Birtles Secretary Maria Knight/Nicki Read</p>	<p>Director: Dr Ieuan Evans</p> <p>Business Development Manager James Plesse</p> <p>Supporter Services Head of Engagement Debbie Lee Senior Supporter Administrator Sam Graham Supporter Development Officer Caroline Foot Supporter Administrator Samantha Culverhouse Supporter Assistant Jamey Redway GBW Organiser Kate Risely GBW Supporter Development Officer David White GBW Supporter Development Officer Robert Jaques</p> <p>Training Training Manager Nick Moran</p> <p>Fundraising Head Susan Hughes Fundraiser (Corporate & Trust) Bonita Johnston Legacy Officer Sam Rider Fundraising Administrator Jessica Hooks Major Giving Officer David Agombar</p> <p>Communications Head of Communications Mike Toms Media Manager Paul Stanciliffe Science Communications Manager Dr Viola Ross-Smith Social Media Manager Faye Vogely Information Services Librarian Carole Showell</p>	<p>Director: Andrew Scott</p> <p>Financial Accountant / Facilities Manager Mary Gray Management Accountant Irene Bowles Finance Assistant Terri-Louise Montgomery General Sales Officer / Admin. & Finance Assistant Sonya Calder Admin. Assistant Diane Bragg Facilities / H&S Officer Sam Massimino Facilities / H&S Officer Pat Sparkes Receptionist Ronnie Hatt</p> <p>People and Organisational Development (OD) Head of People and Organisational Development Sian Knott People and Projects Officer Holly Stevenitt</p> <p>Research Support Resource Manager Virginia Cates Research Support Administrator Sandra Sparkes Research Support Officer Penny Mitchell Research Support Officer Heidi Mellan</p> <p>Nunnery Lakes Site Manager Ian Henderson</p>
<p>RESEARCH Population Ecology & Modelling (PEM) Head & Principal Ecologist Dr Simon Gillings Senior Research Ecologist Dr Stuart Newson Ecological Statistician Dr Philippa Boersch-Supan Research Ecologist Dr Sam Franks Research Ecologist Dr Blaise Martay* Spatial Ecologist Dr Dario Massimino Secretary Dr Jenni Border Jane Chase *based at BTO Scotland</p> <p>Wetland & Marine Research Head & Principal Ecologist Dr Niall Burton Senior Research Ecologist Dr Graham Austin Senior Research Ecologist Dr Aonghais Cook Research Ecologist Dr Chris Thaxter Research Ecologist Jacob Davies* Research Ecologist Ros Green Senior Research Ecologist Dr Chris Thaxter Research Officer Ian Woodward Secretary Maria Knight/Nicki Read *based at BTO Scotland</p>	<p>Director: Dr Ieuan Evans</p> <p>Business Development Manager James Plesse</p> <p>Supporter Services Head of Engagement Debbie Lee Senior Supporter Administrator Sam Graham Supporter Development Officer Caroline Foot Supporter Administrator Samantha Culverhouse Supporter Assistant Jamey Redway GBW Organiser Kate Risely GBW Supporter Development Officer David White GBW Supporter Development Officer Robert Jaques</p> <p>Training Training Manager Nick Moran</p> <p>Fundraising Head Susan Hughes Fundraiser (Corporate & Trust) Bonita Johnston Legacy Officer Sam Rider Fundraising Administrator Jessica Hooks Major Giving Officer David Agombar</p> <p>Communications Head of Communications Mike Toms Media Manager Paul Stanciliffe Science Communications Manager Dr Viola Ross-Smith Social Media Manager Faye Vogely Information Services Librarian Carole Showell</p>	<p>Director: Andrew Scott</p> <p>Financial Accountant / Facilities Manager Mary Gray Management Accountant Irene Bowles Finance Assistant Terri-Louise Montgomery General Sales Officer / Admin. & Finance Assistant Sonya Calder Admin. Assistant Diane Bragg Facilities / H&S Officer Sam Massimino Facilities / H&S Officer Pat Sparkes Receptionist Ronnie Hatt</p> <p>People and Organisational Development (OD) Head of People and Organisational Development Sian Knott People and Projects Officer Holly Stevenitt</p> <p>Research Support Resource Manager Virginia Cates Research Support Administrator Sandra Sparkes Research Support Officer Penny Mitchell Research Support Officer Heidi Mellan</p> <p>Nunnery Lakes Site Manager Ian Henderson</p>
<p>INFORMATION SYSTEMS Associate Director IS: Dr Andy Musgrove Senior Secretary: Jane Chase</p> <p>Senior Database Officer Dr Andrew Joys Database Developer Steve Pritchard Database Developer Justin Walker Database Developer Charlotte Clark Database Officer Bob Blogg Website Manager William Skellorn Website Developer Tom Sage Website Developer Daniel Higgins Senior Software Developer Mark Hammond Junior Software Developer Matthew Baxter Senior Software Developer Oliver Barrett Senior Systems Manager Ed Hanrahan Computer Support Officer Vacant Business Analyst Dave Turvey</p>	<p>Director: Dr Ieuan Evans</p> <p>Business Development Manager James Plesse</p> <p>Supporter Services Head of Engagement Debbie Lee Senior Supporter Administrator Sam Graham Supporter Development Officer Caroline Foot Supporter Administrator Samantha Culverhouse Supporter Assistant Jamey Redway GBW Organiser Kate Risely GBW Supporter Development Officer David White GBW Supporter Development Officer Robert Jaques</p> <p>Training Training Manager Nick Moran</p> <p>Fundraising Head Susan Hughes Fundraiser (Corporate & Trust) Bonita Johnston Legacy Officer Sam Rider Fundraising Administrator Jessica Hooks Major Giving Officer David Agombar</p> <p>Communications Head of Communications Mike Toms Media Manager Paul Stanciliffe Science Communications Manager Dr Viola Ross-Smith Social Media Manager Faye Vogely Information Services Librarian Carole Showell</p>	<p>Director: Andrew Scott</p> <p>Financial Accountant / Facilities Manager Mary Gray Management Accountant Irene Bowles Finance Assistant Terri-Louise Montgomery General Sales Officer / Admin. & Finance Assistant Sonya Calder Admin. Assistant Diane Bragg Facilities / H&S Officer Sam Massimino Facilities / H&S Officer Pat Sparkes Receptionist Ronnie Hatt</p> <p>People and Organisational Development (OD) Head of People and Organisational Development Sian Knott People and Projects Officer Holly Stevenitt</p> <p>Research Support Resource Manager Virginia Cates Research Support Administrator Sandra Sparkes Research Support Officer Penny Mitchell Research Support Officer Heidi Mellan</p> <p>Nunnery Lakes Site Manager Ian Henderson</p>
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For the purposes of Section 162 of the Charities Act 2011 and the Directors' Report for the purposes of Section 415 of the Companies Act 2006.

Company number:	00357284 (England and Wales)
Charity number:	216652 (England and Wales) SC039193 (Scotland)
Registered Office:	The Nunnery, Thetford, Norfolk IP24 2PU
Principal Advisers:	
Statutory Auditor	Ensors Accountants LLP, Cardinal House, 46 St Nicholas Street, Ipswich, Suffolk IP1 1TT
Principal Bankers	National Westminster Bank plc, 7 Cornhill, Bury St Edmunds, Suffolk IP33 1BQ The Royal Bank of Scotland plc, 2 Blenheim Place, Edinburgh EH7 5JH
Solicitors	Browne Jacobson LLP, Castle Meadow Road, Nottingham NG2 1BJ
Pensions Advisers	Russell Ulyatt Financial Services Ltd, 1 The Triangle, ng2 Business Park, Nottingham NG2 1AE
Investment Advisers	Russell Ulyatt Financial Services Ltd, 1 The Triangle, ng2 Business Park, Nottingham NG2 1AE
Insurance Brokers	Uttings Insurance Brokers, 16 The Fairland, Hingham, Norwich, Norfolk NR9 4HN

The members of the Board are the directors of the charitable company under company law and the trustees for the purpose of charity law. Those serving during the year were as follows:

Dr I P Bainbridge	Mr D Jardine (to 31 December 2019)
Dr F Barclay	Mr S J Marquis (from 1 January 2020)
Lt Col R C Dickey (to 31 December 2019)	Mr I Packer
Professor J A Gill	Dr D M Parker
Ms S R R Guy (from 1 January 2020)	Dr D J Reynolds
Dr S Hunter	Mr N A Sherwin
Ms F M Hurst	Mrs J Spencer

Structure, Governance and Management

Governing Document

The British Trust for Ornithology (known generally as the BTO) is a company limited by guarantee governed by its Memorandum and Articles of Association. It is registered as a charity with the Charity Commission and the Office of the Scottish Charity Regulator. Membership is open to any person whose application is approved by the Board upon payment of the requisite subscription. Members undertake to contribute up to £1 each in the event of an insolvent winding up, which represents the limit of their guarantee.

Trustees

Trustees are nominated by the Board, on the recommendation of the Governance and Nominations Committee, or by members and elected by the members at the Annual General Meeting each year, to serve from the following 1 January. The normal term of office is four years, with a limit of two consecutive terms. New trustees receive a comprehensive information pack and undergo an induction day at The Nunnery to brief them on the BTO and their role as company directors and trustees.

Organisation and Key Management Remuneration

The Board of Trustees is the governing body of the BTO. It normally meets four times a year. The Board is supported by the Finance & Risk Committee, Governance & Nominations Committee, Regional Network Committee and Ringing Committee. The day-to-day management of the BTO is delegated to the Senior Leadership Team, led by the Chief Executive Officer (CEO).

The salary of the CEO is determined by the Board and was last set in 2007 when the post became vacant. The remuneration of all other staff is set according to a bespoke job evaluation scheme, benchmarked to the Croner Charity Rewards database. All salaries are subject to an annual cost of living review.

Related Parties

The BTO's wholly owned subsidiary, BTO Services Ltd, was established to undertake commercial activities to support the work of the BTO, and gifts its profits to the Trust. On 30 August 2017 BTO Services Ltd acquired the ring manufacturer Porzana Ltd. The net assets and activities of Porzana Ltd were subsequently hived up to BTO Services Ltd and it then became dormant. On 15 November 2019 BTO Services Ltd incorporated BTO Consulting Ltd. The company is dormant. 'Porzana' and 'BTO Consulting' are trading names of BTO Services Ltd.

The BTO co-operates with many other charities, with government agencies and other bodies in pursuit of its objectives, as illustrated in this report.

Volunteers

The Trust depends on the contributions of many thousands of volunteers who participate in BTO surveys and other activities. We are greatly indebted to them, and especially to the Regional Representatives and other regional volunteers who organise so much BTO activity at a local level. BTO volunteers contributed the equivalent of approximately 235,900 days of work in calendar year 2019 (2018: 224,900 days).

Risk Management

A risk register is maintained which identifies the significant risks faced by the BTO and the measures in place to manage and mitigate those risks. These are monitored by the Senior Leadership Team and regularly reviewed and amended as appropriate by the Finance & Risk Committee and the Board.

Fundraising Standards

BTO is registered with the Fundraising Regulator and follows the Fundraising Regulator's Code of Fundraising Practice. All fundraising from individual giving is undertaken by BTO staff, and during the year we used the services of a specialist consultancy to help us research and approach charitable trusts and foundations. We have not received any complaints regarding our fundraising practices. We take all reasonable steps to treat supporters fairly and transparently, especially if we believe they may be in a vulnerable position.

Investments

The Memorandum of Association permits the Trust to invest monies not immediately required for its purposes as the trustees see fit. The trustees' investment policy is to maximise long term total return by investing in a combination of 40% high quality short dated bonds and 60% globally diversified equities. The equities part of the portfolio is invested in a sustainable fund (see Note 10). Investment performance against benchmark was as follows:

	Portfolio	Benchmark
Year ended 31 March 2020	-5.03%	-2.81%
Since inception (28 August 2014)	+28.05%	+29.96%

Objectives and Activities

Charitable Objects

The objects of the Trust, as set out in its Memorandum of Association are, for the benefit of the nation:

- (i) To promote, organise, carry on and encourage study and research and particularly field work for the advancement of knowledge in all branches of the Science of Ornithology.
- (ii) Permanently to preserve and protect lands and objects which by their natural features are suitable for the preservation and study of bird life and of fauna and flora generally.

Public Benefit

The trustees have complied with the duty in Section 17 of the Charities Act 2011 to have due regard to public benefit guidance published by the Charity Commission. The following paragraphs set out in detail the aims, activities and performance of the Trust, and the way in which they provide public benefit.

Objectives and Activities

The BTO's purpose and public benefit is to deliver objective information and advice, through undertaking impartial research and analysis about birds, other wildlife and habitats, to advance the understanding of nature. We inform policies and evidence-based decisions that impact on the environment such that future generations can benefit from a healthy and wildlife-rich environment. The BTO does this by:

- Sustaining long-term extensive programmes and smaller scale intensive research to study the population trends, movements, breeding, survival, ecology and behaviour of wild birds;
- Encouraging, enthusing, training and supporting volunteers to take part in scientific studies;
- Bringing together professional scientists and volunteer birdwatchers in surveys of wildlife (particularly, but not exclusively, birds); and
- Analysing the data gathered through these studies, making information available to Government and other bodies, and publishing the results in the primary scientific literature and via the internet, the birdwatching and conservation press and the media more generally.

Strategic Report

The Strategic Report (Achievements and Performance, Plans for Future Periods) is on pages 18 to 39

Principal Risks and Uncertainties

The trustees consider that the principal risks and uncertainties which could affect BTO's ability to deliver its objectives in the short term are the Covid-19 pandemic (see below), public expenditure reductions leading to reduced contract, grant and partnership funding, and in the medium to long term, the final salary pension scheme deficit. Excepting the pandemic, these are able to be mitigated through the continued growth strategy.

Financial Review

Legacies featured strongly again this year after last year's record-breaking £1.2million, with £971k being received. Other fundraising was similar to last year overall, although trust income was higher and individual giving lower, dampened by the demands of setting up a major new supporter database. This is now working well and with the web site also refreshed we are confident that our improved ability to engage with supporters will also be fruitful financially. Voluntary income formed 41% of total group income for the year, and we aim to raise this to over 50% in the longer term. There were further increases in income from publicly funded contracts, and a modest recovery in consultancy work from last year's low base. We have invested in a Business Development Manager post and expect commercial income to continue to grow further.

The principal sources of funds continued to be contract research, membership subscriptions, individual donations and legacies. A total of £4,785k was spent during the year on carrying out, supporting and communicating ornithological research. Total income increased by more than 1% to £6,514k while total expenditure increased by less than 1% to £6,364k, giving a surplus before investment losses of £150k.

The sharp fall in the stock market during March 2020, since largely reversed, severely affected investment valuations at the balance sheet date, resulting in a £22k fall for the investment portfolio, but more importantly an increase in the pension fund liability valuation of £643k. This has the somewhat misleading effect of making the balance sheet total negative by £370k at 31 March 2020: this effect results from the mandatory accounting requirements of SORP (FRS102) with which the accounts comply. Members are reminded that the actual liability of the BTO to the scheme is the schedule of deficit repair contributions agreed with the pension fund trustees to bring the scheme into balance by 2033.

The Covid-19 pandemic

Although stock markets made a strong recovery soon after the balance sheet date, the lockdowns resulting from the coronavirus pandemic prevented summer fieldwork taking place and a number of contracts were consequently postponed, reducing likely contract income for the financial year to March 2021. Most other work was continued by staff working from home. The expected loss of income, with some allied reduction in costs, can be covered by the free reserves, using available cash balances. There may be indirect effects on other sources of income, but the trustees do not expect these to be exceptional. As of the date of signing of these accounts, the trustees have no reason to believe that the BTO is anything other than a going concern.

Reserves

The Board has an unrestricted free reserves target range of 9 to 12 weeks' operating expenditure. These reserves are held against any unexpected falls in income or other unforeseen circumstances. Unrestricted funds excluding tangible fixed assets and the defined benefit pension liability at 31 March 2020 totalled £1,101k (2019: £1,206k), equivalent to 9 weeks' expenditure (2019: 10 weeks'), and are expected to be sufficient to cover any shortfall caused by Covid-19.

Statement of Board Members' Responsibilities

The Board members are responsible, as Directors of the Company, for preparing the Annual Report (including the Strategic Report) and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

Company law requires the Board members to prepare financial statements for each financial year, which give a true and fair view of the state of affairs of the charitable company and the group at the year end and of the incoming resources and application of resources, including the income and expenditure, of the charitable company and the group for the year.

In preparing these financial statements, Board members are required to:

- select suitable accounting policies and then apply them consistently;
- observe the methods and principles in SORP (FRS 102);
- make judgements and estimates that are reasonable and prudent;
- state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charitable company and the group will continue in operation.

Board members are responsible for keeping adequate accounting records that disclose with reasonable accuracy at any time the financial position of the charitable company and the group and enable them to ensure that the financial statements comply with the Companies Act 2006, the Charities and Trustee Investment (Scotland) Act 2005 and the Charities Accounts (Scotland) Regulations 2006 (as amended). They are also responsible for safeguarding the assets of the charitable company and the group and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Board members are responsible for the maintenance and integrity of the corporate and financial information included on the Trust's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

In so far as Board members are aware:

- there is no relevant audit information of which the Trust's auditor is unaware; and
- Board members have taken all steps that they ought to have taken to make themselves aware of any relevant audit information and to establish that the auditor is aware of that information.

Auditor

A resolution to re-appoint Ensors Accountants LLP as auditor will be proposed at the Annual General Meeting under section 485 of the Companies Act 2006.

The Trustees' Report (incorporating the Strategic Report) was approved by the Board as Directors and Trustees and authorised for issue on 17 August 2020.



Prof J A Gill
Chairman



I Packer FCA
Honorary Treasurer

Opinion

We have audited the financial statements of The British Trust for Ornithology (the 'parent charitable company') and its subsidiaries (the 'group') for the year ended 31 March 2020 which comprise the Consolidated Statement of Financial Activities, the Charity Statement of Financial Activities, the Consolidated Group and Charity Balance Sheets, the Consolidated Statement of Cash Flows, and notes to the financial statements, including a summary of significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice) including FRS 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland" (United Kingdom Generally Accepted Accounting Practice).

In our opinion the financial statements:

- give a true and fair view of the state of the group's and the parent charitable company's affairs as at 31 March 2020 and of the group's and the parent charitable company's incoming resources and application of resources, including its income and expenditure for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Companies Act 2006, the Charities and Trustee Investment (Scotland) Act 2005 and regulations 6 and 8 of the Charities Accounts (Scotland) Regulations 2006 (as amended).

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We are independent of the group and parent charitable company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating to going concern

We have nothing to report in respect of the following matters in relation to which the ISAs (UK) require us to report to you where:

- the trustees' use of the going concern basis of accounting in the preparation of the financial statements is not appropriate; or
- the trustees have not disclosed in the financial statements any identified material uncertainties that may cast significant doubt about the group's or parent charitable company's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date when the financial statements are authorised for issue.

Other information

The trustees are responsible for the other information. The other information comprises the information included in the Trustees' and Directors' Report, other than the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

Opinion on other matter prescribed by the Companies Act 2006

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the Strategic Report and the Board Report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the Strategic Report and the Board Report have been prepared in accordance with applicable legal requirements.

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF THE BRITISH TRUST FOR ORNITHOLOGY

Matters on which we are required to report by exception

In the light of our knowledge and understanding of the company and its environment obtained in the course of the audit, we have not identified material misstatements in the Strategic Report and the Board Report.

We have nothing to report in respect of the following matters where the Companies Act 2006 and the Charities Accounts (Scotland) Regulations 2006 (as amended) require us to report to you if, in our opinion:

- adequate accounting records have not been kept by the parent charitable company, or returns adequate for our audit have not been received from branches not visited by us; or
- the parent charitable company's financial statements are not in agreement with the accounting records or returns; or
- certain disclosure of trustees' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

Responsibilities of Board Members

As explained more fully in the Statement of Board Members' Responsibilities set out on page 53, the trustees (who are also the directors of the British Trust for Ornithology for the purposes of company law) are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the trustees determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the trustees are responsible for assessing the group's and parent charitable company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the trustees either intend to liquidate the group or the parent charitable company or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of financial statements is located on the Financial Reporting Council's website at www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

Use of our report

This report is made solely to the charitable company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006 and to the charitable company's trustees, as a body, in accordance with section 44(1) (c) of the Charities and Trustee Investment (Scotland) Act 2005 and regulation 10 of the Charities Accounts (Scotland) Regulations 2006 (as amended). Our audit work has been undertaken so that we might state to the charitable company's members and its trustees those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the charitable company, the charitable company's members as a body and its trustees as a body, for our audit work, for this report, or for the opinions we have formed.

21st August 2020

Helen Rumsey, Senior Statutory Auditor
For and on behalf of
Ensors Accountants LLP, Statutory Auditors
Cardinal House
46 St Nicholas Street
Ipswich IP1 1TT

**Consolidated Statement of Financial Activities (Including Income and Expenditure Account)
for the Year Ended 31 March 2020**

	Note	Unrestricted Funds £'000	Restricted Funds £'000	Total 2020 £'000	Total 2019 £'000 <i>Restated</i>
Income and endowments from:					
Donations and legacies	3	2,214	487	2,701	3,020
Charitable activities	3	2,634	-	2,634	2,401
Other trading activities	3	1,173	-	1,173	1,018
Investments	3	6	-	6	1
Total income and endowments		6,027	487	6,514	6,440
Expenditure on:					
Raising funds	4	1,461	28	1,489	1,483
Charitable activities	4	4,527	258	4,785	4,612
Other – Amounts recognised as expenditure on defined benefit pension scheme	21	90	-	90	241
Total expenditure	7	6,078	286	6,364	6,336
Net income/(expenditure) before net gain/(loss) on investments		(51)	201	150	104
Net (loss)/gain on investments	10	(22)	-	(22)	34
Net income/ (expenditure)		(73)	201	128	138
Transfers between funds	16,17	(15)	15	-	-
Other recognised gains/(losses):					
Actuarial (loss) on defined benefit pension scheme	21	(643)	-	(643)	(62)
Net movement in funds		(731)	216	(515)	76
Reconciliation of funds					
Total funds brought forward		(553)	698	145	69
Total funds carried forward		(1,284)	914	(370)	145

The Statement of Financial Activities includes all gains and losses recognised during the year.

All income and expenditure derives from continuing activities.

The notes on pages 61 to 79 form part of these financial statements.

**Charity Statement of Financial Activities (Including Income and Expenditure Account)
for the Year Ended 31 March 2020**

	Note	Unrestricted Funds £'000	Restricted Funds £'000	Total 2020 £'000	Total 2019 £'000 <i>Restated</i>
Income and endowments from:					
Donations and legacies	3	2,490	487	2,977	3,188
Charitable activities	3	2,634	-	2,634	2,401
Other trading activities	3	534	-	534	404
Investments	3	6	-	6	1
Total income and endowments		5,664	487	6,151	5,994
Expenditure on:					
Raising funds	4	1,098	28	1,126	1,037
Charitable activities	4	4,527	258	4,785	4,612
Other – Amounts recognised as expenditure on defined benefit pension scheme	21	90	-	90	241
Total expenditure		5,715	286	6,001	5,890
Net income/(expenditure) before net gain/(loss) on investments		(51)	201	150	104
Net (loss)/gain on investments	10	(22)	-	(22)	34
Net income/ (expenditure)		(73)	201	128	138
Transfers between funds	16,17	(15)	15	-	-
Other recognised gains/(losses):					
Actuarial (loss) on defined benefit pension scheme	21	(643)	-	(643)	(62)
Net movement in funds		(731)	216	(515)	76
Reconciliation of funds					
Total funds brought forward		(553)	698	145	69
Total funds carried forward		(1,284)	914	(370)	145

The Statement of Financial Activities includes all gains and losses recognised during the year. All income and expenditure derives from continuing activities.

The notes on pages 61 to 79 form part of these financial statements.

**Consolidated Group and Charity Balance Sheets
as at 31 March 2020**

	Note	Group 2020 £'000	Group 2019 £'000	Charity 2020 £'000	Charity 2019 £'000
Fixed assets					
Tangible assets	9	1,901	1,923	1,900	1,921
Investments	10	350	372	350	372
		2,251	2,295	2,250	2,293
Current assets					
Stocks	11	333	301	-	-
Debtors	12	1,283	1,615	1,430	1,920
Cash at bank and in hand		1,949	1,402	1,843	1,326
		3,565	3,318	3,273	3,246
Creditors:					
Amounts falling due within one year	13	(1,824)	(1,709)	(1,531)	(1,635)
Net current assets		1,741	1,609	1,742	1,611
Total assets less current liabilities		3,992	3,904	3,992	3,904
Creditors:					
Amounts falling due after one year	14	(75)	(77)	(75)	(77)
Net assets excluding defined benefit pension liability		3,917	3,827	3,917	3,827
Defined benefit pension liability	21	(4,287)	(3,682)	(4,287)	(3,682)
Net assets including defined benefit pension liability	18	(370)	145	(370)	145
Represented by:					
Restricted funds	16	914	698	914	698
Unrestricted funds	17	3,003	3,129	3,002	3,129
Pension reserve	17	(4,287)	(3,682)	(4,286)	(3,682)
Total funds	18	(370)	145	(370)	145

Approved by the Board and authorised for issue on 17 August 2020 and signed on its behalf by:

Chair



Prof J A Gill

Honorary Treasurer



I Packer FCA

Company registration number 00357284

The notes on pages 61 to 79 form part of these financial statements.

**Consolidated Statement of Cash Flows
For the Year Ended 31 March 2020**

	Group 2020 £'000	Group 2019 £'000	Charity 2020 £'000	Charity 2019 £'000	
Note					
Net cash inflow / (outflow) from operating activities	19	550	(137)	520	(137)
Cash flow from investing activities					
Payments to acquire tangible fixed assets	9	(9)	(39)	(9)	(39)
Proceeds from sales of tangible fixed assets		-	3	-	3
Proceeds from the sale of investments		-	299	-	299
Investment income received		6	1	6	1
Net cash flow from investing activities		(3)	264	(3)	264
Net increase in cash for the year		547	127	517	127
Cash at bank and in hand at 1 April		1,402	1,275	1,326	1,199
Cash at bank and in hand at 31 March		1,949	1,402	1,843	1,326
 Analysis of Cash at Bank and in Hand		2020	2019	2020	2019
This comprises:		£'000	£'000	£'000	£'000
Bank current accounts and cash in hand		288	170	182	94
Bank demand deposits		1,661	1,232	1,661	1,232
Cash at bank and in hand at 31 March		1,949	1,402	1,843	1,326

Bank demand deposits carry variable rates of interest.

The notes on pages 61 to 79 form part of these financial statements.

**Notes to the Consolidated Accounts
For the Year Ended 31 March 2020**

1. ACCOUNTING POLICIES

a) Basis of Preparation

The charity constitutes a public benefit entity as defined by FRS 102. The financial statements have been prepared in accordance with *Accounting and Reporting by Charities: Statement of Recommended Practice applicable to charities preparing their accounts in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102)* (SORP (FRS102)) effective 1 January 2019, the Charities Act 2011, the Companies Act 2006 and UK Generally Accepted Practice as it applies from 1 January 2015.

The trustees have prepared the financial statements on a going concern basis under the historical cost convention, modified to include certain items at fair value. In their opinion neither the pension scheme deficit nor the Covid-19 pandemic gives rise to material uncertainties that cast doubt upon the appropriateness of this policy.

The financial statements are prepared in pounds sterling (rounded to the nearest thousand) which is the functional currency of the charity and the group.

b) Group Financial Statements

These financial statements consolidate the results of the charity and its wholly owned trading subsidiary BTO Services Limited on a line by line basis.

c) Income

Income from donations, gifts and legacies is recognised where there is entitlement, the amount can be measured reliably, and it is probable that the income will be received.

Income from charitable activities includes income receivable under contracts which is recognised as earned as the related work is performed. Income from grant funding supporting charitable activities is recognised where there is entitlement, certainty of receipt, and the amount can be measured with sufficient reliability.

Income is deferred when it is received in advance of the services it relates to. Life membership income is released to the Statement of Financial Activities in equal instalments over ten years.

Income from commercial activities of the trading subsidiary is recognised as earned as the related goods and services are provided.

Investment income, sponsorship and royalty income and membership subscription income are recognised on a receivable basis.

d) Expenditure

Expenditure is recognised when a liability is incurred. Costs are allocated directly to activity cost categories. The cost of holiday pay not taken at the year end is accrued.

Costs of raising funds are those incurred in attracting voluntary income, including membership subscriptions, in carrying out trading activities, and in receiving royalties and sponsorship income.

Costs of charitable activities include those incurred on scientific research contracts, and on allocated and restricted fund research work. They also include volunteer surveyor support and science communication costs.

Governance costs include those incurred in the governance of the charity and the safeguarding of its assets, and are primarily associated with constitutional and statutory requirements.

Support costs include central functions and have been allocated to activity cost categories on a staff cost basis.

Notes to the Consolidated Accounts - Continued
For the Year Ended 31 March 2020

d) Expenditure (continued)

VAT is reclaimed on allowable expenses under the Business/Non-Business and the partial exemption rules. Where not reclaimable it is included within expenses.

e) Tangible Fixed Assets

Individual assets costing £1k or more are initially capitalised at cost. Tangible fixed assets (except freehold property and land) are depreciated on a straight line basis over their estimated useful lives as follows:

Asset Category	Annual Rate
Furniture and Equipment	25%
Computer Equipment	25%
Motor Vehicles	25%

The freehold property and land are stated at fair value under the revaluation model using sufficiently regular revaluations to ensure that the carrying amount does not differ materially from the fair value at the reporting date. Revaluations are performed every five years, or as the trustees consider necessary, by qualified external valuers. The increase or decrease on revaluation is credited or charged to the fund holding the asset.

At each reporting end date, the trustees review the carrying amounts of the tangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any).

f) Investments

Investments are recognised initially at fair value which is normally the transaction price excluding transaction costs. Subsequently, they are measured at fair value with changes recognised in 'Net gain/(loss) on investments' in the Statement of Financial Activities if the shares are publicly traded or their fair value can otherwise be measured reliably. Other investments are measured at cost less impairment.

g) Stock

Stock is valued at the lower of cost and net realisable value. Net realisable value is based on estimated selling price less further costs to completion and sale. Cost is calculated on a first in first out basis.

h) Debtors and creditors falling due within one year

Debtors and creditors with no stated interest rate and falling due within one year are recorded at transaction price. Any losses arising from impairment are recognised in expenditure.

i) Cash at bank

Cash at bank includes demand deposits.

j) Financial instruments

The group only has financial assets and liabilities that qualify as basic financial instruments, such as debtors and creditors with no stated interest rate and payable within one year, which are recorded at transaction price. Any losses arising from impairment are recognised as other operating expenditure in the Statement of Financial Activities.

k) Foreign Currency Translation

Monetary assets and liabilities denominated in foreign currencies are translated into pounds sterling at the rates of exchange ruling at the balance sheet dates. Transactions in foreign currencies are recorded at the rate ruling at the transaction date. All exchange differences are taken to the Statement of Financial Activities.

l) Funds Structure

The Trust has a number of restricted funds to account for situations where funds have been raised for a specific purpose. All other funds are unrestricted funds. Where the trustees intend to use part of the unrestricted funds to provide longer-term funding for BTO projects and core activities, designated funds are set up to reflect this. A Pension reserve fund has been created so that movements and balances relating to the defined benefit pension scheme valuations can be separately identified. The funds in each of these categories are disclosed in notes 16 and 17.

m) Retirement Benefits

The defined benefit scheme provides benefits for staff based on final pensionable salary. The scheme was closed to future accrual with effect from 1 April 2013. The assets of the scheme are held separately from those of the Trust, being invested with independent fund managers and are measured at fair value with changes recognised in the Statement of Financial Activities as set out in Note 21. Defined benefit pension liabilities are measured using the projected unit cost method and discounted at the current rate of return on a high quality corporate bond of equivalent term and currency to the liability. Under FRS 102, any net liability arising based on these valuations is the best estimate of the present value of the actual amounts to be paid out of the scheme, less the fair value of the scheme assets. The net of the interests on the scheme assets and liabilities is charged to the Statement of Financial Activities. Past service costs are recognised as expenditure when a liability is incurred and are charged to the Statement of Financial Activities. Actuarial gains and losses are recognised in the Statement of Financial Activities.

The Trust as employer also makes payments in respect of employees' own defined contribution schemes, through a group self-invested personal pension arrangement. For these schemes, the amount charged to the Statement of Financial Activities in respect of pension costs is the contributions payable in the year. Differences between contributions payable in the year and contributions actually paid are included as either accruals or prepayments in the balance sheet.

n) Judgements and key sources of estimation uncertainty

No judgments (apart from those involving estimations) have been made in the process of applying the group's accounting policies.

There are no key assumptions concerning the future or other sources of estimation uncertainty at the reporting date that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year.

2. MEMBERS' LIABILITY

Under the Memorandum of Association of the Trust, members are required to undertake to contribute to the assets of the Trust in the event of its being wound up while they are members, and within one year after they cease to be members, for payment of the debts and liabilities of the Trust contracted whilst they were still members and of the costs, charges and expenses of winding up such an amount as may be required, but not exceeding £1 each. This represents the limit of their guarantee to the company.

Notes to the Consolidated Accounts - Continued
For the Year Ended 31 March 2020

3. ANALYSIS OF INCOME

	Group 2020 £'000	Group 2019 £'000	Charity 2020 £'000	Charity 2019 £'000
Donations and legacies		<i>Restated</i>		<i>Restated</i>
Membership subscriptions & donations	959	990	959	990
Individual donations	445	619	445	619
Corporate & trust donations & grants	326	245	602	413
Legacies	971	1,166	971	1,166
	<u>2,701</u>	<u>3,020</u>	<u>2,977</u>	<u>3,188</u>
Charitable activities				
Core surveys - JNCC Partnership	748	807	748	807
Core surveys - Other	35	38	35	38
Other surveys & research - Voluntary funded	-	5	-	5
Other surveys & research - Contract funded	1,685	1,345	1,685	1,345
Research communication	65	75	65	75
General volunteer survey support	75	111	75	111
Nunnery Lakes Reserve	26	20	26	20
	<u>2,634</u>	<u>2,401</u>	<u>2,634</u>	<u>2,401</u>
Other trading activities				
Ringling & tagging sales	642	595	-	-
Publications & general sales	72	35	-	-
Corporate sponsorship & royalties	61	70	-	-
Consultancy	291	242	-	-
Data-related sales	98	63	-	-
Other	9	13	8	9
Income from charges to subsidiary	-	-	526	395
	<u>1,173</u>	<u>1,018</u>	<u>534</u>	<u>404</u>
Investment income				
Bank interest receivable	6	1	6	1

Garden Birdwatch (GBW) donations previously shown under Charitable activities are now shown under Donations and legacies. The corresponding previous year figures have been restated accordingly.

Analysis by fund type	Group 2020 £'000	Group 2019 £'000	Charity 2020 £'000	Charity 2019 £'000
Donations and legacies		<i>Restated</i>		<i>Restated</i>
Unrestricted	2,214	2,603	2,490	2,771
Restricted	487	417	487	417
	<u>2,701</u>	<u>3,020</u>	<u>2,977</u>	<u>3,188</u>
Charitable activities				
Unrestricted	2,634	2,396	2,634	2,396
Restricted	-	5	-	5
	<u>2,634</u>	<u>2,401</u>	<u>2,634</u>	<u>2,401</u>
Other trading activities				
Unrestricted	1,173	1,018	534	404
Restricted	-	-	-	-
	<u>1,173</u>	<u>1,018</u>	<u>534</u>	<u>404</u>

Notes to the Consolidated Accounts - Continued
For the Year Ended 31 March 2020

4. ANALYSIS OF EXPENDITURE

	Group 2020 £'000	Group 2019 £'000	Charity 2020 £'000	Charity 2019 £'000
Raising funds				
Donations and legacies				
Membership subscriptions & donations	271	270	271	270
Individual donations	265	282	265	282
Corporate & trust donations & grants	59	74	59	74
Legacies	28	10	28	10
	<u>623</u>	<u>636</u>	<u>623</u>	<u>636</u>
Other trading activities				
Ringling & tagging costs	482	477	-	-
Publications & general costs	58	44	-	-
Corporate sponsorship & royalties	18	80	-	-
Consultancy	270	204	-	-
Data-related costs	35	39	-	14
Other	3	3	3	2
Costs recharged to subsidiary	-	-	500	385
	<u>866</u>	<u>847</u>	<u>503</u>	<u>401</u>
	<u>1,489</u>	<u>1,483</u>	<u>1,126</u>	<u>1,037</u>
Charitable activities				
Core surveys - JNCC Partnership	1,284	1,310	1,284	1,310
Core surveys - Other	381	455	381	455
Other surveys & research - Voluntary funded	476	748	476	748
Other surveys & research - Contract funded	1,898	1,295	1,898	1,295
Research communication	556	565	556	565
General volunteer survey support	159	186	159	186
Nunnery Lakes Reserve	31	53	31	53
	<u>4,785</u>	<u>4,612</u>	<u>4,785</u>	<u>4,612</u>
Analysis by fund type				
	Group 2020 £'000	Group 2019 £'000	Charity 2020 £'000	Charity 2019 £'000
Raising funds				
Unrestricted	1,461	1,468	1,098	1,022
Restricted	28	15	28	15
	<u>1,489</u>	<u>1,483</u>	<u>1,126</u>	<u>1,037</u>
Charitable activities				
Unrestricted	4,527	4,101	4,527	4,101
Restricted	258	511	258	511
	<u>4,785</u>	<u>4,612</u>	<u>4,785</u>	<u>4,612</u>

Notes to the Consolidated Accounts - Continued
For the Year Ended 31 March 2020

5. NET INCOME / (EXPENDITURE)	2020	2019
	£'000	£'000
Net income for the year is stated after (crediting)/charging:		
Statutory Auditor's remuneration:		
Audit of the charity's annual accounts	14	13
Audit of the trading subsidiary's annual accounts	5	4
Audit of the charity's final salary pension scheme	2	2
Depreciation (Note 9)	31	30
(Profit) on disposal of fixed assets	(1)	(3)
	<u>(1)</u>	<u>(3)</u>

6. STAFF COSTS	2020	2019
	£'000	£'000
Wages and salaries	3,449	3,194
Social security costs	299	279
Defined contribution pension plan costs (Note 21)	371	352
Expenditure recognised on defined benefit pension scheme (Note 21)	90	241
	<u>4,209</u>	<u>4,066</u>

The number of employees whose emoluments exceeded £60,000 fell within the following bands:	2020	2019
£70,001 - £80,000	1	1
£60,001 - £70,000	1	1
	<u>1</u>	<u>1</u>

Trustees receive no remuneration, and there were no related party transactions requiring disclosure. The total remuneration including Social security costs and pension contributions of the Senior Leadership Team was £312k (2019: £312k). The emoluments of the CEO for the year were £78k (2019 £78k), with the same pension and other benefits as were applicable to all other staff. Expenses were reimbursed to 14 (2019: 11) trustees as follows:

	2020	2019
	£'000	£'000
Travel & subsistence	<u>5</u>	<u>5</u>

Average numbers of staff and full time equivalents (FTE)

	2020		2019	
	No	FTE	No	FTE
Permanent posts	120	110.2	113	102.3
Seasonal fieldworkers	3	1.6	3	1.9
	<u>123</u>	<u>111.8</u>	<u>116</u>	<u>104.2</u>

7. TOTAL EXPENDITURE	Direct costs	Support costs	2020 Total	2019 Total
	£'000	£'000	£'000	£'000
Raising funds	1,336	153	1,489	1,483
Charitable activities	4,291	494	4,785	4,612
Other – Amounts recognised as expenditure on defined benefit pension scheme	90	-	90	241
	<u>5,717</u>	<u>647</u>	<u>6,364</u>	<u>6,336</u>

Notes to the Consolidated Accounts - Continued
For the Year Ended 31 March 2020

8. SUPPORT COSTS

	Premises	IT & Office Services	People & OD	Management & Finance	Governance	2020 Total	2019 Total
	£'000	£'000	£'000	£'000	£'000	£'000	£'000
Raising funds	2	5	58	74	14	153	117
Charitable activities	8	18	186	237	45	494	505
	<u>10</u>	<u>23</u>	<u>244</u>	<u>311</u>	<u>59</u>	<u>647</u>	<u>622</u>

All support costs are apportioned on a staff cost basis.

Governance costs include Statutory Auditor's remuneration, the meeting expenses of the Board and its committees, and the staff cost of servicing those meetings.

9. TANGIBLE FIXED ASSETS - GROUP

	Freehold Property and Land	Furniture and Equipment	Computer Equipment	Motor Vehicles	Total
	£'000	£'000	£'000	£'000	£'000
Cost or valuation at 1 April 2019	1,850	214	404	106	2,574
Additions	-	-	2	7	9
Disposals	-	(10)	(16)	(7)	(33)
At 31 March 2020	<u>1,850</u>	<u>204</u>	<u>390</u>	<u>106</u>	<u>2,550</u>
Depreciation at 1 April 2019	-	202	353	96	651
Depreciation charge	-	5	19	7	31
Disposals	-	(10)	(16)	(7)	(33)
At 31 March 2020	<u>-</u>	<u>197</u>	<u>356</u>	<u>96</u>	<u>649</u>
Net book value at 31 March 2020	<u>1,850</u>	<u>7</u>	<u>34</u>	<u>10</u>	<u>1,901</u>
Net book value at 1 April 2019	<u>1,850</u>	<u>12</u>	<u>51</u>	<u>10</u>	<u>1,923</u>

Notes to the Consolidated Accounts - Continued
For the Year Ended 31 March 2020

9. TANGIBLE FIXED ASSETS - CHARITY

	Freehold Property and Land £'000	Furniture and Equipment £'000	Computer Equipment £'000	Motor Vehicles £'000	Total £'000
Cost or valuation at 1 April 2019	1,850	210	404	106	2,570
Additions	-	-	2	7	9
Disposals	-	(10)	(16)	(7)	(33)
At 31 March 2020	<u>1,850</u>	<u>200</u>	<u>390</u>	<u>106</u>	<u>2,546</u>
Depreciation at 1 April 2019	-	200	353	96	649
Depreciation charge	-	3	19	8	30
Disposals	-	(10)	(16)	(7)	(33)
At 31 March 2020	<u>-</u>	<u>193</u>	<u>356</u>	<u>97</u>	<u>646</u>
Net book value at 31 March 2020	<u>1,850</u>	<u>7</u>	<u>34</u>	<u>9</u>	<u>1,900</u>
Net book value at 1 April 2019	<u>1,850</u>	<u>10</u>	<u>51</u>	<u>10</u>	<u>1,921</u>

The Nunnery and Nunnery Lakes Reserve, the freehold property and land owned and occupied by the British Trust for Ornithology, were valued by qualified external valuers, Fenn Wright Chartered Surveyors, on 31 March 2018 on the basis of existing use value, at £1,850k.

The trustees discussed the condition and value of the freehold property at their meeting on 17 August 2020 and agreed that there had been no material change in either since the last external valuation in March 2018.

On an historical cost basis, the freehold property and land would have been included at a cost and net book value of £2,284k (2019: £2,284k).

Notes to the Consolidated Accounts - Continued
For the Year Ended 31 March 2020

10. INVESTMENTS**The Group****Investment Funds**

	Cost 28 August 2014 £'000	Market Value 1 April 2019 £'000	Disposals proceeds £'000	Additions at cost £'000	Gains /(losses) £'000	Market value 31 March 2020 £'000
Birds in Trust Fund						
Dimensional Global Short Dated Bond	61	57	-	4	-	61
Dimensional Global Sustainability Core Equity	64	104	(4)	-	(8)	92
Wrap Cash	5	5	-	-	(2)	3
	<u>130</u>	<u>166</u>	<u>(4)</u>	<u>4</u>	<u>(10)</u>	<u>156</u>
General Funds						
Dimensional Global Short Dated Bond	74	71	-	4	-	75
Dimensional Global Sustainability Core Equity	79	129	(4)	-	(10)	115
Wrap Cash	6	6	-	-	(2)	4
	<u>159</u>	<u>206</u>	<u>(4)</u>	<u>4</u>	<u>(12)</u>	<u>194</u>
	<u>289</u>	<u>372</u>	<u>(8)</u>	<u>8</u>	<u>(22)</u>	<u>350</u>

The Charity

	2020 £'000	2019 £'000
Investment funds as above	350	372
Fixed asset unlisted investments - BTO Services Ltd	-	-
	<u>350</u>	<u>372</u>

The Trust wholly owns its subsidiary undertaking, BTO Services Ltd, which is incorporated in England & Wales, company registration number 02907282. This company operates to promote the work of The British Trust for Ornithology by undertaking commercial activities to support such work. The aggregate value of the share capital and reserves at 31 March 2020 was £100 (2019: £100) and the company reported a £nil result after Gift Aid for the year (2019: £nil). £276k (2019: £168k) was paid to the Charity under Gift Aid. The value of the investment in the subsidiary undertaking is £100 (2019: £100) under the equity method of valuation. The following is a summarised statement of income for the subsidiary for the financial year:

	2020 £'000	2019 £'000
Turnover	1,165	1,007
Cost of sales	(825)	(656)
Gross profit	<u>340</u>	<u>351</u>
Net administrative expenses	(64)	(183)
Net profit before payment under Gift Aid	<u>276</u>	<u>168</u>

Turnover of the subsidiary includes sales to overseas markets of £246k (2019: £294k).

Notes to the Consolidated Accounts - Continued
For the Year Ended 31 March 2020

11. STOCKS	2020	2019
	£'000	£'000
The Group		
Finished goods, goods for resale and materials	<u>333</u>	<u>301</u>
The Charity		
The charity holds no trading stock.		
12. DEBTORS	2020	2019
	£'000	£'000
The Group		
Trade and contract debtors	793	643
Taxes recoverable	196	236
Prepayments	65	95
Accrued income	<u>229</u>	<u>641</u>
	<u>1,283</u>	<u>1,615</u>
	2020	2019
	£'000	£'000
The Charity		
Trade and contract debtors	467	459
Amounts due from Group undertakings	532	551
Taxes recoverable	196	236
Prepayments	51	63
Accrued income	<u>184</u>	<u>611</u>
	<u>1,430</u>	<u>1,920</u>

Notes to the Consolidated Accounts - Continued
For the Year Ended 31 March 2020

13. CREDITORS – AMOUNTS FALLING DUE WITHIN ONE YEAR

	2020	2019
	£'000	£'000
The Group		
Trade creditors	280	297
Taxes and Social security costs	266	203
Other creditors	59	56
Accruals	98	93
Deferred income	1,121	1,060
	<u>1,824</u>	<u>1,709</u>
	2020	2019
	£'000	£'000
The Charity		
Trade creditors	208	290
Taxes and Social security costs	223	220
Other creditors	55	52
Accruals	94	89
Deferred income	951	984
	<u>1,531</u>	<u>1,635</u>

14. CREDITORS – AMOUNTS FALLING DUE AFTER ONE YEAR

	2020	2019
	£'000	£'000
The Group		
Deferred income	75	77
	<u>75</u>	<u>77</u>
	2020	2019
	£'000	£'000
The Charity		
Deferred income	75	77
	<u>75</u>	<u>77</u>

15. DEFERRED INCOME RECONCILIATION

	2020	2019
	£'000	£'000
The Group		
Opening balance at 1 April	1,137	960
Amount released to income	(1,342)	(1,229)
Amount deferred in year	1,401	1,406
Closing balance at 31 March	<u>1,196</u>	<u>1,137</u>
	2020	2019
	£'000	£'000
The Charity		
Opening balance at 1 April	1,061	902
Amount released to income	(1,281)	(1,060)
Amount deferred in year	1,245	1,219
Closing balance at 31 March	<u>1,026</u>	<u>1,061</u>

Notes to the Consolidated Accounts - Continued
For the Year Ended 31 March 2020

16. RESTRICTED FUNDS**The Group and the Charity**

The income funds of the charity include restricted funds comprising the following balances of donations and appeal monies given for specific purposes:

As at 31 March 2020

	Balance at 1 Apr 2019 £'000	Income £'000	Expenditure £'000	Transfers £'000	Balance at 31 Mar 2020 £'000
Atlas Beyond the Maps Appeal	4	2	-	-	6
Northern Ireland Fund	1	-	-	-	1
Dilys Breese Fund	75	-	(9)	-	66
Boddy & Sparrow Fund	2	-	-	-	2
Migration Fund	-	18	(3)	-	15
Nightingale Appeal	11	11	(6)	14	30
Owl Fund	-	1	(1)	-	-
Swallow Appeal	8	-	-	-	8
Young Scientists' Fund	24	15	(20)	-	19
Garden Research Fund	72	9	(4)	-	77
Out of Africa Fund	10	57	(46)	14	35
Thrush Fund	1	-	-	-	1
Farmland Birds Appeal	31	-	(12)	-	19
Curlew Appeal	54	11	(34)	(6)	25
Arctic Skua Fund	38	36	(13)	-	61
BTO Wales Fund	37	1	(9)	-	29
BirdTrack Fund	-	-	-	-	-
Sound Approach Fund	93	-	(16)	11	88
Tasso Leventis Fund	59	-	(13)	-	46
Spotted Flycatcher Appeal	23	39	(14)	(11)	37
Chaffinch	-	31	(12)	-	19
Rhodes Training Fund	35	-	(2)	-	33
Migrant Swallows & Insect Feeding Paper	13	-	(8)	-	5
Postcode Lottery Grant	3	-	-	-	3
Cuckoos & Nightingales Appeal	49	-	-	(28)	21
EDF What's Under Your Feet Fund	18	9	(10)	-	17
Bats Fund	-	-	-	11	11
Short Eared Owl Fund	-	31	(19)	22	34
Wader Project Officer Fund	-	116	(17)	6	105
Dulverton Trust Fund	-	30	(13)	-	17
Insect Decline Fund	-	30	(1)	-	29
Ringers' Bursary Fund	2	-	(1)	-	1
Thorne Ringing Fund	1	-	-	-	1
Small Specific Donations	34	40	(3)	(18)	53
	<u>698</u>	<u>487</u>	<u>(286)</u>	<u>15</u>	<u>914</u>

Notes to the Consolidated Accounts - Continued
For the Year Ended 31 March 2020

16. RESTRICTED FUNDS (Continued)

The purposes of the funds are as follows:

The Atlas Beyond the Maps Appeal continues to support research into Atlas data.

The Northern Ireland Fund has been set up to support the BTO in Northern Ireland.

The Dilys Breese Fund is for projects relating to nesting birds and £9k was expended for costs relating to the annual Dilys Breese Awards.

The Boddy & Sparrow Fund is for awards to the best amateur contribution(s) to either or both of the *Bird Study* and *Ringing & Migration* publications.

The Migration Fund is for research into migrating birds.

The Nightingale Appeal is to fund work on Nightingales and woodland birds. An allocation of £14k was made from the Cuckoos and Nightingale Appeal to continue to support this work.

The Owl Fund is to fund work on Owls.

The Swallow Appeal is to fund work on Swallows and migration.

The Young Scientists' Fund is to support the career development of young scientists.

The Garden Research Fund is to support young scientists work on garden birds.

The Out of Africa Fund is to fund work on African migrants. An allocation of £14k was made from the Cuckoos and Nightingale Appeal to continue to support this work on Cuckoo migration.

The Thrush Fund is to fund work on Thrushes.

The Farmland Birds Appeal is to support work on farmland ecology.

The Curlew Appeal is to fund projects on Curlews. A donation of £6k was transferred to the Wader Project Officer Appeal at the request of the funder.

The Arctic Skua Fund is to support Arctic Skua work.

The BTO Wales Fund is to support the BTO in Wales.

The BirdTrack Fund is to support the development of BirdTrack.

The Sound Approach Fund is to support a number of specific projects. A transfer of £11k was made from the Spotted Flycatcher Appeal to continue to support a Spotted Flycatchers project.

The Tasso Leventis Fund is to support a number of specific projects.

The Spotted Flycatcher Appeal is to support work on Spotted Flycatcher. A transfer of £11k was made to the Sound Approach Fund to continue to support a Spotted Flycatchers project.

The Chaffinch Appeal is to fund work on Chaffinches.

The Rhodes Training Fund is to support survey training courses.

The Migrant Swallows & Insect Feeding Paper donation is to fund a paper on Swallows.

The Postcode Lottery Grant is for the Nunnery Lakes Reserve.

The Cuckoos & Nightingales Fund is for research on Cuckoos and Nightingales. Allocations were made to the Nightingale and Out of Africa funds to support projects on Nightingales and Cuckoos.

The EDF What's Under Your Feet Fund is to support the What's Under Your Feet survey.

The Bats Fund was set up from specific donations to support work on Bats.

The Short Eared Owl Fund is for work on Short Eared Owls in Scotland. A transfer of £22k made up of specific donations for Short Eared Owl work was made from the small donations fund.

The Wader Project Officer Appeal Fund is for work on waders and a £6k donation was transferred from the Curlew Fund at the request of the donor.

The Dulverton Trust Fund is to support a number of specific projects.

The Insect Decline Fund is to support work on the decline in insects.

The Ringers' Bursary Fund is to support ringing.

The Thorne Ringing Fund is to support ringing.

Small Specific Donations are small individual donations for specific purposes. Allocations and transfers totalling £18k have been made throughout the year to support projects for specific purposes.

Notes to the Consolidated Accounts - Continued
For the Year Ended 31 March 2020

16. RESTRICTED FUNDS (Continued)

As at 31 March 2019

	Balance at 1 Apr 2018 £'000	Income £'000	Expenditure £'000	Transfers £'000	Balance at 31 Mar 2019 £'000
Atlas Beyond the Maps Appeal	19	2	(17)	-	4
Northern Ireland Fund	1	-	-	-	1
Dilys Breese Fund	81	-	(6)	-	75
Boddy & Sparrow Fund	2	-	-	-	2
Migration Fund	-	2	(2)	-	-
Nightingale Appeal	27	4	(20)	-	11
Owl Fund	72	9	(81)	-	-
Swallow Appeal	8	-	-	-	8
Young Scientists' Fund	23	20	(19)	-	24
Garden Research Fund	72	9	(9)	-	72
Out of Africa Fund	-	78	(98)	30	10
Thrush Fund	1	-	-	-	1
Farmland Birds Appeal	48	4	(21)	-	31
Curlew Appeal	86	35	(67)	-	54
Arctic Skua Fund	20	75	(57)	-	38
BTO Wales Fund	44	2	(8)	(1)	37
BirdTrack Fund	4	1	(5)	-	-
Sound Approach Fund	151	-	(61)	3	93
Tasso Leventis Fund	86	15	(12)	(30)	59
Spotted Flycatcher Appeal	-	38	(15)	-	23
Rhodes Training Fund	-	35	-	-	35
Migrant Swallows & Insect Feeding Paper	-	14	(1)	-	13
Postcode Lottery Grant	-	22	(19)	-	3
Cuckoos & Nightingales Appeal	-	27	-	22	49
EDF What's Under Your Feet Fund	-	-	-	18	18
Ringers' Bursary Fund	2	1	(1)	-	2
Thorne Ringing Fund	1	-	-	-	1
Small Specific Donations	-	29	(7)	12	34
	<u>748</u>	<u>422</u>	<u>(526)</u>	<u>54</u>	<u>698</u>

Notes to the Consolidated Accounts - Continued
For the Year Ended 31 March 2020

17. UNRESTRICTED FUNDS

The Group and the Charity

The income funds of the charity include unrestricted funds comprising the following balances:

As at 31 March 2020

	Balance at 1 Apr 2019	Income	Expendi- ture	Other Gains/ (Losses)	Fund transfers	Pension reserve transfer	Balance at 31 Mar 2020
	£'000	£'000	£'000	£'000	£'000	£'000	£'000
Birds in Trust fund	2,592	976	(366)	(10)	(560)	-	2,632
General funds	537	5,051	(5,622)	(12)	545	(128)	37
	<u>3,129</u>	<u>6,027</u>	<u>(5,988)</u>	<u>(22)</u>	<u>(15)</u>	<u>(128)</u>	<u>3,003</u>
Pension reserve	(3,682)	-	(90)	(643)	-	128	(4,287)
	<u>(553)</u>	<u>6,027</u>	<u>(6,078)</u>	<u>(665)</u>	<u>(15)</u>	<u>-</u>	<u>(1,284)</u>

The Birds in Trust fund is to provide long-term funding for BTO projects. Income from legacies is credited to this fund unless the wills provide otherwise. £560k was transferred to General funds in respect of the JNCC Partnership. £15k was transferred to restricted funds in respect of specific donations. £128k was transferred from General funds to the Pension reserve in respect of the pension deficit repair payment. Other pension reserve movements are disclosed in Note 21.

As at 31 March 2019

	Balance at 1 Apr 2018	Income	Expendi- ture	Other Gains/ (Losses)	Fund transfers	Pension reserve transfer	Balance at 31 Mar 2019
	£'000	£'000	£'000	£'000	£'000	£,000	£'000
Birds in Trust fund	2,327	1,167	(398)	15	(519)	-	2,592
General funds	498	4,851	(5,171)	19	465	(125)	537
	<u>2,825</u>	<u>6,018</u>	<u>(5,569)</u>	<u>34</u>	<u>(54)</u>	<u>(125)</u>	<u>3,129</u>
Pension reserve	(3,504)	-	(241)	(62)	-	125	(3,682)
	<u>(679)</u>	<u>6,018</u>	<u>(5,810)</u>	<u>(28)</u>	<u>(54)</u>	<u>-</u>	<u>(553)</u>

Notes to the Consolidated Accounts - Continued
For the Year Ended 31 March 2020

18. ANALYSIS OF GROUP FUNDS ACROSS NET ASSETS

As at 31 March 2020

	Fixed Assets	Investments	Current Assets less Total Liabilities	Defined Benefit Pension Liability	Total Net Assets
	£'000	£'000	£'000	£'000	£'000
Unrestricted Funds					
Birds in Trust fund	-	156	2,476	-	2,632
General funds	1,901	194	2,563	(4,287)	371
	1,901	350	5,039	(4,287)	3,003
Pension reserve	-	-	(4,287)	-	(4,287)
	1,901	350	752	(4,287)	(1,284)
Restricted Funds	-	-	914	-	914
Total	1,901	350	1,666	(4,287)	(370)

The Birds in Trust fund is to provide long-term funding for BTO projects. Income from legacies is credited to this fund unless the wills provide otherwise. £560k was transferred to General funds in respect of the JNCC Partnership. £15k was transferred to restricted funds in respect of specific donations. £128k was transferred from General funds to the Pension reserve in respect of the pension deficit repair payment. Other pension reserve movements are disclosed in Note 21.

As at 31 March 2019

	Fixed Assets	Investments	Current Assets less Total Liabilities	Defined Benefit Pension Liability	Total Net Assets
	£'000	£'000	£'000	£'000	£'000
Unrestricted Funds					
Birds in Trust fund	-	166	2,426	-	2,592
General funds	1,923	206	2,090	(3,682)	537
	1,923	372	4,516	(3,682)	3,129
Pension reserve	-	-	(3,682)	-	(3,682)
	1,923	372	834	(3,682)	(553)
Restricted Funds	-	-	698	-	698
Total Funds	1,923	372	1,532	(3,682)	145

Notes to the Consolidated Accounts - Continued
For the Year Ended 31 March 2020

19. RECONCILIATION OF NET INCOME/(EXPENDITURE) TO NET CASHFLOW FROM OPERATING ACTIVITIES

	Group 2020 £'000	Group 2019 £'000	Charity 2020 £'000	Charity 2019 £'000
Net income				
per Statement of Financial Activities	128	138	128	138
Adjustments for:				
Items representing cash movements				
(Increase)/decrease in stocks	(32)	18	-	-
Decrease/(increase) in debtors	333	(649)	491	(654)
Increase/ (decrease) in creditors	113	248	(106)	272
Investment income	(6)	(1)	(6)	(1)
Items not representing cash movements				
Depreciation	31	30	30	29
Losses/(gains) on investments	22	(34)	22	(34)
(Profit) on disposal of tangible fixed assets	(1)	(3)	(1)	(3)
Net interest on defined benefit pension plan liability	90	241	90	241
	678	(12)	648	(12)
Cash movements not appearing in the Statement of Financial Activities				
Pension deficit repair contribution	(128)	(125)	(128)	(125)
Net cash inflow / (outflow) from operating activities	550	(137)	520	(137)

20. FINANCIAL INSTRUMENTS

The carrying amounts of the group's and the charity's financial instruments are as follows:

	Group 2020 £'000	Group 2019 £'000	Charity 2020 £'000	Charity 2019 £'000
Financial assets				
Measured at fair value through net income/expenditure:				
Fixed asset listed investments (Note 10)	350	372	350	372
Equity instruments measured at cost less impairments:				
Fixed asset unlisted investments (Note 10)	-	-	-	-
Debt investments measured at amortised cost:				
Trade and contract debtors (Note 12)	793	643	467	459
Amounts due from Group undertakings (Note 12)	-	-	532	551
Accrued income (Note 12)	229	641	184	611
	1,022	1,284	1,183	1,621
Financial liabilities				
Measured at amortised cost:				
Trade creditors (Note 13)	280	297	208	290
Other creditors (Note 13)	59	56	55	52
Accruals (Note 13)	98	93	94	89
	437	446	357	431

Notes to the Consolidated Accounts - Continued
For the Year Ended 31 March 2020

21. PENSIONS**The Group and the Charity****Defined contribution pension plan**

The Trust operates a Group Self-invested Personal Pension Scheme run by Aegon. Staff contribute to the Aegon scheme at a minimum rate of 5% of salary, and the BTO contributes at a flat rate of 11%. The Trust made contributions of £371k during the year (2019: £352k).

Defined benefit pension scheme

The Trust's defined benefit pension scheme, a 'final salary' scheme, is closed. The last triennial actuarial valuation of the scheme was carried out as at 1 April 2018. At that date the assets were valued at £10,611k and the liabilities at £15,014k, giving a net deficit of £4,403k and a funding level of 71%. A deficit recovery plan was subsequently agreed between the Board and the pension fund trustees, by which the shortfall would be made good by annual lump sum deficit repair payments spread over the years to 2033.

For the purposes of the group financial statements a separate valuation is carried out at the balance sheet date by a qualified independent actuary in accordance with Financial Reporting Standard 102 (FRS 102). The amounts recognised in the statement of financial activities for the year were as follows:

Recognised in:	2020 £'000	2019 £'000
Expenditure:		
Interest income	274	296
Interest cost on liabilities	(364)	(392)
Net interest on net defined benefit liability	(90)	(96)
Past service cost in respect of Guaranteed Minimum Pension (GMP) equalisation	-	(145)
	<u>(90)</u>	<u>(241)</u>
Other recognised gains/(losses):		
Actual return on scheme assets (excluding interest income)	(986)	213
Actuarial gain/(loss) on liabilities	343	(275)
	<u>(643)</u>	<u>(62)</u>

The amount recognised in the balance sheet was as follows:

	2020 £'000	2019 £'000
Fair value of scheme assets	10,174	11,007
Present value of defined benefit obligations	(14,461)	(14,689)
Defined benefit pension scheme liability at 31 March	<u>(4,287)</u>	<u>(3,682)</u>

Reconciliation of funded status:

	2020 £'000	2019 £'000
(Deficit) at 1 April	(3,682)	(3,504)
Employer pension deficit repair payment	128	125
Net interest on net defined benefit liability	(90)	(96)
Past service cost in respect of GMP equalisation	-	(145)
Remeasurement (loss)	(643)	(62)
(Deficit) at 31 March	<u>(4,287)</u>	<u>(3,682)</u>

Notes to the Consolidated Accounts - Continued
For the Year Ended 31 March 2020

21. PENSIONS (Continued)

Changes in the fair value of the pension scheme assets were as follows:

	2020	2019
	£'000	£'000
Fair value of scheme assets at 1 April	11,077	10,598
Interest income	274	296
Actual return on scheme assets (excluding interest income)	(986)	213
Employer pension deficit repair payment	128	125
Benefits paid to members	(249)	(225)
Fair value of scheme assets at 31 March	<u>10,174</u>	<u>11,007</u>

Changes in the defined benefit obligations were as follows:

	2020	2019
	£'000	£'000
Present value of defined benefit obligations at 1 April	(14,689)	(14,102)
Interest cost on liabilities	(364)	(392)
Benefits paid	249	225
Past service cost	-	(145)
Actuarial gain/(loss)	343	(275)
Present value of defined benefit obligations at 31 March	<u>(14,461)</u>	<u>(14,689)</u>

The amount of each major class of pension scheme assets within the total fair value of the scheme assets was as follows:

	2020	2019
	£'000	£'000
Bonds	5,342	5,240
Equities	4,258	5,396
Annuities	210	237
Cash	364	134
	<u>10,174</u>	<u>11,007</u>

The total return on scheme assets was as follows:

	2020	2019
	£'000	£'000
Interest income	274	296
Actual return on scheme assets (excluding interest income)	(986)	213
Total return on scheme assets	<u>(712)</u>	<u>509</u>

The principal actuarial assumptions used were as follows:

	2020	2019
Discount rate	2.6%	2.5%
Rate of increase in pensions in payment	3.5%	3.6%
Rate of increase in pensions in deferment	1.7%	2.2%
Inflation assumption (RPI)	2.7%	3.2%

Average life expectancy, after retirement at age 65:

	2020	2019
	No of years	No of years
Male - as at the valuation date	21.7	21.6
Male - retiring in 20 years' time	23.4	23.3
Female - as at the valuation date	23.3	23.2
Female - retiring in 20 years' time	24.5	24.4



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