

# Trustees' Annual Report & Financial Statements 2022/23





## CONTENTS

Opening words	3
At a glance	4
Delivering impact	6
Securing inclusion	8
Seeking solutions	10
Embracing everyone	12
Charting change	14
Delivering data	16
Sustaining supporters	18
Framing futures	20
Our staff	22
Our volunteers	24
Our community	26
Our partnerships	28
Focus on England	30
Focus on Wales	32
Focus on Scotland	34
Focus on Northern Ireland	36
Being fit for the future	38
Thank you for your support	40
Our supporters	42
Our scientific output: 2022	44
Financial overview	46



# Birds Science People

## FROM OUR CHAIR: PROFESSOR ZOE DAVIES

As incoming Chair of the Board of Trustees, I have been delighted to witness BTO's determination to inspire a greater number and diversity of people to get engaged with birds and the power of science first-hand. This commitment has come from the top. The Senior Leadership Team has been working closely with consultant, Dr Anjana Khatwa, to develop their awareness of equity, diversity and inclusion, as well as embed it firmly within the new organisational strategy. Indeed, involving more people in BTO's work is critical to the future of the organisation, given that volunteers, and the robust data they collect, are at the heart of everything we do.



The pioneering work of BTO Youth is also ongoing. In October 2022, BTO Youth staff and volunteers co-led the design and delivery of the inaugural UK Youth in Nature Summit. The event brought together and empowered like-minded individuals with a passion for conserving biodiversity. They challenged current environmental leaders to hold onto our joy of nature, be ambitious for its future, and work in together in partnership to maximise our impact. Protecting and enhancing biodiversity is fundamental to changing the course of the ecological and climate crises we are currently experiencing, and safeguarding the natural world for future generations.

## FROM OUR CEO: PROFESSOR JULIET VICKERY

Just as the last COVID-19 restrictions lifted in 2022, and BTO work adjusted to the new normal, the UK's breeding seabirds faced a devastating outbreak of Highly Pathogenic Avian Influenza (HPAI). BTO scientists and volunteers worked hard to monitor the spread of the disease and quantify mortality rates, helping inform responses. The long-term impacts will not be known for some time but this year we also assumed leadership of both the Seabird, and Goose and Swan Monitoring Programmes. Working with partners to develop these schemes will ensure better understanding of the impacts of a range of threats to seabirds and waterfowl, including that from disease.



To help increase the already remarkable value of BTO data in understanding and conserving birds, we invested in the redesign of BirdFacts. This one-stop-shop for key information about the UK's birds and their changing fortunes can now be easily accessed and interrogated by anyone, anywhere. A great deal of that data tells us that many of our birds are in trouble. *Into the Red*, published, this year portrayed the 74 Red listed species in words and art, conveying their plight beyond our traditional scientific audience – a plight we continue to actively address through our science. Our schemes provide unique 'surveillance capacity' for new and emerging threats to birds including diseases, such as Usutu virus and trichomonosis, as well as helping to identify and evaluate solutions to these threats. This year, BTO science has provided important evidence for the effectiveness of protected areas in the UK and of conservation interventions to help species survive in the face of climate change.

We will continue to work to maximise the value of the data our volunteers work so hard to collect, and I am confident you will see all of this, and more, in our annual report and in our plans for the future.

# AT A GLANCE



Our science and convening power was fundamental in understanding and informing our response to the new threat of HPAI, particularly to our breeding seabirds



Volunteers contributed **1,961,394** hours to our work in 2022, the equivalent of 1,205 staff years and £39.8m, coordinated by a regional network of over 300 extraordinary regional representatives.

Thanks to **140** amazing artists and writers, contributing to *Into the Red*, we have been able to raise the profile of Red-listed birds and funds to support important research.

Thanks to our members, funders and supporters, **£5.6 million** was spent during carrying out our work, collecting and delivering information about birds, and inspiring people.





*"The data our tagged Cuckoos provide are helping us to understand the pressures these birds face on their extraordinary journeys. It's vital we learn more about these if we are to stop the Cuckoo's captivating sound from disappearing from our countryside"*

**Dr Chris Hewson, Senior Research Ecologist**

CUCKOO TAGGING AND NEST BOX CHECKING, BY MIKE TOMS; GREAT WHITE EGRET AND SPOONBILL, BY PHILIP CROFT; HOUSE SPARROW, BY JOHN HARDING / BTO

BTO Youth designed and delivered the first ever ever UK Youth in Nature Summit, connecting and empowering young people for nature.

Since it launched in autumn 2018, the Witherby Custodians scheme has raised in excess of **£120,000** to support BTO's core activities.

# DELIVERING IMPACT

The urgency to ensure a more secure future for nature demands us to do more with our wealth of data, knowledge and expertise. Our focus is on the most important causes of biodiversity loss and the greatest opportunities for positive change.

## ENSURING THAT CONSERVATION WORKS

The loss of biodiversity is one of the most pressing issues globally. Efforts to tackle the issue include the use of protected areas, which are designated to protect species and/or their habitats from anthropogenic threats. But how effective are protected areas in achieving the desired biodiversity benefits?

An important piece of BTO research, published during the year and involving research staff from across the organisation, set out to answer this question (Barnes *et al.* 2022). By using data collected by volunteers contributing to the BTO/JNCC/RSPB Breeding Bird Survey, two Bird Atlas projects led by BTO, and the Constant Effort Sites ringing scheme, it was possible to test whether protected areas were delivering the desired conservation outcomes.

The results reveal that species occur more often and in higher numbers – and are more likely to colonise and persist – at sites with a greater extent of protected area coverage. Importantly, the most effective protected areas for birds were found to be those designated (and hence likely managed) specifically for them – i.e. Special Protection Areas, rather than Sites of Special Scientific Interest or Special Areas of Conservation.

Uniquely, the use of ringing data enabled BTO staff to test whether protected areas supported increased productivity (i.e. a greater number of young birds fledged per adult) and, through this, led to an increase in abundance over time. The results revealed that higher productivity in protected areas was associated with more positive trends in abundance.

The work demonstrates that species are not only more likely to occur in protected areas, over and above the surrounding land (a much-debated question), but also that the benefits of this network are greatest for those species most in need of conservation action.

This comprehensive assessment demonstrates that the UK's protected area network has had a positive impact on bird conservation over the last three decades. There is, however, the potential to do more; the UK is one of the least biodiverse nations globally and suffers from a significant shortfall in the extent of protected area coverage. The research also underlines the value of designating sites specifically for target species, as is evident in the results for Special Protection Areas, and this provides vital evidence that can be used to direct future policy decisions around the nature and designation of protected areas, both in the UK and elsewhere. Ultimately, this increases our chances of delivering protected areas that truly benefit biodiversity conservation.

## RESPONDING TO CLIMATE CHANGE

BTO research into the impacts of climate change continues to deliver much-needed information, as papers published this year reveal. Thanks to funding from the Cambridge Conservation Initiative, and working with a number of academic and NGO partners, BTO staff led on a piece of work to quantify the effectiveness of conservation interventions aimed at managing the impacts of climate change on species' populations and communities (Bowgen *et al.* 2022).

The work, which delivers the first quantitative global assessment of biodiversity conservation interventions for climate change adaptation, reviewed published studies to identify approaches that delivered the best outcomes. The study revealed that interventions were more likely to be beneficial where the management was focused on a particular species, rather than being more general in nature. Reassuringly, the work suggests that climate change adaptation can successfully reduce the negative impacts of – or enhance positive responses to – climate change. This provides important evidence that will help to direct future decision-making around approaches to addressing the impacts of a changing climate.

Mountain and upland birds are thought to be among the most vulnerable to climate change, and a study published this year has highlighted how the lack of data on these species is limiting our ability to deliver the evidence base needed to secure their future. Working with partners at the Università di Torino, Cambridge University, RSPB and NatureScot, BTO's Director of Science James Pearce-Higgins, assessed the processes driving population change in this group of birds (Alba *et al.* 2022).

Within mountain and upland birds, it is the bird of prey and gamebird species that have been best studied, while mountain specialists and arctic-alpine species have received little attention. The assessment demonstrated the impact of a number of different drivers influencing the populations of these birds, and made recommendations to address them. Importantly, it also underlined the need for more long-term studies and for work looking at the effectiveness of conservation interventions that may support species under a changing climate.





RED GROUSE AND DOTTEREL, BY EDMUND FELLOWES / BTO; GOLDEN EAGLE, BY LIZ CUTTING / BTO



# SECURING INCLUSION

We are working to grow the number and diversity of people involved in securing the future of birds and nature through active engagement with our work, and equipping them with an understanding of the value of science and scientific discovery.

## SECURING THE BENEFITS OF NATURE

Access to the natural world has mental and physical benefits for our own health and well-being, but these benefits are not equally accessible to everyone. Some parts of society face barriers that restrict access, and we are working to remove those that prevent individuals from accessing the natural world through involvement with BTO and our work. We need to understand the nature of these barriers before we can work to overcome them.

We also recognise that our existing community is not as diverse as it should be; for example, under-served communities are poorly represented in our current audiences. Diversity means different things to different people, the term embracing age, gender, ethnicity, sexuality and much, much more. If we are to secure large-scale solutions to the climate and biodiversity crises, then we need to maximise the number and diversity of hearts and minds in seeking these solutions, and that means enabling more of society to engage with our science. If BTO fails to reflect wider society, we risk becoming irrelevant and too narrow in our focus.

## A SHARED JOURNEY

The sharing of lived-experience is a powerful tool for increasing awareness of the barriers faced by particular individuals and communities. Over the past year, we have been fortunate to work with Dr Anjana Khatwa on a series of sessions to develop our understanding of the barriers to equity, diversity and inclusion. While the initial sessions were targeted at senior leaders within BTO, over the coming year we will share the same opportunity with all our staff, Trustees and core volunteers.

Recognising that our approach to inclusion needs to be embedded across all that we do, we are also working with Helen Bown and a small group of staff - individuals with different roles, backgrounds and experiences - to help us paint a picture of what inclusion looks and feels like for BTO. This will help us to identify the actions that we need to ensure that BTO is an inclusive and welcoming organisation.

During the year, and thanks to the support of BTO staff, the organisation was able to participate in the first-ever RACE Report. This important initiative focuses on charities and funders working on environmental and conservation issues, highlighting the need for greater representation in sustainability and climate action. The RACE Report 2022 shows the racial diversity gap between the UK working population and staff in environment, conservation, climate and sustainability charities. Just 7% of the respondents from 91 organisations in the sector identified themselves as belonging to a

minority ethnic group, compared to the 14% figure for those aged 16-64 employed in the wider UK population.

In the coming years we will be looking for new ways to cherish our existing members and engage with communities we haven't connected with before. We will also be recruiting to a role to help deliver our EDI work, and learning more about the diversity within our existing community.

## BEING INCLUSIVE

As noted last year, we have taken steps to reduce unconscious bias when recruiting staff or volunteers. We provide guidance to recruiting managers, and use a system that removes identifying information from the application process. We also use initiatives that seek to reduce and remove barriers to those who are under-represented and under-served in BTO and the sector. For example, we are users of the Disability Confident scheme and guarantee first-round interviews for candidates from a minority ethnic background who meet the essential criteria for an advertised role. We have also adapted our ways of working to enable reasonable adjustments to be made to working practices, supporting those individuals who have additional needs.

The introduction of these approaches has been aided by the additional support and guidance provided to existing staff and volunteers. Dialogue has been a particularly valuable tool in this process, with the organisation as a whole contributing to our updated values. As a result we are:

- **Evidence-led** – using our science, data and expertise to make a positive difference for birds and for people.
- **Inclusive** – supporting, valuing and having respect for our staff and those who work with us.
- **Collaborative** – working in partnership with individuals and organisations to achieve our collective goals.
- **Empowering** – using our work to create opportunities through which individuals and communities can engage with science and the natural world, for the benefit of all.





# SEEKING SOLUTIONS

As work carried out in the year demonstrates, we are using our science to find ways to better manage our land, coasts and seas, meeting the needs of both birds and people.

## BALANCING COMPETING INTERESTS

Land use policy attempts to manage benefits for different groups within society, balancing competing interests, such as the provision of food, recreational opportunities, carbon storage or flood mitigation. An important component of balancing these competing interests is to understand their relative importance to different parts of society, something that is addressed through a collaborative paper involving BTO, which uses peatland restoration in the North Pennines Area of Outstanding National Beauty as an example (Martino *et al.* 2022).

Peatland restoration provides some important ecosystem services, delivering for biodiversity and climate change mitigation, but may limit opportunities for the provision of others, such as recreation. By using a workshop and a choice experiment, the team was able to explore the views of different recreational users – walkers, cyclists, anglers, and birdwatchers. Walkers and cyclists were found to be more sensitive to changes in the availability of recreational facilities than to environmental quality, while the preferences of anglers and birdwatchers were more aligned with those values promoted by restoration policies. These results highlight a potential conflict between the benefits created by conservation action (e.g. rewetting) and those valued by some groups of recreational users (e.g. walkers and cyclists).

This work highlights the challenges faced when trying to balance different needs or varying perceptions of value. It also underlines the importance of collecting information from different stakeholders at an early stage, providing the evidence that is required to make informed land management decisions.

## A DATA-DRIVEN APPROACH

One of the biggest challenges facing our national governments is balancing the competing need for more houses with that of improving the resilience, abundance and diversity of native species in the face of climate change and the global biodiversity crisis. New urban environments, designed with biodiversity in mind, have the potential to support resilient wildlife communities. In turn, these communities can deliver societal benefits, improving the well-being of human residents and removing the costs associated with securing compensatory land to offset biodiversity lost during the development process.

BTO's significant data holdings have the potential to support those designing and planning new housing developments, as a piece of BTO research published during the year demonstrates (Cooper *et al.*, 2022). Through this work, Joe Cooper, Kate Plummer and Gavin

Siriwardena took previously developed species-habitat models and used these to examine what nine planned housing developments might deliver for 55 common bird species.

The team compared model predictions for the planned housing developments with designs that used different configurations of housing, greenspace and woodland cover, identifying components and approaches that delivered the best outcomes for birds. These comparisons showed that the scenario achieving the highest species diversity varied between sites, indicating that the best solutions for bird diversity will depend on the context of each planned development. Importantly, the work suggests that a similar data-driven approach could provide a cost-effective tool, supporting the development of green infrastructure and empowering urban planners in jurisdictions where such considerations are mandatory.

## DELIVERING BAT-FRIENDLY PLANNING

BTO research has also been able to identify solutions for bat-friendly planning, this time using data collected through the Norfolk Bat Survey, devised and operated by BTO's Stuart Newson. This survey, made possible because of a legacy-funded research fellowship, has been foundational to much of BTO's wider work on acoustic monitoring, with the organisation now recognised for its leadership in this area.

Efforts to minimise the effects of urbanisation on bats are hampered by a lack of data, something that can be addressed through the use of passive acoustic monitoring devices, deployed by volunteers and coordinated through initiatives such as the Norfolk Bat Survey. By combining the data collected by these devices with fine-scale habitat data, the BTO team was able to create 'risk' and 'opportunity' maps for Norfolk, outlining those areas where planned development would be detrimental to bat populations, together with those that provided the best opportunities for habitat mitigation.

This modelling and mapping approach has great potential for use in the planning process to reduce impacts on the most important habitat features in the landscape and enable targeted habitat creation for bats (Border *et al.* 2022). The lessons learned from our work developing acoustic monitoring approaches for bats is feeding into our work on the uses of this technology for monitoring birds and other taxa.



## CASE STUDY: COLLISION RISK HOTSPOTS

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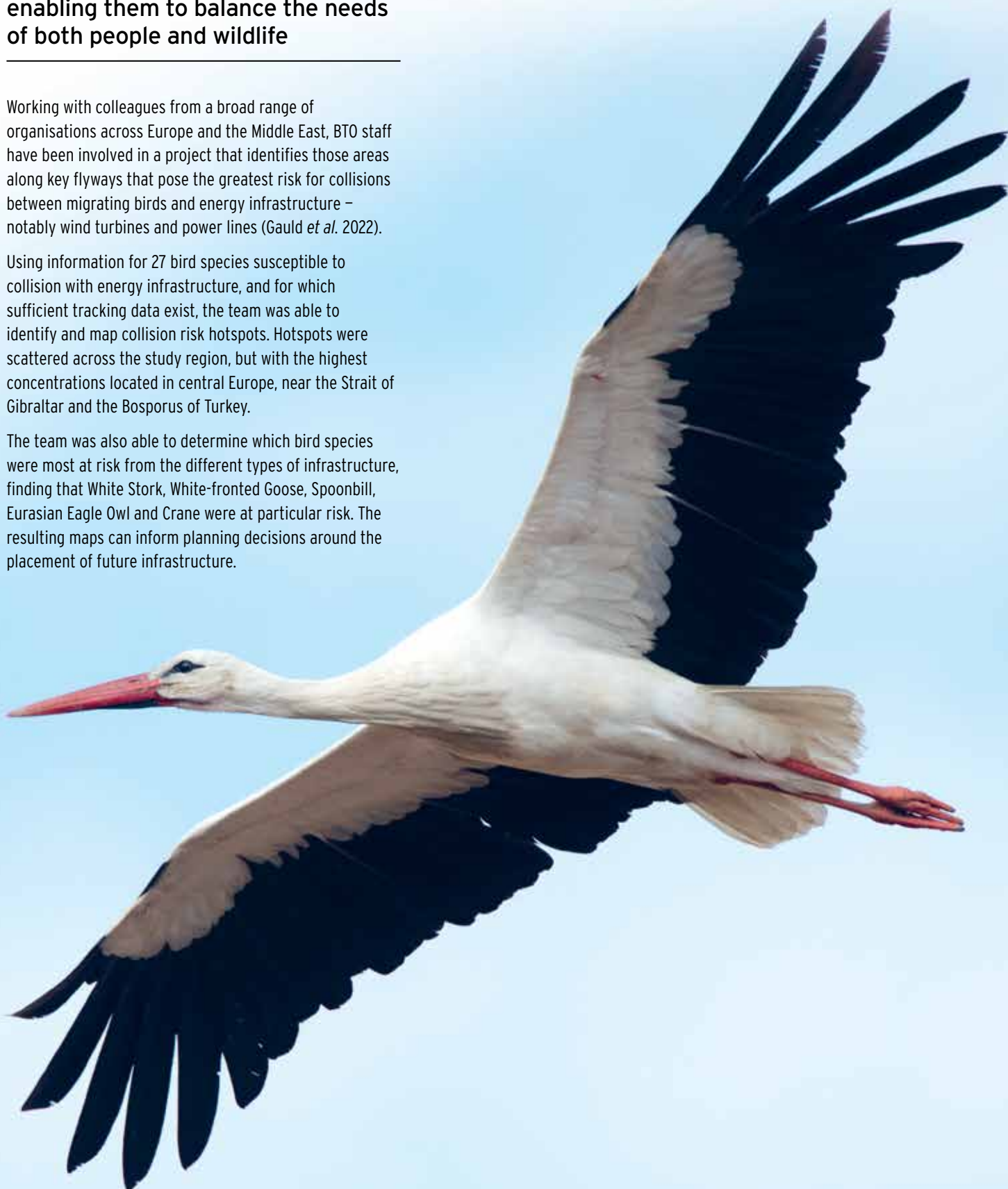
**A robust evidence base can help planners to make better decisions, enabling them to balance the needs of both people and wildlife**

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Working with colleagues from a broad range of organisations across Europe and the Middle East, BTO staff have been involved in a project that identifies those areas along key flyways that pose the greatest risk for collisions between migrating birds and energy infrastructure – notably wind turbines and power lines (Gauld *et al.* 2022).

Using information for 27 bird species susceptible to collision with energy infrastructure, and for which sufficient tracking data exist, the team was able to identify and map collision risk hotspots. Hotspots were scattered across the study region, but with the highest concentrations located in central Europe, near the Strait of Gibraltar and the Bosphorus of Turkey.

The team was also able to determine which bird species were most at risk from the different types of infrastructure, finding that White Stork, White-fronted Goose, Spoonbill, Eurasian Eagle Owl and Crane were at particular risk. The resulting maps can inform planning decisions around the placement of future infrastructure.



# EMBRACING EVERYONE

We are working to inspire, engage and empower a greater diversity of people to discover and value nature. We have been able to build upon our Youth Programme, as well as take the first steps on a journey to foster a sense of belonging for all.

## YOUTH IN ACTION

Youth engagement work received a massive boost from a £110,000 grant from the Government's Green Recovery Challenge Fund. The fund was developed by Defra and its Arm's-Length Bodies. It is being delivered by The National Lottery Heritage Fund in partnership with Natural England, the Environment Agency and Forestry Commission. The grant catalysed rapid acceleration and expansion of our youth programme, increasing the level of staff support for our growing network, providing support for events delivered by our Youth Representatives, and enabling our young volunteers to organise our first ever BTO Youth in Nature Summit.

The BTO Youth in Nature Summit attracted more than 100 people, from over a dozen wildlife organisations, and inspiring young people from across the UK. The Summit was designed for both young people and more senior leaders from the sector. It demonstrated the benefits of embedding youth voices in the strategic development of organisations to drive much-needed youth-led change, supported by leaders in the sector. Over 2,300 young people have now benefitted from the Equipment Donation Scheme, which sees pre-loved binoculars and scopes re-homed with young people unable to afford their own. By passing on unwanted equipment we are helping young people make the most of their birdwatching experience.

## FOSTERING A SENSE OF BELONGING

We want to foster a sense of belonging for all, something that underpins the work described on pages 8–9 and which is also one of the foundations for our approach to communications more broadly. We genuinely want BTO to be a place for all. As part of this aspiration, and with the full support of our Chair of Board, we have started to use key awareness events (such as Disability Pride Month) to reinforce that approach more publicly.

During June 2022, we modified the BTO logo used on our social media and online platforms, and used the opportunity to initiate a conversation about the work that we are doing to demonstrate that we are an open and welcoming organisation. During Black Birders Week, we celebrated others who are doing so much to ensure those from minority ethnic backgrounds can benefit from engaging with birds. While we recognise that some people consider elements of 'movements' such as Pride to have become politicised, they remain, in general, a positive way for us to show support for communities who are still discriminated against. If we want our work and our communities to be inclusive, then we need to be proactive.



YOUTH IN NATURE SUMMIT, BY ALICIA HAYDEN / BTO



## CASE STUDY: INTO THE RED

A cornerstone of our new strategy is to inspire a greater number and diversity of people to engage actively with BTO, so that they can experience the benefits of biodiversity and power of science first-hand.

We need to develop engaging narratives if we are to garner interest in our work more broadly, bringing both the birds and our data to life, and triggering the spark of interest that will lead people to take action. We have been particularly successful in this regard with our *Into the Red* project, which works at the interface between science and the arts to weave engaging narratives around the 70 species on the UK Birds of Conservation Concern Red List.

The project brought together 70 writers and 70 artists from a diverse range of backgrounds, each portraying one of the Red-listed species in a personal way. From academics and sound-recordists, to musicians, comedians, young naturalists and land-managers, a diversity of stories emerged, each rooted in personal experience and now shared with the book's readers.

Funds raised from sales of the book are being used to support both the work of BTO and that of the Rare Breeding Birds Panel.



CAPERCAILLIE, BY FEDERICO GEMMA

# CHARTING CHANGE

We are tracking changes in bird populations to understand their health and that of the wider natural world. During the year we took on leadership for monitoring seabirds, geese and swans through two important new partnerships.

## A FUTURE FOR SEABIRDS

Britain and Ireland are home to the majority of Europe's breeding seabirds, so our seabird breeding colonies – both coastal and inland – are of international importance. It is vital, therefore, that we have up to date information on their status and health. As noted in last year's Annual Report, BTO has been working with partners to shape the future of the Seabird Monitoring Programme (SMP), the scheme which monitors breeding seabirds throughout the UK, the Isle of Man and the Channel Islands on an annual basis to provide data for the conservation of their populations.

In July, the Joint Nature Conservation Committee (JNCC) – which set up the Seabird Monitoring Programme in 1986 – announced a new partnership with BTO and RSPB. This has changed the way in which SMP is coordinated, with BTO the lead organisation, supporting the network of skilled volunteer and professional participants, and managing data collection, analysis and reporting.

The new partnership draws upon BTO's expertise in managing volunteer-based monitoring schemes and delivering robust evidence, and provides an opportunity to develop SMP and grow the network of participants. Organisations involved in the scheme in the past will form an important Advisory Group, helping to guide development, and underlining the strong partnerships that sit at the heart of this vital monitoring programme.

With our seabird populations facing the challenges of climate change and the recent outbreak of Highly Pathogenic Avian Influenza (HPAI), the SMP's function is more important than ever.

## BIRDTRACK

Collecting data through the records of birds seen by birdwatchers provides an opportunity to address data gaps for species that are less commonly encountered through our core monitoring programmes. Such data also provide information from a broader range of sites, geographically, and from across a broader part of the year, adding to our ability to identify changing status and distribution. These records are also being actively shared with the County Bird Recorder network, mobilising them at the local level.

In August 2022, BTO launched a new version of the BirdTrack app, which featured a complete rebuild and redesign to make the app easier to navigate and use. The app enables birdwatchers to log and explore their birdwatching records, offering additional functionality through a web-based application. Following the launch of the new version we saw a significant up-tick in use of the app, with 3,829 new users and 698 returning users (the latter are users that have not submitted data in the previous three years).

The number of BirdTrack submissions has also increased, and the proportion of BirdTrack participants submitting via the smartphone app, as opposed to entering data online, has increased from 37% to 53% since launch. A further addition to the app, in the form of functionality to record observations of dead birds, is supporting our response to HPAI by providing vital data on where outbreaks are occurring.



BIRDTRACK APP, BY SCOTT MAYSON / BTO

## A NEW UPLAND INDICATOR

Our breeding birds are a good indicator of overall biodiversity, sitting towards the top of food chains and quick to respond to changes in habitat quality. Because of this, and because they are generally widespread, relatively easy to survey and well covered by long-running monitoring schemes, they are used as indicators of environmental change.

The wild bird indicators published annually by the UK Government comprise multi-species indicators for breeding birds of farmland, woodland, waterways and wetlands, and seabirds. However, the UK also includes a large area of internationally important uplands, spread across all four countries, covering about 4.5 million hectares of land. During the year, BTO staff worked on a new Upland Bird Indicator.

The Upland Bird Indicator uses a range of survey data gathered since 1994, including from the BTO/JNCC/RSPB Breeding Bird Survey (BBS) and other specialist surveys. The indicator has been published as an 'experimental statistic' this year, meaning that it remains under development and subject to future change (Barnes & Noble, 2023) The inclusion of uplands in the suite of wild bird indicators increases the ability of those indicators to report comprehensively on the state of the UK and England's biodiversity.





ARCTIC TERN, BY SARAH KELMAN / BTO; SEABIRD MONITORING, BY KATHERINE BOOTH JONES / BTO; KITTIWAKES, BY PHILIP CROFT / BTO



# DELIVERING DATA

We are working with partners and communities to ensure our data and science do the most that they can for birds and for people. Our core monitoring schemes sit at the heart of this, and a new agreement reaffirms the commitment to these schemes.

## IDENTIFYING COVID-19 IMPACTS

An important piece of work, completed and published during the year, examined the impacts of COVID-19 lockdown restrictions on our capacity to deliver robust monitoring data for UK birds (Gillings *et al.* 2022). Using the BTO/JNCC/RSPB Breeding Bird Survey as a case study, BTO researchers were able to model the effects of the sharp drop in coverage during 2020 – which was 49% down on the previous year.

The reduced coverage had a significant effect on the monitoring trend information produced, typically introducing a negative bias to the results and being a particular problem for species more strongly associated with the ‘early season’ fieldwork visits.

The lockdown restrictions meant that it was not possible to produce the usual population trend information for the UK, Scotland, Wales or Northern Ireland. Trends could only be produced for a subset of c.40 species within England. The differences between countries have the roots in the differences in timing of the lockdowns imposed by respective governments.

## UNDERSTANDING DATA LANDSCAPES

Monitoring biodiversity at large spatial scales and over long periods of time is central to understanding how populations change, and supports conservation planning and the prioritisation of resources by decision-makers. While we have a good understanding of the monitoring frameworks that exist for birds, such understanding is lacking for many other taxa, including reptiles and amphibians – taxa for which BTO Garden BirdWatchers collect valuable data on garden use.

Work led by PhD student Becky Turner, and involving BTO, UK Centre for Ecology & Hydrology, the Durrell Institute of Conservation and Ecology, Amphibian & Reptile Conservation Trust, and Amphibian and Reptile Groups of the UK, has greatly improved our understanding of the biodiversity data available for amphibians and reptiles. The study identified existing sources of biodiversity data for these taxa and then characterised the nature of the data management network within which they sit (Turner *et al.* 2022).

By using an approach known as network analysis, the team was able to visualise how the reptile and amphibian data were mobilised across the network, identifying key data sources and showing how data flowed across the network. The analysis revealed that the UK amphibian and reptile monitoring portfolio is dynamic and fragmented, with two data sources sitting outside of the network and many others receiving data but not then sharing this with others.

While the network as a whole may provide comprehensive information across species and regions, the complexity of the network and the degree of fragmentation means that opportunities to leverage information where and when it is needed are not as good as they could be. If such shortcomings can be addressed then this would benefit reptile and amphibian conservation within the UK.



## DELIVERING THE EVIDENCE BASE

In September the chief executives of BTO, the Joint Nature Conservation Committee (JNCC) and RSPB reaffirmed their longstanding commitment to the long-term bird monitoring schemes that underpin so much conservation science and action. Thanks to the thousands of committed and highly skilled volunteers who give their time to record information about our bird populations, the data from these schemes continue to help us to understand more about the ongoing biodiversity crisis, the impacts of climate change, and the urgent need for evidence to guide what we can do to protect nature from these and other threats. The new agreement, a funding partnership that covers the period 2022–27, is surely needed now more than ever.

Over the year BTO volunteers gave some 1,961,394 hours of their time to BTO work, collecting the information that, with the input of BTO’s scientific staff and their wealth of expertise, delivers the evidence base that is so essential to nature conservation and recovery. As JNCC Chief Executive Gemma Harper made clear “*Only by identifying and understanding how biodiversity is changing can we strive for nature that is diverse, abundant and resilient.*”

BEARDED TIT, BY DAVID TIPLING / BIRDPHOTO.CO.UK; AGREEMENT SIGNING, TOM STEWART / BTO



### A NEW HUB FOR BIRD INFORMATION

Thanks to funding from the Esmée Fairbairn Foundation, BTO was able to deliver a major upgrade to BirdFacts, its one-stop-shop for information on the UK's birds. This unique resource, which is free to access and use, brings together the extraordinary wealth of information collected by BTO and its volunteers through nearly 90 years of monitoring and research. In addition to information on different aspects of bird ecology, such as clutch size, longevity and movements, BirdFacts also provides vital information on population size, change and conservation status.

One aspect of the upgrade is the addition of BTO Trends Explorer, an interactive tool that enables anyone to explore how trends in UK bird abundance and other key measures are changing through time, both nationally and at the regional level. Over time, information from an increasing number of datasets and surveys will be added to the BTO Trends Explorer. [www.bto.org/birdfacts](http://www.bto.org/birdfacts)



# SUSTAINING SUPPORTERS

We want to ensure that everyone who works with us feels valued, and knows that they are playing an important role in tackling the biodiversity and climate crises. Over the past year we have continued to invest in our supporters in many different ways.

## HELPING TO DEVELOP SKILLS

Birdwatching is one of those pastimes in which you are always learning, and BTO has continued to support individuals seeking to develop their birdwatching skills through a range of initiatives. Core among these have been the training courses developed and delivered by our Training Manager Nick Moran and his team, with additional support from other staff (notably those in the Country Offices). During the year we ran 26 virtual courses, attracting 5,287 registrations. While many of these were open UK-wide, a number were delivered for particular audiences, including a free course for students in Scotland, and courses in Northern Ireland and Devon.

With some signs of declining interest in the older online courses – some of which have been delivered more than 25 times – our training offering has been widened and the team has begun to identify ways to reach new audiences. Linking training offerings to particular surveys or projects, for example the courses on seabird identification and ecology linked to our wider strategic focus on seabirds, has been one successful approach. In addition to the virtual courses, we have been able to deliver more face-to-face training, including those supporting individuals interested in taking on BTO/JNCC/RSPB Breeding Bird Survey squares or looking to improve their nest monitoring skills.

## INVESTING IN SOFTWARE

With the bulk of survey data submitted through online interfaces, it is essential that we continue to develop our website and web applications in line with the expectations of the volunteers using them. Ongoing development of the Demography Online system used by ringers and nest recorders, for example, has meant that 68% of ringing data and 67% of nest record data are now submitted through the system. Similarly, online now accounts for 83% of Garden BirdWatch submissions, compared with 51% a decade ago. The relaunch of the BirdTrack App (see Page 14) also emphasises the value in providing our volunteers with the tools that they need to make the most of their contributions.

## A UNIQUE OPPORTUNITY

Being able to engage supporters more directly with our work is really important, since active participation greatly increases supporter satisfaction and retention. For one group of supporters who have funded BTO work on seabird monitoring, there was the opportunity to visit seabird colonies on Orkney with Supporter Relations Manager David Agombar. During the trip they heard about BTO work from Research Ecologist Nina O'Hanlon, who is part of BTO's Wetland and Marine Research Team.



ORKNEY SEABIRD TRIP, BY KAREN GENTILE / BTO; CUCKOO EVENT, BY MIKE TOMS / BTO



## TRACKING PROJECT PROGRESS

For those individuals supporting our Cuckoo tracking project we have used a combination of communications channels to keep them informed of the project's progress; from updates on our website and in a dedicated enewsletter, through to on-site events with the Cuckoo team.



# FRAMING FUTURES

We are using our science to track the impact of, and inform responses to, future climate change and new environmental threats to birds, including disease. A focus of our work over the year has been the response to highly pathogenic avian influenza.

## NON-NATIVES

The Government's substantially refreshed Invasive Non-Native Species Strategy was published in the first quarter of 2023, and places to the fore its vision for a strong partnership approach to addressing the risks that non-native species pose to biodiversity, people and the economy. BTO is one of the partners in the Non-native Species Information Portal, and data from the core monitoring schemes we operate provide vital information on the arrival, establishment and status of such species. In addition, BTO is well placed to provide robust evidence that can inform discussions on the impacts of invasives on native species.

A piece of work by Henrietta Pringle and Gavin Siriwardena considers the utility of BTO data in supporting evaluations of the risks that non-native species may pose (Pringle & Siriwardena 2022). Using case studies for Ring-necked Parakeet, Grey Squirrel and Muntjac, the study demonstrates that existing data from core schemes have the potential to measure impacts, as well as document arrival and spread. The study identified a number of limitations to the use of existing datasets, suggesting opportunities for mitigating at least some of these. The review, and our wider work in this area, help to guide responses to the challenges that invasive non-native species may bring.



MUNTJAC, BY LIZ CUTTING / BTO

## ASSESSING DISEASE IMPACTS

Two important pieces of work on disease were published during the year. The first of these documented the emergence and potential impact of a Usutu virus outbreak in London (Lawson *et al.* 2022). Usutu virus has spread across mainland Europe since its incursion in 1996. Transmitted between mosquito vectors and birds, the virus has been shown to be responsible for mortality in Blackbirds at a scale sufficient to bring about a decline in their populations.

The virus was detected for the first time in the UK in August 2020, but the extent and impact of this incursion on local bird populations was unclear. A team, bringing together expertise from the Institute of Zoology, BTO, the Natural History Museum, the Animal and Plant Health Agency and the UK Health Security Agency, carried out intensive trapping of mosquitoes at the site where the infected birds had been found. They screened for the virus, examined submissions to three disease surveillance schemes – one of which was Garden Wildlife Health, and used long-term population monitoring data from BTO Garden BirdWatch and the BTO/JNCC/RSPB Breeding Bird Survey to investigate Blackbird population trends across the UK.

The mosquito surveillance confirmed that virus was circulating at the site, but none of the birds submitted to the surveillance schemes tested positive for the virus. However the BTO Garden BirdWatch data showed a decline in Blackbird numbers in London gardens that was contemporaneous with the outbreak. Whilst the results of the study do not provide any evidence of a wider outbreak, which is reassuring, they do highlight the benefit of ongoing disease surveillance through schemes like Garden Wildlife Health and the value of Garden BirdWatch and its weekly recording structure, which have the potential to provide an early indication of possible disease emergence.

A second piece of work provided vital new insight into the impacts of finch trichomonosis on UK finch populations (Hanmer *et al.* 2022). Hugh Hanmer and colleagues, working with partners from a number of other organisations, including the Institute of Zoology, used Chaffinch and Greenfinch data from core BTO schemes alongside post-mortem examination records to assess disease impacts following the original outbreak.

Using data from the BTO/JNCC/RSPB Breeding Bird Survey, the researchers were able to explore the pattern of changing abundance since 1994 and how this might differ between 'urban' and 'rural' habitats. Examination of Ringing Scheme and Nest Record Scheme data indicated that the large national population declines of Greenfinch and Chaffinch were largely driven by lower adult survival, associated with the emergence and epidemic spread of the disease.

In both species, adult survival fell to a greater extent in 'urban' than in 'rural' habitats following the onset of the outbreak, which suggests a link to garden feeding stations. While supplementary feeding has known population benefits for a range of species, the possibility of negative and counteracting effects on species conservation and animal welfare need to be considered, along with the promotion of appropriate mitigation measures.



## CASE STUDY: RESPONDING TO AVIAN INFLUENZA

The 2022 outbreak of highly pathogenic avian influenza prompted a large-scale response, drawing on different aspects of BTO's work and expertise.



DEAD BLACK-HEADED GULL, BY DAWN BALMER / BTO

From late spring 2022, increasing numbers of reports of highly pathogenic avian influenza (HPAI) were received from seabird colonies around the northern UK, the news coming off the back of a devastating outbreak in some of our wintering goose populations. Very large numbers of breeding seabirds, including significant numbers of Great Skuas and Gannets, died as a result, and BTO mobilised staff resources and datasets to help understand the impacts on bird populations and address the challenge of this devastating disease.

BTO scientists coordinated regular meetings with other organisations, sharing our expertise and data, so that ongoing efforts to tackle the outbreak and address its longer-term impacts are informed by the available evidence. Our research staff have carried out vulnerability assessments, identifying those species and populations at greatest risk from the outbreak. This information is being used to inform conservation responses and the prioritisation of resources.

This outbreak has identified a lack of a centralised repository for the reporting of large wild bird mortalities. We asked our Wetland Bird Survey (WeBS) counters, who undertake monthly

surveys of many of our larger wetlands and estuaries, to record bird mortalities alongside their usual recording, and we deployed an additional component to our BirdTrack app, enabling birdwatchers to quickly enter details of dead birds encountered while out birdwatching. These two approaches provide structured information on the potential spread of significant mortality, again helping to direct resources and shape the nature of any response.

In November 2022, BTO co-hosted a meeting that brought together more than 100 bird and disease experts to discuss the impacts of the outbreak, reviewing management options and identifying information needs. The report from the meeting was published in March 2023 (Pearce-Higgins *et al.* 2023), and is being used by partners to inform the response to the outbreak.

We have also been developing tools to inform future planning and decision-making around the disease. Through a collaboration between EURING and EuroBirdPortal, funded by the European Food Safety Authority (EFSA), BTO has developed a migration mapping tool to inform the management of future avian influenza outbreaks. This approach can be extended to develop predictive models of HPAI spread in domestic birds based on wild bird abundance and movements across Europe (Gargallo *et al.* 2022).

More widely, BTO staff were part of a team that identified the transatlantic spread of avian influenza by wild birds from Europe to North America (Caliendo *et al.* 2022).

HPAI will continue to be a major focus of BTO's work beyond 2022/23. Given the scale and potential impact of this disease, we have outlined an extensive programme of work in response. The organisation has been funding this work from our core funds, from scheme budgets, and through targeted fundraising efforts. An approach to major donors was mailed in August 2022, and a wider fundraising appeal was mailed to our supporters in November 2022.



BARNACLE GEESE, BY LIZ CUTTING / BTO



# OUR STAFF

**BTO is fortunate to have dedicated and professional staff, whose expertise and commitment helps to drive forward our charitable activities. Working in partnership with volunteers, and staff at other organisations, they are a vital resource; engaged, enthusiastic and inspirational.**

## SHARING OUR EXPERTISE

BTO staff continue to share their expertise and skills through both their professional roles and outside interests, contributing to a very broad range of workshops, conferences, publications and events. Many of our scientific staff sit on the editorial boards of ornithological journals and/or act as peer-reviewers for scientific publications, giving their time to the wider research community through these activities. BTO Scotland's Liz Humphreys, for example, has been Chair of The Seabird Group since 2019, where she is supported by Viola Ross-Smith (BTO Science Communications Manager) who is Editor of The Seabird Group's scientific journal *Seabird*.

During the year, members of the Survey's Team attended the European Bird Census Council conference at Lucerne in Switzerland, presenting talks on a wide range of BTO's monitoring work, while the Wetland and Marine Team's Aonghais Cook attended a significant meeting in the USA exploring the biggest challenges facing the development of wind energy. This meeting enabled Aonghais and BTO to build on our collaborative international links.

## WORKING ACROSS BORDERS

Our international collaborations were very much in mind following Russia's invasion of Ukraine. BTO's International Team has been working with colleagues in Ukraine and Belarus on an Endangered Landscapes Programme project. The project team is working to create a network of protected areas covering

almost one million hectares of ecologically functioning natural landscape in the heart of Europe. This is one of Europe's largest protected natural wilderness areas, providing essential habitat to many threatened species. Although the project has largely been put on hold because of the invasion, some of the analysis work has continued, and a paper exploring the role of wetting up peatlands in reducing the size and intensity of wildfires has just been published (Kirkland *et al.* 2023).



POLESIA, BY DANIEL ROSENGREN



SAMANTHA FRANKS TAGGING A CURLEW / RICH BUNCE WALKING PHOTOGRAPHER

## WAYS OF WORKING

One consequence of the COVID-19 pandemic has been a shift in how people work, with home-working now much more common across many sectors in the UK economy. Recognising that home-working can provide well-being and other benefits to many (though not all) staff, BTO has introduced a hybrid working policy, with staff able to work from home for part of each week. Well-received by staff, the approach has required BTO to think more innovatively about how it uses its office space. More remote working can ease capacity issues through the use of hot-desking, but additional space is needed to support the increased number of virtual meetings.

BTO's approach to how staff and the organisation operate is shaped by input from various staff groups. In the same way, the organisational culture has been developed by involving individuals from across the many different roles and offices. The introduction of electric vehicle charging points, for example, has emerged from discussions with staff and their wish to increase sustainability.





# OUR VOLUNTEERS

BTO's amazing trustees and volunteers work in partnership with our scientists and survey organisers to deliver the evidence base that supports conservation action and decision-making processes, for the benefits of birds and people.

## THE HEART OF BTO

The Regional Network sits at the very heart of BTO. Its amazing volunteers represent the organisation at the local level, engaging members and supporters, and organising and delivering many of our surveys. BTO has 128 separate regions across the UK, Isle of Man and the Channel Islands, and these regions vary enormously in size and population. Because of this, the Regional Network structure for each region is flexible and tailored to its needs. The different roles within a region typically comprise of:

- **A Regional Representative**, who leads the BTO Network in a given region and sometimes carries out all Regional Network tasks alone when a team has not been formed
- **Regional Ambassadors**, who assist with one or more tasks, e.g. promotion of BTO, or Garden BirdWatch
- **Regional Organisers**, who are responsible for one or more surveys e.g. the Heronries Census.

The Network is supported by BTO staff and overseen by the Regional Network Committee, a group that facilitates liaison between the members of the Regional Network, BTO staff and BTO Board. Without the dedication and commitment of our Regional Representatives, Regional Ambassadors and Regional Organisers the work of the BTO would simply not be possible, and we owe them a great deal of thanks for all of their hard work and enthusiasm.

Over the past year, the return to face-to-face meetings has enabled the Network to do more, and delivered opportunities for staff and volunteers to work alongside one another. We have continued to make the most of the 'virtual world', learning from the experiences of lockdown working, and this has enabled us to deliver additional training to members of the Network on, for example, the use of social media to engage and support others.

## A BROADER NETWORK

Additional to the Regional Network is a broader web of committed volunteers, some of whom help to coordinate particular surveys at the local level. These include the Local Organisers coordinating the Wetland Bird Survey and the Breeding Bird Survey, and others who provide support and training to individuals in their respective schemes. For example, Ringing Trainers and Nest Record Scheme Mentors share their knowledge and experience with those taking their first steps with these surveys, and for whom having that personal support can be particularly welcome. Our volunteers, in all their different roles, will be key as we work to increase the number and diversity of people engaging with our work.

## RECOGNISING ACHIEVEMENT

Underlining BTO's role within a wider volunteer network are the Marsh Awards, awarded annually and recognising both volunteer and professional contributions to the study of ornithology. The Marsh Awards are supported by the Marsh Charitable Trust and presented by BTO at the Society of Wildlife Artists annual exhibition at the Mall Galleries in London. We are particularly grateful for the generosity and support of both organisations, who enable us to recognise the contributions made by individuals and local groups.



AN AWARD PRESENTATION, BY NICK CARO / BTO

In 2022 the Marsh Award for Ornithology was presented to Alex Bond, curator in charge of birds at the Natural History Museum. Alex's career has focused on the conservation of seabirds, particularly on the pressures facing vulnerable seabird populations on remote islands. Over the course of his career he has been a tireless advocate for equity, diversity and inclusion. The Marsh Award for Local Ornithology went to 'Tracking The Impact' – the Chalk, Cherries & Chairs Landscape Partnership Scheme, which aims to connect local people to the wildlife and cultural heritage of the Central Chilterns. Through local events organised, more local people have been trained and are actively engaged in formal biodiversity monitoring, gaining a greater understanding of and engagement with their local wildlife. The Marsh Award for Young Ornithologist was awarded to Anna Webberley, a 20-year-old bioscience student from Cardiff University. Anna has done an extraordinary job of reviving the Ornithology Society at the university, actively inspiring a new generation of ornithologists and encouraging students from all different backgrounds to find an interest in birdwatching.







# OUR COMMUNITY

One of our strengths is the breadth of opportunities for people to be part of our community through a shared love of birds. That we have such a vibrant community emphasises that what we are doing matters to a great many people.

## SHARING OUR AMBITION

A major focus during the year was the development of the new BTO strategy, which will take the organisation through to 2030. A key component of the work to launch the strategy focused on the nature of the BTO community and our ambition to engage more people.

To this end, we took a rather different approach from previous BTO strategies, working with animator Will Rose to develop a short animation that captured our work and showcased opportunities for people to get involved. With the generous support of a small staff and Youth Advisory Panel (YAP) team, and contributions from sound recordist Geoff Sample and creative sound experts Fonic, we have been able to create something truly inspiring, attracting in excess of 10,000 views.

## A COLLECTIVE MEMORY

BTO has long played a central role within the birdwatching and ornithological communities and our growing archive collections are important within a broader context. The BTO Archives hold institutional records, survey materials and data from BTO's 90-year history, as well as the internationally-important personal papers and photographic materials of prominent ornithologists, birdwatchers and bird photographers.

The materials in these collections, and the stories contained within them, empower us to deliver narratives that foster increased engagement with our work. They are the organisation's collective memory and have the potential to be the collective memory for the wider ornithological community of which we are a part.

Birdwatching and the study of birds have provided structured access to the natural world over many decades, but the heritage and accumulated experience of participation is fragmented and not accessible to new audiences. We have a bold ambition, that our archives will bring the history of UK ornithology and its personalities to new audiences, accessible through our online catalogue, articles, social media, and events. Being able to highlight the stories of women in the development of bird photography and ornithological study, for example, can help us to address acknowledged gender-biases and provide role models for new generations.

Over the past 18 months, and following the appointment of BTO's first Archivist, Lesley Hindley, we have been able to put in place the foundations that will enable us to make the most of our shared heritage, increasing visibility and access. There were also four new accessions to our collections during the year, which included A.J.B. Thompson's incredible run of bird records from Slough Sewage Farm (1939–85), the Eric A. Simms archive, and the photographic collections of John Barlee and John W. Proudlock. Thank you to the family members who facilitated and donated these important collections.

## YOUTH-LED

As is evident from the example provided on Page 12, we have been making huge steps forward in delivering opportunities for young people, recognising that they are the future of our community. What is absolutely core to this work is the degree to which it has been shaped, driven and delivered by young people. Also striking is the amount that has been delivered since BTO Youth was launched in February 2020. In 2021 and 2022, BTO Youth reached over 2,000 young people across the four UK countries, engaging them in nature and science through a range of over 70 local and online events. Building on the successes of the last three years, the Youth Advisory Panel (YAP) has just launched its BTO Youth Engagement Strategy, which will cover the period 2023 to 2028.

While YAP operates 'behind the scenes', focusing its efforts on logistical and strategic planning activities - from the strategy to larger events and projects - the BTO Youth Representatives (launched in 2021) are responsible for engaging people locally, creating community youth networks within their regions. The Youth Representatives put YAP's vision into action on the ground, working to make a tangible impact in their communities and, collectively, nationwide. With a Youth Appeal launching in 2023, and the work continuing to attract the financial support of external funders, we are seeing a continuing step change in this growing part of the wider BTO community.



LESLEY HINDLEY CLEANING GLASS PLATE NEGATIVES, BY MIKE TOMS / BTO







# OUR PARTNERSHIPS

We are collaborative, working in partnership with individuals and organisations to achieve our collective goals. During the past year this approach has enabled us to contribute and share our expertise across a number of important projects.

## SECURING A FUTURE FOR CURLEWS

The UK is home to around a quarter of the global Curlew breeding population, but numbers here crashed by almost half between 1995 and 2018. Poor breeding success is responsible for much of this decline, so BTO has been working with partners Natural England, Pensthorpe Conservation Trust, the RAF, the Wildfowl & Wetlands Trust, the Sandringham Estate and Wild Ken Hill on an innovative project to support recovery of populations in eastern England.

Curlew eggs laid on RAF airfields would ordinarily be destroyed to mitigate risk to aircraft but a number have been collected, incubated and the young raised in captivity. These 'head-started' individuals are then released in ideal habitat along the Norfolk coast before they disperse further afield. BTO scientists are responsible for fitting the young Curlews with a mixture of radio and GPS tags, and then tracking them after release, to gather information on habitat use and survival. The fortunes of 37 tagged Curlew chicks were followed in 2022, as they left their release sites and joined other individuals at favoured feeding and roosting sites, both in East Anglia and further afield.

The project is just one aspect of BTO's wider involvement with Curlew conservation initiatives, which seek to address the challenge of halting the decline of a species that breeds across much of the UK, typically on land that is not directly managed for conservation. The suite of projects bring together researchers, landowners and managers, conservation organisations, and volunteers. These partnerships demonstrate that stakeholders from differing backgrounds, and with different priorities or perspectives, can work together effectively for the benefit of a species that is in trouble.



HEAD-STARTED CURLEW CHICKS: SAMANTHA FRANKS / BTO

## MONITORING OUR GEESE AND SWANS

The UK supports 13 internationally important populations of native geese and migratory swans. Many of the species that comprise these populations are included on the UK's Birds of Conservation Concern Red or Amber Lists, and it is vital that we have up to date information on the status and health of their populations.

The Goose & Swan Monitoring Programme (GSMP) records the abundance and breeding success of these birds during the non-breeding season, bringing together a suite of species-specific surveys to monitor the different populations.

BTO took over coordination of GSMP in August 2022, following the decision of the Wildfowl & Wetlands Trust to concentrate its conservation activity for waterbirds and their wetland habitats in other areas. The change will enable GSMP to become more closely aligned with the Wetland Bird Survey (WeBS), particularly with regard to reporting. This should ensure that information on these and other waterbirds is presented in a more coordinated manner, something that should greatly aid landmanagers, policymakers and conservation practitioners.

The GSMP network brings together a variety of organisations, groups and individuals involved in goose and swan monitoring throughout the UK, as well as in other countries linked by the birds' migratory flyways. The different organisations typically lead on one or more of the component surveys, with the project as a whole funded jointly by BTO, JNCC and NatureScot. BTO is responsible for the Icelandic-breeding Goose Census, Goose and Swan Age Assessments and the Svalbard Barnacle Goose survey (which is primarily focused on the Solway Estuary), while, for example, the Irish Brent Goose Research Group lead on coordinated counts of east Canadian-breeding Light-bellied Brent Goose (including in Northern Ireland).

The complexities of the different goose and swan populations – in terms of their origins, flyways and wintering sites – require a coordinated partnership approach, and one that BTO is well-placed to facilitate and deliver.

## WORKING TOGETHER FOR RARE BIRDS

During the year, the Rare Breeding Birds Panel (RBBP), which is funded by JNCC, RSPB and BTO, celebrated 50 years of charting the changing fortunes of our rarest birds. Since its launch in 1973, RBBP has delivered data for use in the Birds of Conservation Concern assessments, the designation of protected areas, and the targeting of habitat restoration work for species such as Bittern. This long-running partnership continues to support projects that help understand threats to birds and to recover or enhance populations.





# ENGLAND

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Many policy decisions have a strong country- or regional-focus, and BTO's work reflects this. We continue to deliver projects from our Country Offices, often working with country-level partners and other stakeholders.

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## WOODLANDS WORKING

Agri-environment schemes have been used to direct state support of agriculture towards the delivery of public benefits, including those related to wildlife and the environment. These have delivered some notable successes for wildlife, and a recent piece of work has explored the effectiveness of a similar approach for woodland management (Bellamy *et al.* 2022).

Working as part of a team that included BTO, RSPB, the Forestry Commission, Forest Research and Natural England, the study used a combination of fieldwork – examining bird abundance on East Midlands woodland sites receiving Woodland Improvement Grant funding and nearby control sites without such funding – and data from the BTO/JNCC/RSPB Breeding Bird Survey to test whether funded management interventions were benefiting the target woodland bird species.

The study found an increase in the abundance of target species, including Willow Warbler and Marsh Tit, on the sites where woodland management was being directed towards them, while populations elsewhere were found to have declined. The work demonstrates that bespoke woodland management, funded through government agri-environment scheme initiatives, can have a positive impact on woodland birds.





## ADDRESSING CURLEW DECLINE

BTO has been continuing its work in East Anglia to secure an evidence-based approach to the conservation of the region's breeding Curlew, a species whose national breeding population has declined by 48% since 1995. The work, carried out in partnership with colleagues at the University of East Anglia and RSBP, and delivered through a Natural Environment Research Council CASE studentship, has been part-funded by BTO and a Defence Infrastructure Organization Environmental Stewardship grant.

PhD student Harry Ewing has examined variation in Curlew nest survival in order to determine how targeted management interventions might boost this key component of breeding success. Up to 80 Curlew breeding attempts were monitored annually between 2019 and 2021 in eight locations across Breckland. The majority of breeding failures (86%) were found to be the result of (largely nocturnal) predation.

Based on these findings, Harry and his coauthors suggest that fencing those sites with high nesting densities to prevent access by mammalian predators could potentially double the number of chicks hatched each year within the study area. However, it is clear from Harry's work that landscape-scale actions to reduce predator impacts on nests and chicks are likely to be required if we are to support breeding Curlew populations more broadly across the wider countryside.

## MAKING CONNECTIONS

Urban areas can and do hold significant populations of birds, but we know surprisingly little about how these populations are connected with those present within the wider countryside. It has been suggested that the populations using these different habitats may be linked through seasonal movements, with individuals breeding in rural areas moving into urban sites during the winter months to exploit the supplementary food provided at garden feeding stations. However, little work has been done to test this hypothesis.

Thanks to a Gift in Will from Jane Priest, and grants from The Edward Cadbury Charitable Trust, The Marjorie Coote Animal Charity Trust and The John Spedan Lewis Foundation, BTO Research Ecologist Hugh Hanmer and colleagues were able to carry out pilot work to explore the question of rural and urban connectivity in Blue and Great Tits (Hanmer *et al.* 2022).

Colour rings were fitted to Blue Tits and Great Tits, captured during winter at a series of sites along urban to rural gradients in the West Midlands. During the following breeding season, the study area was surveyed to identify the location and activity of any colour-ringed individuals found. The results suggest that urban breeding populations of Blue Tits and Great Tits are linked to rural wintering populations, whereas urban wintering individuals tend to be resident year-round.

The findings of this pilot study are important because they identify a possible mechanism for both gene flow between populations and disease transmission through wider populations. The patterns identified in this study could also suggest that



GREAT TIT, BY DAVID TIPLING / BIRDPHOTO.CO.UK

urban areas act as 'population sinks' for birds from 'source' rural populations. More work is needed, however, to tease out the detail at an individual level and to extend the work to other species, as well as to other regions and cities to see if this pattern of movement is typical.

## NEW INFORMATION ON WOOD WARBLERS

Wood Warblers have disappeared from much of their former UK breeding range, and populations have also declined more widely elsewhere in Europe. The causes of Wood Warbler decline remain unknown, despite targeted research efforts here in the UK, which could suggest that the declines are being driven by factors operating elsewhere, either on migration or in the wintering areas.

Two important gaps in our understanding, those of where Wood Warblers winter and the routes used during migration, have now been filled thanks to a partnership approach involving BTO, RSPB, and Wood Warbler expert and BTO volunteer Tony Davies (Burgess *et al.* 2022).

Using tiny tracking devices, deployed on male Wood Warblers on Dartmoor and in the New Forest, the team was able to identify migration routes, the location and duration of stopovers, and the location of wintering areas for the first time. The tracked individuals left their breeding sites in late July, spending most of August in central southern Europe, before crossing the Sahara to reach a stopover area in the Sahel of West Africa. The birds then moved to wintering sites in West Africa, covering Guinea, Sierra Leone and Liberia.

Two of the males were then tracked on spring migration, crossing the Sahara and migrating through Western Europe to complete a clockwise loop migration back to Britain. These initial results are an important first step in our efforts to understand Wood Warbler decline and to identify appropriate conservation action, though we need to build on this work by looking at the movements of individuals from other breeding populations.

# WALES

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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 supporters.

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## COCKLE COLLAPSE

Well-known for its highly productive Cockle fishery, the Burry Inlet Special Protection Area (SPA) in South Wales faced an unprecedented issue in 2004, when Cockle stocks collapsed following significant mortality of the larger, older Cockles. While there has been some recovery in the stocks, the numbers of larger Cockles are still very low. In addition to the resulting economic damage, the collapse of Cockle stocks also had implications for the Oystercatcher populations on the estuary. BTO staff used survey data from the Wetland Bird Survey and survival and biometrics data from the Ringing Scheme to investigate how the wintering Oystercatcher population responded to this crash (Bowgen *et al.* 2022).

The work, which was led by BTO Cymru staff, revealed that both body condition and apparent survival of wintering adult Oystercatchers were reduced in the years following the Cockle crash, but both have since recovered.

The number of Oystercatchers using the Burry Inlet SPA decreased through the course of the Cockle decline, whilst numbers of birds in the adjacent Carmarthen Bay Special Area of Conservation increased.

The study demonstrates the importance of alternative sites in buffering the effects of such changes, underlining their role in delivering a resilient protected site network. In addition to helping us to develop resilient protected areas networks in the light of environmental change, the work has wide applicability in planning the management of coastal wetlands and fisheries.





### SEA-LEVEL RISE AND BIRDS

Understanding how climate change and sea level rise will affect bird and human habitats around the coastline of the Irish Sea has been the focus of a three and a half year study, the ECHOES project, the research component of which was completed during 2022/23. Funded by the Ireland Wales INTERREG Programme of the European Regional Development Fund, this 2.6 million euro project brought together researchers from Aberystwyth University and University College Cork, BTO, Compass Informatics, and Geo Smart Decisions.

As reported in the 2020/21 Annual Report, BTO staff have been carrying out tracking studies of wintering Curlews and Greenland White-fronted Geese in Ireland and Wales. These two species are of key conservation interest on both sides of the Irish Sea. By using the information gained from the tracking studies, alongside that on the distribution of favoured habitats and climatic data, the project team has been able to assess the vulnerability of the existing habitats to different climate change scenarios. In addition to increasing the evidence-base for the protection of these coastal areas, and the strategies required to manage them effectively for future generations, the project has encouraged environmental citizenship and promoted cross-border collaboration amongst stakeholders – a clear example of BTO work benefiting both birds and people.



GREENLAND WHITE-FRONTED GEESE, BY DAVID TIPLING / BIRDPHOTO.CO.UK

### GETTING BACK TOGETHER

The Welsh Ringers and Nest Recorders Conference was held in Mid Wales during February 2023, attracting 70 participants. It was clear that those attending the conference were delighted to see a resumption in face-to-face events, coming together to share their knowledge and expertise through the series of talks and much conversation. A post-conference ‘round robin’, outlining the ongoing activities of the different ringing and nest recording groups, was a particularly welcome output from the conference, enabling attendees to identify opportunities for developing their skills or towards which to direct their volunteering efforts. The

joint BTO/Welsh Ornithological Society Conference, attracting nearly 100 delegates, was also very successful, with a significant number of individuals attending the event for the first time.



CURLEW EGGS, BY DAVID SCOTT / BTO

### NEW WAYS TO HELP CURLEWS

Recent studies have highlighted that the declines seen in our breeding Curlew populations are likely to have been driven by low levels of breeding success and the subsequent recruitment of young birds into the breeding population. Understanding the factors affecting success at each stage of breeding is crucial and can inform appropriate management and protection. In a novel piece of work, BTO Cymru staff Katharine Bowgen and Rachel Taylor, used GPS tracking data to identify Curlew breeding behaviour from their movement patterns (Bowgen *et al.* 2022). While tracking studies have been used to distinguish and assess the length of nesting attempts in Black-tailed Godwit, they have not previously been used to identify breeding status once the young have left the nest.

Tags were fitted to 26 Curlews, caught at the start of the breeding season, and these provided locational data every 15 minutes throughout the day. These data were downloaded to nearby base stations whenever the birds were in range, delivering analysable data for 23 individuals and representing some 83,000 fixes. The tracking data indicated a high failure rate in the Curlew nesting attempts, with only a small proportion of individuals successfully raising young. The study also revealed a high proportion (26%) of non-breeders in the population.

The work involved the use of a ‘training dataset’ from an individual of known breeding status, and demonstrates that it is possible to identify both the locations of nesting attempts and the status of breeding of Curlews tagged with remote downloading GPS tags.

This proof of concept opens up the opportunity to increase the value of tracking data for waders, collected during the breeding period. It provides information on breeding parameters without the need for additional fieldwork effort directed towards finding wader nests or following up on the chicks in the days after hatching. Importantly, it adds another option to our toolkit for addressing breeding wader decline.



# SCOTLAND

BTO Scotland staff understand the specific needs of their country, providing 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, its birds and people.





## WHEN TO BURN?

The rotational burning of vegetation is a common form of land management in the UK's uplands, and one that is restricted to the colder half of the year. However, the permitted periods during which burning may be carried out vary between countries. In England and Scotland this period runs from the 1 October to 15 April, but in the latter jurisdiction permission can be granted to extend the burning season to 30 April. In Wales, the period runs from 1 October to 31 March.

Work led by BTO Scotland's Mark Wilson has provided vital evidence on the timing of breeding information for upland birds in England, Scotland and Wales, additionally assessing whether rotational burning poses a threat to populations of these species. Using data from the Nest Record Scheme and Ringing Scheme for 14 'moorland' species, the research team was able to calculate average first egg dates and to explore how these had changed over time. From these data they could determine whether there was any overlap between burning and nesting periods. In addition, the team used Bird Atlas data to look at the potential proportion of a species' breeding population nesting in areas with rotational burning, and BirdTrack data to look at the timing of burning in relation to the arrival of summer migrants, such as Ring Ouzel and Wheatear.

The results showed that, for most species, overlap between the burning season and the egg-laying period is small. Even for early-breeding species, the risk is low; early-breeding Golden Plover and Lapwing, for example, typically breed in short vegetation unlikely to be targeted for burning, while Golden Eagle and Peregrine breed on crags, most of which are unlikely to be included in rotational burns. However, populations of species that often nest in deep heather, such as Ring Ouzel and Merlin, are concentrated in areas where moorland burning takes place, especially in England. For such species, the study identified that while the proportion of breeding attempts impacted by burning is likely to be less than 1% where burning is restricted to the standard, it could rise to 5% for Merlin and 7% for Ring Ouzel if burning was extended to the end of April.

The study, which has been published as a BTO Research Report, provides an evidence base that will inform decisions around potential changes to the timing of burning seasons across the different countries. The work also demonstrates the value of being able to draw on different long-term datasets to bring together key information on different aspects of upland bird populations.

## A TALE OF TWO WARBLERS

The impacts of climate change on UK breeding bird populations were highlighted by a piece of work led by Blaise Martay of BTO Scotland and using data from the BTO/JNCC/RSPB Breeding Bird Survey (BBS) for two familiar species, Willow Warbler and Chiffchaff (Martay *et al.* 2022). These two closely-related species show different trends in their populations: Willow Warbler populations are declining in the south of the UK and increasing in the north, while Chiffchaff populations are increasing across all of the UK. The populations of these two species are influenced by both climate and habitat but the relative impact of these on abundance is unknown, something that this new study addresses.

Using data from over 4,000 BBS sites monitored between 1994 and 2017, the team was able to model Willow Warbler and Chiffchaff population size and growth in relation to habitat, climate and weather. For both species, population size and growth correlated with habitat, climate and weather on the breeding grounds. Population measures correlated more strongly with climate than with weather, and both species were found to have an optimum breeding season temperature: 11°C for Willow Warbler and 13.5°C for Chiffchaff.

The study suggests that temperature increases on the breeding grounds could be behind some of the observed Willow Warbler declines in England (where the mean breeding season temperature was 12.7°C) and increases in Scotland (mean breeding season temperature was 10.2°C), but other factors could also be important (such as habitat and climate change on the wintering grounds and during migration). The findings do, however, provide evidence that the effects of climate change on a species may vary spatially and may switch from being beneficial to being detrimental if a temperature threshold is exceeded.



GREAT NORTHERN DIVER, BY PAUL HILLION / BTO

## INFORMING MARINE USE

The volume of marine traffic is increasing globally, but there has been little research investigating the impact of shipping movements on seabirds, particularly during the winter months when many species gather together in near-shore environments. Work by BTO Scotland staff, published in the journal *Bird Study*, examined the behaviour of 11 seabird species in response to winter ferry passage around Orkney, increasing the evidence base available to inform impact assessments, planning and policy in the marine environment (Jarrett *et al.* 2022).

The study found that the likelihood of a response was greater for all the species when the ferry passed birds at closer distances, but responses varied between species and with sea conditions. In addition to providing comparative information for species' sensitivity to marine traffic, the study also demonstrated the importance of considering different behavioural responses in sensitivity assessments. The findings of this study will be used by regulatory bodies to inform the licencing process in the marine environment in Orkney and other similar marine areas.



# 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 into our wider strategic work.





## NORTHERN IRELAND'S LOST WADERS

While breeding wader populations in the lowland wet grasslands of Britain have received much research and conservation interest, the same cannot be said for populations in Northern Ireland. Northern Ireland was formerly rich in wet grassland habitats, and these held sizable populations of breeding waders, such as Lapwing, Redshank and Curlew. Documenting how the breeding wader assemblages using these habitats have changed, and understanding why, will provide vital knowledge that can be used to direct and support conservation action.

Working in partnership with the Northern Ireland Environment Agency, staff from BTO Northern Ireland led on a project to resurvey 90 of the 198 lowland grassland sites originally surveyed for breeding waders in the 1980s. In addition to collecting data on breeding wader abundance, the team also collected information on habitat features and management. The results of the study, published this year in *Irish Birds* (Booth Jones *et al.* 2022) paint a stark picture of loss. Between 1986–87 and 2018–19 the total number of breeding wader pairs recorded declined by 73% to just 354 pairs.

Declines were most marked in the Blackwater Catchment of Counties Armagh and Tyrone, where 65% of surveyed sites no longer supported breeding waders. Breeding waders were less likely to be found in fields that contained improved grassland or silage. Importantly, this resurvey of a sample of former sites underlines the need for a more comprehensive assessment of Northern Ireland's breeding waders, including work to better understand the importance of habitat change and management in driving wader fortunes. The study is already delivering for breeding waders, with the information collected being used by the Northern Ireland Environment Agency to help target agri-environment scheme options aimed at preserving breeding wader habitats across Northern Ireland.

## COMMUNITY-BASED ENGAGEMENT

Ripple NI is BTO's pilot community-based nature engagement project in Northern Ireland. The project aims to reach out to new people to engage them with their local wildlife and introduce new, more diverse audiences to biological recording of birds and other taxa. The project seeks to promote the well-being and community benefits of observing, appreciating and monitoring the ecosystems on our doorsteps. The work is led by Sorrel Lyall, BTO's Ripple Project (Communities) Officer. Sorrel has previously volunteered on the BTO's Youth Advisory Panel and is an active campaigner within the environmental sector, challenging organisations to move towards greater diversity and inclusivity.

The project's aims are delivered through events, managed in partnership with community groups and other organisations. These include both in-person events to explore wildlife at local sites and online events to provide entry-level training in identification and biological recording. The project will be developing a Local Leader scheme by recruiting and supporting local volunteers who will lead events in their areas, thus sharing enthusiasm and knowledge in a 'rippling' effect through local communities.

## INFORMING DEVELOPMENT PLANS

Northern Ireland's five sea loughs hold Special Protection Area (SPA) and Ramsar Convention designations for their importance to wetland biodiversity, including for their wintering waterbird populations. The loughs are also important sites in terms of human use. Recreational activities, such as boating, wildfowling and dog-walking have the potential to cause disturbance to wintering birds, while other activities, such as shellfish or seaweed harvesting and gravel extraction, may also modify the lough environments. One of the most commercially important and potentially impactful uses of the sea loughs is aquaculture.

BTO staff, led by Katherine Booth Jones, have improved our understanding of how waterbirds use some of these sea loughs across the year and in relation to other activities. Using data from the Wetland Bird Survey (WeBS), the BTO team has been able to establish the abundance trends for 35 waterbird species and identify those WeBS sectors (within the studied sites) where large numbers of species are declining or increasing contrary to or more rapidly than on the site as a whole.

As well as identifying those WeBS sectors that support important proportions of the species on a site, the team has also been able to identify the potential drivers of change and highlight areas of overlap between the birds and aquaculture. The work, published in a series of BTO Research Reports, informs the consenting and assessment of operations and development plans on these SPAs.



NORTHERN IRELAND WILD WEEKEND, BY SORREL LYALL / BTO

## NEW OPPORTUNITIES

Two new events were launched during the year, aimed at increasing opportunities for young people within Northern Ireland and with the hope of building our volunteer base. One of these was the first-ever Northern Ireland Bird Camp, held in County Down and providing nine young people with a mix of bird and wildlife experiences. The other was the 'Wild Weekend', held at Oxford Island National Nature Reserve, where more than 60 participants had the opportunity to enjoy bird ringing and nest recording demonstrations, guided birding walks, and indoor talks on Black Guillemots and gulls.

# BEING FIT FOR THE FUTURE

We continue to face complex challenges, resulting from climate change, and pressures on our environment to meet growing demands on the planet's resources. Ensuring that society can respond effectively depends on organisations like BTO playing a strong role and making our voice heard.

## LOOKING TO THE FUTURE

As flagged by the BTO Trustees, the principal risks and uncertainties that could affect BTO's ability to deliver its objectives in the short term are public expenditure reductions leading to reduced contract, grant and partnership funding, and in the medium to long term, inflation and the final salary pension scheme deficit. These are able to be mitigated through the continued growth strategy and careful cash management.

BTO's new strategy, taking the organisation through to 2030, provides a significant opportunity to deliver for birds and for people. BTO will strengthen its role in the conservation sector, providing robust scientific evidence to support solution-orientated action. A fundamental part of this will be inspiring a greater number and diversity of people to engage actively with BTO, so they can experience the benefits of biodiversity and power of science first-hand.

## TAKING RESPONSIBILITY

In our previous annual report, we underlined a commitment to develop and implement a stronger environmental sustainability strategy. As well as the work that we are doing as an organisation around the ways in which we work, and source and use resources, we have also been exploring some of the wider environmental impacts of our biodiversity monitoring activities – which are themselves key to assessing environmental change.

In an important peer-reviewed paper, published during the year, BTO staff Simon Gillings and Sarah Harris, set out to quantify the carbon footprint of a typical monitoring scheme (Gillings & Harris, 2022). Focusing on the travel associated with participation in the BTO/JNCC/RSPB Breeding Bird Survey (BBS), the pair used information on survey coverage to calculate road distances from volunteers' home addresses to their survey squares, collecting additional information on travel methods through an online questionnaire.

In 2019, the year used for the study, 2,765 volunteers made 7,520 visits to 3,914 survey squares, travelling over 286,000 km in the process. Travel required to visit individual squares was highly skewed and differed geographically. With 88% of the survey squares accessed by private car, the estimated total emissions produced during the 2019 survey equate to at least 46.8 tonnes of carbon emissions.

For the individuals participating in BBS, survey-related travel emissions may seem insignificant, on average amounting to

less than 1% of their annual travel. In contrast, for BTO, the aggregated travel for all BBS squares is substantial, being 33% greater than all business-related surface travel undertaken by its staff in the financial year 2019/20. We hope that this study will not only shape how we think about survey design – BBS uses a stratified random sampling design – but will also prompt other organisations involved in biodiversity monitoring to examine the carbon emissions associated with their own activities.



GULLS, BY DAVID TIPLING / BIRDPHOTO.CO.UK

## FUTURE PROJECTS

A key evidence gap in addressing the challenge of highly pathogenic avian influenza (HPAI) is the lack of information on wintering gull populations, for which updated population estimates and distributional information are urgently needed. The information currently available comes from a survey carried out over the winters of 2003/04 to 2005/06.

As BTO Director of Science James Pearce-Higgins commented in his evidence to a Parliamentary Select Committee, such information is vital to our understanding of how HPAI circulates between wild birds and the poultry industry. Additionally, given that wintering gull flocks are a common sight on pig fields, we also need to understand the potential role they could play, should the disease be identified in pigs.

Despite the challenge of finding the funds to carry out a national wintering gull survey, it is clearly an urgent priority and BTO has committed resources to running a Winter Gull Survey (WinGS) over the next two winters (2023/24 and 2024/25) with the primary aim of providing new population estimates for the principal species that winter in the UK.







# THANK YOU FOR YOUR SUPPORT

Each year we need to raise thousands of pounds to fund our 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.

## DONORS RESPOND TO HPAI

From late spring 2022, increasing numbers of reports of Highly Pathogenic Avian Influenza (HPAI) were received from seabird colonies around the northern UK. Thanks to funds received from our long standing partner, the Esmée Fairbairn Foundation BTO was able to respond immediately.

BTO worked with the Joint Nature Conservation Committee, Country Nature Conservation Bodies, DEFRA, APHA, Scottish Government, RSPB, and other NGOs and administrations to understand the impacts on bird populations and how to tackle the HPAI challenge.

In the Autumn of 2022, BTO launched our Avian Influenza Appeal, which raised over £98,000 net from a range of individuals and trusts to fund research to understand which species are most at risk of HPAI and assess how many of our breeding seabirds returned to their colonies. This work will enable us to estimate the length of time that it will take these vulnerable seabird populations to recover, and to prioritise data collection efforts so that we can track subsequent changes in population size.

James Pearce-Higgins, Director of Science said; *"I have worked in bird conservation for almost three decades and I have never experienced a more serious and urgent threat to our wild bird populations."*

## HELPING US TO REACH NEW AUDIENCES

Our youth-led programme for engaging with more young people was able to develop apace, thanks to the Green Recovery Challenge Fund grant. This was DEFRA funding via the Natural Heritage Lottery Fund, which provided £110,200 over 19 months, for Youth leadership putting diversity at the heart of nature's future.

With the vision of creating a diverse, vibrant community, our young volunteers welcomed over 2,000 young people, drawn from a range of backgrounds, through resources and activities developed and delivered in a wide spread of locations, online and in-person, from cities to the coast.

The Cameron Bepolka Trust (CBT) were the first funders to back our youth work and we are extremely grateful for their ongoing support. They helped us to provide free Bird Camps in England, Wales, Scotland and Northern Ireland for the very first time, alongside funding from the D'Oyly Carte Charitable Trust, the British Birds Charitable Trust and the Hugh Fraser Foundation. CBT has also generously supported our young leader's course, and allowed us to host events at their fabulous new facility in the New Forest, Cameron's Cottage.

One of the founding members of BTO's Youth Advisory Panel, who was supported and trained through our youth programme, successfully applied for a new engagement post to connect more communities across Northern Ireland with the nature to be experienced locally. This was a fund offered by the Department for Communities, NI and administered by the Heritage Fund. We were awarded £83,543 to create a new, entry-level post to pilot community-based engagement approaches with younger generations and people in less advantaged urban areas. The three-year Ripple NI project, which began in August 2022, has made links with local groups and so far delivered a range of events for 693 participants of all ages. It seeks to reach communities which haven't traditionally engaged with our work and to boost COVID recovery by developing community connectedness and mutually supportive relationships that will increase concern for, and care of, the local natural environment.

Another project addressing the themes of widening our audience and collaboration came from our work focused in urban areas. We were invited to make an application to the Linder Foundation, through a Trustee who had come to know us through our *Into the Red* publication, that brought together 70 authors and 70 artists to raise funds to help reverse the declines of our most at-risk birds.

The Foundation awarded £13,443 to a people-bird study, to complete the analysis of field research carried out over two years in Luton, Bedford and Milton Keynes, working with universities under the National Environment Research Council (NERC) Biodiversity and Ecosystem Service Sustainability (BESS) programme. Data were collected on: 1) how bird numbers and species vary with the structure of developed and green areas, and 2) on the ways in which people in the urban study areas would perceive and experience the birds that are present. The two papers currently in development will provide recommendations for changes in urban design and management to support bird species that will make the most difference to human well-being.

## MICHAEL'S LOVE FOR BIRDS LIVES ON

BTO received just over £1 million pounds from Gifts in Wills in 2022/23. We never cease to be amazed by this incredible support, in addition to the valuable time, expertise and financial support we already receive from BTO members and volunteers. As always, we would like to express our appreciation to those supporters whose life-long love of birds and nature led them to include a bequest to BTO in their Wills.



Michael Holdsworth, a dedicated BTO supporter and long-term ringer, who passed away unexpectedly in 2021, generously left us a gift in his Will. His name was and still is synonymous with Spotted Flycatchers and his love of ringing this declining migrant bird led us to work with him on a four-year tracking project.

Michael wanted to understand the population size of the species in his home area of Cambridge, so he set about working with local people who he knew had nests in their gardens and ringed the chicks. Due to the sad decline of Spotted Flycatchers, BTO scientists wanted to learn more about their migratory routes by fitting small geolocators to adult birds. Chris Hewson reached out to Michael, whom he met previously at Wicken Fen whilst monitoring Cuckoos, as a precursor to the BTO Cuckoo tagging project.

Michael was incredibly dedicated to helping with the project; he wrote articles in parish magazines, for social media and for Cambridge Bird Club to request information on local Spotted Flycatcher sites. He diligently put together a large spreadsheet detailing the sites and, as well as participating in the fieldwork, he spent the evenings emailing people ready for the next day and planning the itinerary of the coming week's adventures. Lee Barber from the BTO Avian Demographic Scheme Team, would collect Michael and the two would travel together to the sites to ring and fit geolocators to the adult birds and ring the chicks in the nest. This became trickier as the project progressed, with the adult birds becoming wise to the perch traps and ringing nets!

The project continued for four years, with geolocators being retrieved, where possible, in the second and fourth years. The geolocators revealed new information about the migration journeys of these tiny birds, some of which we now know travel thousands of kilometres to Angola in Africa.

We are indebted to Michael for all of the time, energy and expertise he devoted to this project and ultimately for his generosity, through the gift in his Will.

## MAKING SPACE FOR BIRDS

Urban areas present a huge opportunity for bird conservation. As many as 20% of all bird species, representing nearly three-quarters of all bird families, occur in cities worldwide. BTO was the first to document the impact of widespread increases in the use of garden feeders and to recognise the importance of feeding in influencing large-scale patterns of garden use by birds throughout Britain.

In the Spring of 2022, BTO launched our Urban Appeal to change the narrative around biodiversity in villages, towns and cities, to which BTO Supporters generously donated £40,000.

Head of Terrestrial Ecology, Gavin Siriwardena said; *"We cannot just focus on the threats that urbanisation presents; we must use our data and evidence to shape planning policy and practice, the ways in which urban green spaces are managed and how gardeners try to help wildlife. Then, we will help to ensure that our urban landscapes are as wildlife-friendly as they can be."*

## THANK YOU WESTLAND HORTICULTURE

We are grateful to Westland Horticulture Ltd for their support between 2019 and 2023. In that time, Westland Horticulture Ltd donated £200,000 and supported our aim to sign up new members and raise awareness of BTO across the UK. We would also like to thank Marshalls Garden (part of the Westland Group) for supporting our Remembrance Seeds initiative by providing free wildflower seeds throughout the year.

**If you would like to know more about any of the projects or how you might support our work, please contact: [fundraising@bto.org](mailto: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 other fieldworkers, 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.

## CORPORATE SUPPORTERS 2022/23

Anglian Water PLC, Birdguides, Birdkind, Brinvale Bird Foods, CJ Wildbird Foods, Eddowes Aviation Safety Ltd, Gardman Ltd., Grant Arms Hotel, HR Wallingford Ltd, Microsoft employees giving programme, Natureguides, Northumbrian Water, Nurture Landscapes, Opticon, Outdoor Alternative, Roys of Wroxham, S. E. Marshall & Co. Ltd, Swallowtail Print, Swarovski UK Limited, Westland Horticulture Ltd, Wildland Ltd.

## CHARITABLE TRUSTS 2022/23

The Aberbrothock Skea Charitable Trust, The Cameron Bespolka Trust, Cecil Pilkington Charitable Trust, The Downton Banister Trust, Edinburgh Trust, The Emily Weircroft Charitable Trust, Esmée Fairbairn Foundation, Evelyn Rose Fund, The Gilander Foundation, Harris Charitable Trust, The Linder Foundation, the Lizandy Charitable Trust, The Marsh Charitable Trust, The National Lottery Heritage Fund, John Swire 1989 Charitable Trust, The John & Pamela Salter Charitable Trust, Saxham Trust, The Shindler Trust, The Peter Smith Charitable Trust for Nature, Stewardship (UKET) Ltd, Tasso Leventis Conservation Foundation, The Tobit Trust, Udimore Charitable Trust, The Whaites Charitable Fund and Woodpeckers Trust.

## LEGACIES 2022/23

Ann Adams, John Averbs, Pamela Blackshaw, Helen Boynton, Audrey Butler, Peter Catchpole, Ann Cotton, Greg Cromar, Terence Bryan Curzon, Robin Cutts, Moira Duncan, Brian Fagg, Cynthia Floyd, Ian Frazier, Stella Goldberg, John Gould, Brian Hinds, John Hobson, Carole Hodgson, Michael Holdsworth, William Houston, Keith Hyatt, Sheila Ladell, Brian Little, Michael Malone, Lindsay Mather, John McLaren, Dorothy Percival, Malcolm Dow Porteous, Pamela Rhodes, Doreen Scivyer, Muriel Shaw, Deane Shelford, Rex Smith, Peggy Thorne, Anthony Thornton, Edward Tomblinson, Kenneth Truth, Michael Welch, Patricia Winter.

## IN MEMORIAM 2022/23

Peter Arbery, Mike Boddy, Fran Bowman, Ann Boyle, Robert Finlay Brown, Patricia Davies, Peter Deane, Amelie Dighton, Alison Hall, Kenneth Hall, Richard Heath, John Humphreys, Sheila Mary Manton, Douglas Paul Marshman, Shirley Maunder, Cyril Matthews, Peter William Mayes, Roger Norman, Roger Noyes, Ian Oliver, Charlie Owen, Brenda Palmer, Pamela Salter, Ernie Scarfe, Geoffrey Shaw, Hilary Roberta South, Judith Wakelam, Geoffrey White, Wendy Jean Wiseman.

## FUNDERS OF BTO WORK 2022/23

Mark Constantine, Simon Cooke, Mark Eddowes, Jenny Kingsland, Helen Lumley, Anne Masters, John Neighbour, Ken & Linda Smith, Nicholas Watts. ABP Research & Consultancy, Agri-Food and Biosciences Institute (AFBI), APEM Ltd., Bat Conservation Trust, Bayer, Bookend Trust, BBSRC, Bureau Waardenburg bv, Butterfly Conservation, Cairngorm National Park, Cambridge Conservation Initiative, Carbon Trust, Centre for Ecology & Hydrology, Chilterns Conservation Board, Crown Estate, DAERA, Department of the Environment, Food and Rural Affairs, Department for Business, The Department for Communities Northern Ireland, Energy and Industrial Strategy, Devon Wildlife Trust, DONG Energy, Duchy of Cornwall, EURING, European Commission, European Food Safety Authority, Forest Sciences Centre of Catalonia, Forestry England, Forestry & Land Scotland, Frankfurt Zoological Society, Galloper Wind Farm Ltd., Game & Wildlife Conservation Trust, Hartley Anderson Ltd., Heather Trust, Hepple Estate, Heritage Lottery Fund, Hi-Def Aerial Surveying Ltd., Horizon Europe, Institute of Avian Research, Interreg, Joint Nature Conservation Committee (on behalf of the statutory nature conservation agencies: Natural England, Natural Resources Wales, NatureScot and the Department of the Environment Northern Ireland), KPMG LLP, Moors for the Future, Muséum National d'Histoire Naturelle, National Grid Hinkley, National Trust, Natural England, Natural Resources Wales, Natural Environment Research Council, NIRAS Consulting Ltd., North York Moors National Park Authority, Northern Ireland Environment Agency, ORSTED, Rifcon, Royal Society for the Protection of Birds, Scottish Government, NatureScot, Scottish Raptor Study Group, Scottish Ornithologists' Club, Sound Approach, SOVON, Star of the Sea Windfarm, States of Guernsey, Suffolk Wildlife Trust, Swedish University of Agricultural Sciences, Ulster Wildlife Trust, University of Cambridge, University of West England, University of East Anglia, University of Edinburgh, University of Exeter, University of Stirling, University College Dublin, Vattenfall, WEG, Welsh Government, Wildfowl & Wetlands Trust, WOOD Group UK Ltd; Infrastructure Solutions UK Ltd., Woodland Trust, Yorkshire Dales National Park Authority, Zoological Society of London.

CLOCKWISE FROM TOP LEFT: RINGING TRAINEE, DAWN BALMER; BTO YOUTH, NICK CARO; MARSH TRUST AWARDS, NICK CARO; SPURN MIGRATION FESTIVAL, DAWN BALMER, NORTHERN IRELAND WILD WEEKEND, STEVEN FYFFE







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, enabling researchers to improve their papers before publication. BTO reports annually across a number of indicators relating to its scientific work; 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 2022, our staff produced 73 peer-reviewed papers, of which 70 were in ISI-listed journals and 37 were published in high impact publications (with an impact factor of 3.5 or greater). Twenty-seven of the publications were BTO-led, and 60 were collaborative in nature, underlining the strong partnership approach to our work.

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# FINANCIAL OVERVIEW

The principal sources of funds continued to be contract research, membership subscriptions, individual donations and legacies, but an increase in the scope of the JNCC Partnership took income from related sources over £1m for the first time. The two previous years were exceptional, and this year was more comparable to 2019/20, the last year before the COVID-19 crisis, resulting in a modest surplus for the year. There was a slight dip in membership income, but fundraised income overall stood up remarkably well considering the cost of living squeeze. Legacies, although lower than last year, remained over £1m. Voluntary income formed 43% of total group income for the year (2022 43%). We aim to raise this to over 50% in the longer term. A total of £5,608k (2022 £5,301k) was spent during the year on carrying out, supporting and communicating ornithological research.

Further increases in bond yields led to a significant reduction in the present value of the defined benefit pension obligation, taking the deficit to a much more comfortable level.

The Board has a free reserves target range of three to four months' running costs. These reserves are held against any unexpected falls in income or other unforeseen circumstances. Free reserves are total General funds less Tangible fixed assets. At 31 March 2023 these stood at £2,165k (2022: £1,849k), equivalent to 4.6 months' expenditure (2022: 3.9 months'). The Board have earmarked the surplus funds for the 2023 pension deficit recovery payment, computing upgrades and additional EDI resourcing.

## TRUSTEES' STATEMENT

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 12 July 2023 and will be submitted to the Registrar of Companies, the Charity Commission and the Office of the Scottish Charity Regulator. The auditor's report by Helen Rumsey (FCA), Senior Statutory Auditor, Ensors Accountants LLP, was unqualified.

## SUMMARISED ACCOUNTS: 2022/23

	£'000	£'000
<b>INCOME</b>	<b>2022/23</b>	<b>2021/22</b>
Donations and legacies	3,038	3,334
Charitable activities	3,102	3,527
Other trading activities	977	970
Investments	16	1
Coronavirus Job Retention Scheme grants	-	10
<b>Total income &amp; endowments</b>	<b>7,133</b>	<b>7,842</b>
<b>EXPENDITURE</b>	<b>2022/23</b>	<b>2021/22</b>
Raising funds	1,317	1,167
Charitable activities	5,608	5,301
Other - defined benefit pension scheme	110	104
<b>Total expenditure</b>	<b>7,035</b>	<b>6,572</b>
Net income / (expenditure)	98	1,270
Net gains on investments	(15)	18
Gain on revaluation of fixed assets	-	550
Actuarial gain/(loss) on defined benefit pension scheme	2,639	986
<b>Net movement in funds</b>	<b>2,722</b>	<b>2,824</b>
Total funds brought forward	2,090	(734)
<b>Total funds carried forward</b>	<b>4,812</b>	<b>2,090</b>
<b>REPRESENTED BY</b>	<b>2022/23</b>	<b>2021/22</b>
Fixed assets	2,880	2,908
Net current assets	3,133	3,059
Creditors due after one year	(91)	(100)
Defined benefit pension liability	(1,110)	(3,777)
	<b>4,812</b>	<b>2,090</b>





## The British Trust for Ornithology Board of Trustees and Management 2023

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**As at 31 March 2023**

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Senior Research Ecologist	Dr Ian Henderson
Research Ecologist	Dr Greg Conway
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Research Ecologist	Dr Charlotte Ward
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Research Scientist	Máire Kirkland

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Ringling & Nest Recs. Process Mngr	Bridget Griffin
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Demographic Surveys Officer	Lee Barber
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Breeding Bird Survey	
National Organiser	James Heywood
Seabird Monitoring	
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Engagement and Surveys Officer	David White
<i>Wetland Bird Survey</i>	
WeBS Manager	Dr Teresa Frost
Waterbirds Survey Officer	Neil Calbrade
WeBS Counter Network Organiser	Gillian Birtles

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Senior Research Ecologist	Dr Sam Franks
Research Ecologist	Dr Harry Ewing
Research Ecologist	Dr Jacob Davies
Research Ecologist	Ros Green
Research Ecologist	Dr Nina O'Hanlon
Research Ecologist/	<i>Vacant</i>
Offshore Renewable Energy	
Senior Research Ecologist	Dr Chris Thaxter
Research Officer	Ian Woodward

**Data Science and Bioacoustics**

Head & Principal Ecologist	Dr Simon Gillings
Senior Research Ecologist	Dr Stuart Newson
Senior Data Scientist	Dr Dario Massimino
Research Ecologist	Caroline Brighton
Research Ecologist	Dr Jez Smith
Junior Data Scientist	Page Huang



**BTO SCOTLAND**

Associate Director Country Offices: Dr Chris Wernham

Senior Secretary	Rebecca Cranston
Senior Research Ecologist	John Calladine
Data and Admin. Officer	Katja O'Donnell
Head of Development and Engagement	Dr Ben Darvill
Development and Engagement Officer	Steve Willis
Principal Ecologist - Sea Birds	Dr Liz Humphreys**
Research Ecologist	Dr Blaise Martay*
Acting Head of Science Scotland	Dr Mark Wilson
Senior Research Ecologist	Dr Gary Clewley**
Research Ecologist	Dr Daniel Johnston
Research Ecologist	Björn Beckmann
Research Ecologist	Anthony Wetherhill
Research Ecologist	Dr Jacob Davies**
Research Ecologist	Dr Nina O'Hanlon**
Research Ecologist/ Offshore Renewable Energy	<i>Vacant</i>
Scottish Raptor Monitoring Coordinator	Dr Amy Challis
Wader Project Officer	Paul Noyes
*PEM Team / ** Wetland & Marine Team	

**BTO CYMRU**

Senior Ecologist	Dr Rachel Taylor
Research Ecologist	Dr Katharine Bowgen*
Research Ecologist	Dr Callum Macgregor
Research Ecologist	Hannah Hereward
* Wetland & Marine Team	

**BTO NORTHERN IRELAND**

Scientific Officer	Dr Katherine Booth Jones
Ripple Project Officer	Sorrel Lyall
Research Ecologist	Hala Haddad
Engagement Coordinator	Jemma Davies

**INFORMATION SYSTEMS**

Director IS: Graham Hatt

Senior Secretary	Jane Chase
Senior Database Officer	Dr Andrew Joys
Database Developer	Steve Pritchard
Database Developer	Justin Walker
Database Developer	Charlotte Clark
Database Developer	Steven Harrop
Website Manager	Lee Carnihan
Senior Website Developer	Tom Sage
Website Developer	Daniel Higgins
Senior Software Developer	Mark Hammond
Senior Software Developer	Matthew Baxter
Software Developer	Oliver Barrett
Junior Software Developer	Ewan Stacey
Software Developer	Hayden Woods
Senior Systems Manager	Ben Brooke
Computing Support Officer	Dom Render
Business Analyst	<i>vacant</i>

**PORZANA**

Business Director	David Agombar
Business Manager	Shane Muggridge
Production Assistant	Harvey Cornell
Production Assistant	Trupti Cornell
Production Assistant	Philippa Elson
Production Assistant	Elaine Ennis
Production Assistant	Lucy Willsher

**ENGAGEMENT**

Director of Engagement: Dr Ieuan Evans

**Fundraising**

Head of Income Generation	Michael Naidu
Trust & Foundation Fundraising Mngnr	Bonita Johnston
Legacy Manager	Sam Rider
Fundraising Administrator	Melissa Caals
Supporter Relations Manager	David Agombar
Individual Giving Manager	<i>Vacant</i>

**Supporter team**

Head of Income Generation	Michael Naidu
Snr. Supporter Administrator	Sam Graham
Supporter Development Officer	Caroline Foot
Supporter Administrator	Samantha Culverhouse
Supporter Administrator	Amanda Gee

**Communications**

Head of Communications	Mike Toms
Media Manager	Tom Stewart
Science Communications Manager	Dr Viola Ross-Smith
Social Media Officer	Jenna Woodford
Website Editor	Miriam Lord
BTO Archivist	Lesley Hindley
GBW Manager	Dr Michelle Reeve
GBW Supporter Development Officer	Robert Jaques

**Training**

Training Manager	Nick Moran
Training Officer	Kate Fox
Training Officer	Jenny Donelan

**Youth Engagement**

Youth Engagement Manager	Faye Vogely
Youth Engagement Officer	Rachael Griffiths
Youth Engagement Coordinator	Chris Marais

**FINANCE & SERVICES**

Director: Andrew Scott

**Accounts & Facilities**

Financial Accountant / Facilities Manager	Mary Gray
Management Accountant	Samantha Allen
	Irene Bowles
	<i>Vacant</i>
Finance Assistant	Sonya Calder
General Sales Officer / Admin. & Finance Assistant	
Admin. Assistant	Diane Bragg
Facilities Officer	Pat Sparkes
Receptionist	Ronnie Hatt

**Human Resources**

Head of People and Organisational Development	Sian Knott
People and Projects Officer	Holly Stevenitt
People, Health and Safety Officer	Cheryl Wilson

**Research Support**

Resource Support Manager	Virginia Cates
Research Support Administrator	Sandra Sparkes
Research Support Officer	Penny Mitchell
Research Support Officer	Heidi Mellan
Research Support Officer	Dean McFarlane

Nunnery Lakes Site Manager	Ian Henderson
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## The British Trust for Ornithology Trustees' Annual Report (incorporating the Strategic Report) For the Year Ended 31 March 2023

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.

### 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 contained in Part A of this document.

#### 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 public expenditure reductions leading to reduced contract, grant and partnership funding, and in the medium to long term, inflation and the final salary pension scheme deficit. These are able to be mitigated through the continued growth strategy and careful cash management.

#### Financial Review

The Directors' Report, the consolidated financial statements and the accompanying notes thereto comprise Part B of this document.

The principal sources of funds continued to be contract research, membership subscriptions, individual donations and legacies, but an increase in the scope of the JNCC Partnership took income from related sources over £1m for the first time. The two previous years were exceptional, and this year was more comparable to 2019-20, the last year before the Covid crisis, resulting in a modest surplus for the year. There was a slight dip in membership income, but fundraised income overall stood up remarkably well, considering the cost of living squeeze. Legacies, although lower than last year, remained over £1m. Voluntary income formed 43% of total group income for the year (2022 43%). We aim to raise this to over 50% in the longer term. A total of £5,608k (2022 £5,301k) was spent during the year on carrying out, supporting and communicating ornithological research.



Further increases in bond yields led to a significant reduction in the present value of the defined benefit pension obligation, taking the deficit to a much more comfortable level.

### Reserves

The Board has a free reserves target range of 3 to 4 months' running costs. These reserves are held against any unexpected falls in income or other unforeseen circumstances. Free reserves are total General funds less Tangible fixed assets. At 31 March 2023 these stood at £2,165k (2022: £1,849k), equivalent to 4.6 months' expenditure (2022: 3.9 months'). The Board have earmarked the surplus funds for the 2023 pension deficit recovery payment, computing upgrades and additional EDI resourcing.

### Structure, Governance and Management

Company number:	00357284 (England and Wales)
Charity number:	216652 (England and Wales) SC039193 (Scotland)
Registered Office:	The Nunnery, Thetford, Norfolk IP24 2PU
Principal Advisers:	
Auditors	Ensors Accountants LLP, Connexions, 159 Princes Street, Ipswich IP1 1QJ
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	The Progeny Group Ltd, 1 The Triangle, ng2 Business Park, Nottingham NG2 1AE
Investment Advisers	The Progeny Group Ltd, 1 The Triangle, ng2 Business Park, Nottingham NG2 1AE
Insurance Brokers	Uttings Insurance Brokers, 16 The Fairland, Hingham, Norwich, Norfolk NR9 4HN

### 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

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:

Prof Z G Davies (appointed 1 January 2023)	I Packer (retired 31 December 2022)
I Coucher	Dr D M Parker (retired 31 December 2022)
E Dresser (appointed 1 January 2023)	Dr D J Reynolds
R du Feu	N A Sherwin (retired 31 December 2022)
Dr P Fitzpatrick (appointed 1 January 2023)	J Spencer (retired 31 December 2022)
Prof J A Gill (retired 31 December 2022)	E Thornton (appointed 1 January 2023)
F M Hurst (retired 31 December 2022)	Dr L Wright
S J Marquis	J M Ziff (appointed 1 January 2023)
J E Miller (appointed 1 January 2023)	

Trustees are nominated by the Board, on the recommendation of the Governance and Nominations Committee, following open advertisement, 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 induction to brief them on the BTO and their role as company directors and trustees.

**The British Trust for Ornithology  
Trustees' Annual Report (incorporating the Strategic Report) - Continued  
For the Year Ended 31 March 2023**

**Organisation and Key Management Remuneration**

The Board of Trustees is the governing body of the BTO. It meets at least four times a year. The Board is supported by the Finance & Risk Committee, Governance, Safeguarding & Inclusion Committee, Regional Network Committee and Ringing Committee. The day-to-day operational 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 on the basis of comparability to relevant benchmarks. The remuneration of all other staff is set according to a bespoke job evaluation scheme, benchmarked as appropriate. All salaries are subject to annual cost of living review. There is no bonus scheme.

**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 which 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 Parts A and B of this document .

**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 265,053 days of work in calendar year 2022 (2021: 274,250 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:

	<b>Portfolio</b>	<b>Benchmark</b>
Year ended 31 March 2023	-1.43%	-2.47%
Since inception (28 August 2014)	+65.69%	+63.77%



### 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 auditors are 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 auditors are aware of that information.

### Auditors

A resolution to re-appoint Ensors Accountants LLP as auditors 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 12 July 2023.

Prof Z G Davies  
Chair

J E Miller FCCA  
Honorary Treasurer

# INDEPENDENT AUDITORS' REPORT TO THE MEMBERS OF THE BRITISH TRUST FOR ORNITHOLOGY

## Opinion

We have audited the group financial statements of The British Trust for Ornithology (the 'parent charitable company') and its subsidiaries (the 'group') for the year ended 31 March 2023 which comprise the Consolidated Statement of Financial Activities, the Charity Statement of Financial Activities, the Consolidated Group and Charity Balance Sheets, the Consolidated Group and Charity 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 2023
- 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 Auditors' 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

In auditing the group financial statements, we have concluded that the trustees' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the group or parent charitable company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

Our responsibilities and the responsibilities of the trustees with respect to going concern are described in the relevant sections of this report.

## Other information

The other information comprises the information included in the annual report other than the group financial statements and our auditors' report thereon. The trustees are responsible for the other information. Our opinion on the group 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 group 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 course of 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 matters prescribed by the Companies Act 2006

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

- prepared for the purposes of company law, for the financial year for which the group financial statements are prepared is consistent with the group financial statements; and
- the Strategic Report and the Directors' Report included within the Trustees' Annual Report has been prepared in accordance with applicable legal requirements.



## **Matters on which we are required to report by exception**

In the light of our knowledge and understanding of the group and the parent charitable company and their environment obtained in the course of the audit, we have not identified material misstatements in the Strategic Report or the Directors' Report included within the Trustees' Annual Report.

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

- adequate and proper 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; or
- the trustees were not entitled to prepare the financial statements in accordance with the small companies regime and take advantage of the small companies' exemptions in preparing the trustees' report and from the requirement to prepare a strategic report.

## **Responsibilities of Board Members**

As explained more fully in the Statement of Board Members' Responsibilities set out on page B9, 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 group 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 group financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the group 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.

## **Auditors' responsibilities for the audit of the financial statements**

We have been appointed as auditor under section 44(1)(c) of the Charities and Trustee Investment (Scotland) Act 2005 and under the Companies Act 2006 and report in accordance with the Acts and relevant regulations made or having effect thereunder.

Our objectives are to obtain reasonable assurance about whether the group financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' 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.

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud, is detailed below.

Our audit was designed, after obtaining sufficient and appropriate knowledge and understanding of the group and parent charitable company, its charitable nature, its income streams and the industry operated within. We undertook an assessment of the control environment and the systems and procedures put in place by the senior management team, combined with our detailed audit testing and supportive analytical work, to obtain reasonable assurance about whether the group financial statements as a whole are free from material misstatement due to fraud. Our work has included considering areas of higher risk of fraud, including transactions with related parties, revenue recognition and areas where there is a risk of management override of systems and controls.

To address the risk of fraud we performed the following audit procedures:

- Assessment of key accounting estimates within the group financial statements in order to assess their reasonableness and determine whether there is any bias in management's estimates.
- All team members were informed of the relevant laws and regulations and potential fraud risks at the planning stage and reminded to remain alert to any indications of fraud or non-compliance.

## INDEPENDENT AUDITORS' REPORT TO THE MEMBERS OF THE BRITISH TRUST FOR ORNITHOLOGY

- Enquiring of management whether there have been any alleged, suspected or actual instances of fraud during the year.
- Enquiring of management and those charged with governance whether there have been any actual or potential litigation or claims.
- Reviewing correspondence with relevant legal authorities.
- Reviewing legal expense accounts for any indicators of litigation or claims.

A further description of our responsibilities for the audit of the group financial statements is located on the Financial Reporting Council's website at [www.frc.org.uk/auditorsresponsibilities](http://www.frc.org.uk/auditorsresponsibilities). This description forms part of our auditors' report.

### Use of our report

This report is made solely to the parent 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 regulation 10 of the Charities Accounts (Scotland) Regulations 2006 (as amended). Our audit work has been undertaken so that we might state to the parent charitable company's members and trustees those matters we are required to state to them in an auditors' 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 parent charitable company, the parent 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.

Helen Rumsey, Senior Statutory Auditor  
For and on behalf of  
Ensors Accountants LLP  
Connexions  
159 Princes Street  
Ipswich  
IP1 1QJ



**The British Trust for Ornithology**  
**Consolidated Statement of Financial Activities (Including Income and Expenditure Account)**  
**for the Year Ended 31 March 2023**

	Note	Unrestricted Funds £'000	Restricted Funds £'000	Total 2023 £'000	Total 2022 £'000
<b>Income and endowments from:</b>					
Donations and legacies	3	2,662	376	<b>3,038</b>	<b>3,334</b>
Charitable activities	3	3,096	6	<b>3,102</b>	<b>3,527</b>
Other trading activities	3	977	-	<b>977</b>	<b>970</b>
Investments	3	17	-	<b>17</b>	<b>1</b>
Coronavirus Job Retention Scheme grants		-	-	-	<b>10</b>
<b>Total income and endowments</b>		<b>6,752</b>	<b>382</b>	<b>7,134</b>	<b>7,842</b>
<b>Expenditure on:</b>					
Raising funds	4	1,300	17	<b>1,317</b>	<b>1,167</b>
Charitable activities	4	4,967	641	<b>5,608</b>	<b>5,301</b>
Other – Amounts recognised as expenditure on defined benefit pension scheme	22	110	-	<b>110</b>	<b>104</b>
<b>Total expenditure</b>	7	<b>6,377</b>	<b>658</b>	<b>7,035</b>	<b>6,572</b>
<b>Net income/(expenditure) before net gain/(loss) on investments</b>		<b>375</b>	<b>(276)</b>	<b>99</b>	<b>1,270</b>
Net gain/(loss) on investments	10	(16)	-	<b>(16)</b>	<b>18</b>
<b>Net income/ (expenditure)</b>		<b>359</b>	<b>(276)</b>	<b>83</b>	<b>1,288</b>
Transfers between funds	16,17	(88)	88	-	-
<b>Other recognised gains/(losses):</b>					
Gain on revaluation of fixed assets	9	-	-	-	<b>550</b>
Actuarial gain/(loss) on defined benefit pension scheme	22	2,639	-	<b>2,639</b>	<b>986</b>
<b>Net movement in funds</b>		<b>2,910</b>	<b>(188)</b>	<b>2,722</b>	<b>2,824</b>
<b>Reconciliation of funds</b>					
Total funds brought forward	16,17	1,125	965	<b>2,090</b>	<b>(734)</b>
<b>Total funds carried forward</b>	16,17	<b>4,035</b>	<b>777</b>	<b>4,812</b>	<b>2,090</b>

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 B17 to B36 form part of these financial statements.

**The British Trust for Ornithology**  
**Charity Statement of Financial Activities (Including Income and Expenditure Account)**  
**for the Year Ended 31 March 2023**

	Note	Unrestricted Funds £'000	Restricted Funds £'000	Total 2023 £'000	Total 2022 £'000
<b>Income and endowments from:</b>					
Donations and legacies	3	2,904	376	3,280	3,660
Charitable activities	3	3,096	6	3,102	3,527
Other trading activities	3	535	-	535	461
Investments	3	17	-	17	1
Coronavirus Job Retention Scheme grants		-		-	10
<b>Total income and endowments</b>		<b>6,555</b>	<b>382</b>	<b>6,934</b>	<b>7,659</b>
<b>Expenditure on:</b>					
Raising funds	4	1,100	17	1,117	984
Charitable activities	4	4,967	641	5,608	5,301
Other – Amounts recognised as expenditure on defined benefit pension scheme	22	110	-	110	104
<b>Total expenditure</b>		<b>6,177</b>	<b>658</b>	<b>6,835</b>	<b>6,389</b>
<b>Net income/(expenditure) before net gain/(loss) on investments</b>		<b>375</b>	<b>(276)</b>	<b>99</b>	<b>1,270</b>
Net gain/(loss) on investments	10	(16)	-	(16)	18
<b>Net income/ (expenditure)</b>		<b>359</b>	<b>(276)</b>	<b>83</b>	<b>1,288</b>
Transfers between funds	16,17	(88)	88	-	-
<b>Other recognised gains/(losses):</b>					
Gains on revaluation of fixed assets	9	-	-	-	550
Actuarial gain/(loss) on defined benefit pension scheme	22	2,639	-	2,639	986
<b>Net movement in funds</b>		<b>2,910</b>	<b>(188)</b>	<b>2,722</b>	<b>2,824</b>
<b>Reconciliation of funds</b>					
Total funds brought forward	16,17	1,125	965	2,090	(734)
<b>Total funds carried forward</b>	16,17	<b>4,035</b>	<b>777</b>	<b>4,812</b>	<b>2,090</b>

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 B17 to B36 form part of these financial statements.



**The British Trust for Ornithology**  
**Consolidated Group and Charity Balance Sheets**  
**as at 31 March 2023**

	Note	Group 2023 £'000	Group 2022 £'000	Charity 2023 £'000	Charity 2022 £'000
<b>Fixed assets</b>					
Tangible assets	9	2,433	2,445	2,433	2,445
Investments	10	447	463	447	463
		2,880	2,908	2,880	2,908
<b>Current assets</b>					
Stocks	11	294	293	-	-
Debtors	12	1,680	1,346	1,926	1,582
Cash at bank and in hand		3,538	3,799	3,453	3,671
		5,512	5,438	5,379	5,253
<b>Creditors:</b>					
Amounts falling due within one year	13	(2,379)	(2,379)	(2,246)	(2,194)
		3,133	3,059	3,133	3,059
<b>Net current assets</b>					
		6,013	5,967	6,013	5,967
<b>Total assets less current liabilities</b>					
<b>Creditors:</b>					
Amounts falling due after one year	14	(91)	(100)	(91)	(100)
		5,922	5,867	5,922	5,867
<b>Net assets excluding defined benefit pension liability</b>					
Defined benefit pension liability	22	(1,110)	(3,777)	(1,110)	(3,777)
		4,812	2,090	4,812	2,090
<b>Net assets/(liabilities) including defined benefit pension liability</b>					
<b>Represented by:</b>					
Restricted funds	16	777	965	777	965
Unrestricted funds excluding Pension reserve	17	5,145	4,902	5,145	4,902
Pension reserve	17	(1,110)	(3,777)	(1,110)	(3,777)
		4,812	2,090	4,812	2,090
<b>Total funds</b>					

Approved by the Board and authorised for issue on 12 July 2023 and signed on its behalf by:

Chair Prof Z G Davies

Honorary Treasurer J E Miller FCCA

Company registration number 00357284

The notes on pages B17 to B36 form part of these financial statements.

**The British Trust for Ornithology**  
**Consolidated Group and Charity Statement of Cash Flows**  
**For the Year Ended 31 March 2023**

	Group 2023 £'000	Group 2022 £'000	Charity 2023 £'000	Charity 2022 £'000	
<b>Note</b>					
<b>Net cash inflow / (outflow) from operating activities</b>	20	(274)	1,506	(231)	1,506
<b>Cash flow from investing activities</b>					
Payments to acquire tangible fixed assets	9	(11)	(26)	(11)	(26)
Proceeds from the sale of tangible fixed assets		7	-	7	-
Investment income received		17	1	17	1
<b>Net cash flow from investing activities</b>		13	(25)	13	(25)
<b>Net increase/(decrease) in cash for the year</b>		(261)	1,481	(218)	1,481
Cash at bank and in hand at 1 April		3,799	2,318	3,671	2,190
Cash at bank and in hand at 31 March		3,538	3,799	3,453	3,671
<b>Analysis of Cash at Bank and in Hand</b>	<b>2023</b>	<b>2022</b>	<b>2023</b>	<b>2022</b>	
This comprises:	£'000	£'000	£'000	£'000	
Bank current accounts and cash in hand	227	164	142	36	
Bank deposits	3,311	3,635	3,311	3,635	
Cash at bank and in hand at 31 March	3,538	3,799	3,453	3,671	

Bank deposits carry variable rates of interest.

The notes on pages B17 to B36 form part of these financial statements.



**The British Trust for Ornithology**  
**Notes to the Consolidated Financial Statements**  
**For the Year Ended 31 March 2023**

**1. ACCOUNTING POLICIES**

**a) Accounting Convention**

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

The charity operates on a weekly basis and the Financial Statements have been made up to 26 March 2023, being the last Sunday in March.

**b) Going Concern**

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 the pension scheme deficit does not give rise to material uncertainties that could cast doubt upon the appropriateness of this policy.

**c) 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.

**d) Income**

Income from donations, gifts and legacies is recognised immediately when received in cash and as receivable 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, probability 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.

Income from Coronavirus Job Retention Scheme grants is recognised on a receivable basis.

**e) 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.

**The British Trust for Ornithology**  
**Notes to the Consolidated Financial Statements - Continued**  
**For the Year Ended 31 March 2023**

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.

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

**f) 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 is 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. The property is not depreciated as it is considered to have an indefinite remaining useful life.

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).

**g) 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.

**h) 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.

**i) 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.

**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 expenditure in the Statement of Financial Activities.



**The British Trust for Ornithology**  
**Notes to the Consolidated Financial Statements - Continued**  
**For the Year Ended 31 March 2023**

**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 pension 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 22. 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**

In the application of the group and parent charitable company's accounting policies, the trustees are required to make judgements, estimates and assumptions about the carrying amount of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the year in which the estimate is revised where the revision affects only that year, or in the year of the revision and future years where the revision affects both the current and future years.

**Key sources of estimation uncertainty**

The estimates and assumptions which have a significant risk of causing a material adjustment to the carrying amount of assets and liabilities are as follows:

**Percentage completion on contracts**

The degree of completion on the contracts is an estimate by the relevant project manager. This estimate relies on their professional opinion on the level of work completed in the whole contract, which impacts the level of income recognised, accrued and deferred. These estimates are reviewed by the Senior Leadership Team on a regular basis.

## The British Trust for Ornithology Notes to the Consolidated Financial Statements - Continued For the Year Ended 31 March 2023

### Defined benefit pension scheme

The group has a defined benefit pension scheme which is closed to future accrual. The valuation of the defined benefit pension obligation necessarily involves a calculation which depends on the expected future outflow of economic benefits that the group expects to make to satisfy this obligation. The calculation depends on a number of factors such as the methodology, discount rate and mortality assumptions used. The group use a qualified independent actuary to assist in preparing the necessary calculation in accordance with the requirements of FRS102.

### Property valuation

The Nunnery is valued at fair value by the directors with reference to recent property transactions and their knowledge of the site. The directors obtain third party valuations at regular intervals to ensure that the fair value of the property is kept up to date.

### o) Leases

Rentals payable under operating leases, including any lease incentives received, are charged to profit or loss on a straight line basis over the term of the relevant lease except where another more systematic basis is more representative of the time pattern in which economic benefits from the leased asset are consumed.

### p) Employee benefits

The costs of short-term employee benefits are recognised as a liability and an expense unless those costs are required to be recognised as part of the cost of stock or fixed assets. The cost of any unused holiday entitlement is recognised in the year in which the employee's services are received. Termination benefits are recognised immediately as an expense when the charity is demonstrably committed to terminate the employment of an employee or to provide termination benefits.

### q) Cash at bank and in hand

Cash at bank and in hand are basic financial assets and includes cash in hand, deposits with banks, other short-term liquid investments with original maturities of three months or less, and bank overdrafts.

### r) Legacies

Legacy receipts are recognized when there has been grant of probate, the executors have established that there are sufficient assets in the estate, after settling any liabilities, to pay the legacy, any conditions attached to the legacy are either within the control of the Trust or have been met, and the amount receivable is determined.

## 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 amount as may be required but not exceeding £1 each. This represents the limit of their guarantee to the company.



**The British Trust for Ornithology**  
**Notes to the Consolidated Financial Statements - Continued**  
**For the Year Ended 31 March 2023**

**3. ANALYSIS OF INCOME**

	<b>Group 2023 £'000</b>	<b>Group 2022 £'000</b>	<b>Charity 2023 £'000</b>	<b>Charity 2022 £'000</b>
<b>Donations and legacies</b>				
Membership subscriptions & donations	1,020	1,094	1,020	1,094
Individual donations	504	584	504	584
Corporate & trust donations & grants	362	192	604	518
Legacies	1,152	1,464	1,152	1,464
	<u>3,038</u>	<u>3,334</u>	<u>3,280</u>	<u>3,660</u>
<b>Charitable activities</b>				
Core surveys - JNCC Partnership	1,158	837	1,158	837
Core surveys - Other	39	42	39	42
Other surveys & research - Voluntary funded	3	29	3	29
Other surveys & research - Contract funded	1,674	2,404	1,674	2,404
Research communication	87	76	87	76
General volunteer survey support	116	118	116	118
Nunnery Lakes Reserve	25	21	25	21
	<u>3,102</u>	<u>3,527</u>	<u>3,102</u>	<u>3,527</u>
<b>Other trading activities</b>				
Ringling & tagging sales	448	506	-	-
Publications & general sales	71	37	-	-
Corporate sponsorship & royalties	53	53	-	-
Consultancy	202	247	-	-
Data-related sales	167	125	-	-
Other	36	2	10	1
Income from charges to subsidiary	-	-	525	460
	<u>977</u>	<u>970</u>	<u>535</u>	<u>461</u>
<b>Investment income</b>				
Bank interest receivable	17	1	17	1
	<u>17</u>	<u>1</u>	<u>17</u>	<u>1</u>
<b>Analysis by fund type</b>				
	<b>Group 2023 £'000</b>	<b>Group 2022 £'000</b>	<b>Charity 2023 £'000</b>	<b>Charity 2022 £'000</b>
<b>Donations and legacies</b>				
Unrestricted	2,662	2,873	2,904	3,199
Restricted	376	461	376	461
	<u>3,038</u>	<u>3,334</u>	<u>3,280</u>	<u>3,660</u>
<b>Charitable activities</b>				
Unrestricted	3,096	3,501	3,096	3,501
Restricted	6	26	6	26
	<u>3,102</u>	<u>3,527</u>	<u>3,102</u>	<u>3,527</u>
<b>Other trading activities</b>				
Unrestricted	977	970	535	461
Restricted	-	-	-	-
	<u>977</u>	<u>970</u>	<u>535</u>	<u>461</u>

**The British Trust for Ornithology**  
**Notes to the Consolidated Financial Statements - Continued**  
**For the Year Ended 31 March 2023**

**4. ANALYSIS OF EXPENDITURE**

	<b>Group</b> <b>2023</b> £'000	<b>Group</b> <b>2022</b> £'000	<b>Charity</b> <b>2023</b> £'000	<b>Charity</b> <b>2022</b> £'000
<b>Raising funds</b>				
<b>Donations and legacies</b>				
Membership subscriptions & donations	265	222	265	222
Individual donations	195	226	195	226
Corporate & trust donations & grants	37	33	37	33
Legacies	76	66	76	66
	<u>573</u>	<u>547</u>	<u>573</u>	<u>547</u>
<b>Other trading activities</b>				
Ringling & tagging costs	443	377	-	-
Publications & general costs	63	33	-	-
Corporate sponsorship & royalties	-	(4)	-	-
Consultancy	159	161	-	-
Data-related costs	79	53	-	-
Other	-	-	-	-
Costs recharged to subsidiary	-	-	544	437
	<u>744</u>	<u>620</u>	<u>544</u>	<u>437</u>
	<u>1,317</u>	<u>1,167</u>	<u>1,117</u>	<u>984</u>
<b>Charitable activities</b>				
Core surveys - JNCC Partnership	1,679	1,295	1,679	1,295
Core surveys - Other	328	297	328	297
Other surveys & research - Voluntary funded	844	757	844	757
Other surveys & research - Contract funded	1,897	2,302	1,897	2,302
Research communication	650	532	650	532
General volunteer survey support	167	103	167	103
Nunnery Lakes Reserve	43	15	43	15
	<u>5,608</u>	<u>5,301</u>	<u>5,608</u>	<u>5,301</u>
<b>Analysis by fund type</b>				
	<b>Group</b> <b>2023</b> £'000	<b>Group</b> <b>2022</b> £'000	<b>Charity</b> <b>2023</b> £'000	<b>Charity</b> <b>2022</b> £'000
<b>Raising funds</b>				
Unrestricted	1,300	1,159	1,100	976
Restricted	17	8	17	8
	<u>1,317</u>	<u>1,167</u>	<u>1,117</u>	<u>984</u>
<b>Charitable activities</b>				
Unrestricted	4,967	4,718	4,967	4,718
Restricted	641	583	641	583
	<u>5,608</u>	<u>5,301</u>	<u>5,608</u>	<u>5,301</u>



**The British Trust for Ornithology**  
**Notes to the Consolidated Financial Statements - Continued**  
**For the Year Ended 31 March 2023**

<b>5. NET INCOME / (EXPENDITURE)</b>	<b>2023</b>	<b>2022</b>
	£'000	£'000
Net income for the year is stated after (crediting)/charging:		
Auditors' remuneration:		
Audit of the charity's annual accounts	19	12
Audit of the trading subsidiary's annual accounts	10	4
Audit of the charity's defined benefit pension scheme	3	2
Depreciation (Note 9)	23	29
(Profit)/loss on disposals of fixed assets	(7)	-

<b>6. STAFF COSTS</b>	<b>Group and Charity 2023</b>	<b>Group and Charity 2022</b>
	£'000	£'000
Wages and salaries	4,101	3,782
Social security costs	373	326
Defined contribution pension plan costs (Note 22)	422	389
Expenditure recognised on defined benefit pension scheme (Note 22)	110	104
	<u>5,006</u>	<u>4,601</u>

The number of employees whose emoluments exceeded £60,000 fell within the following bands:

	<b>2023</b>	<b>2022</b>
£70,001 - £80,000	1	1
£60,001 - £70,000	<u>3</u>	<u>1</u>

The emoluments of the CEO for the year were £78k (2022 £75k), with the same pension and other benefits as were applicable to all other staff. The total remuneration including social security costs and pension contributions of the Senior Leadership Team was £508k (2022: £481k). Trustees receive no remuneration. Trustees made donations totalling less than £1k during the year (2022 £5k). There were no other related party transactions requiring disclosure. Other expenses were reimbursed to trustees as follows:

	<b>2023</b>	<b>2022</b>
	£'000	£'000
Travel and subsistence	<u>3</u>	<u>-</u>

Average numbers of staff and full time equivalents (FTE)

	<b>2023</b>		<b>2022</b>	
	No	FTE	No	FTE
Permanent posts	141	126.5	134	121.3
Seasonal fieldworkers	10	2.3	15	3.2
	<u>151</u>	<u>128.8</u>	<u>149</u>	<u>124.5</u>

**The British Trust for Ornithology**  
**Notes to the Consolidated Financial Statements - Continued**  
**For the Year Ended 31 March 2023**

**7. TOTAL EXPENDITURE**

	Direct costs £'000	Support costs £'000	2023 Total £'000	2022 Total £'000
Raising funds	1,170	147	1,317	1,167
Charitable activities	4,983	625	5,608	5,301
Other – Amounts recognised as expenditure on defined benefit pension scheme	110	-	110	104
	<u>6,263</u>	<u>772</u>	<u>7,035</u>	<u>6,572</u>

**8. SUPPORT COSTS**

	Premises £'000	IT & Office Services £'000	People & OrgDev £'000	Management & Finance £'000	Governance £'000	2023 Total £'000	2022 Total £'000
Raising funds	2	7	55	69	14	147	125
Charitable activities	10	30	233	292	60	625	566
	<u>12</u>	<u>37</u>	<u>288</u>	<u>361</u>	<u>74</u>	<u>772</u>	<u>691</u>

All support costs are apportioned on a staff cost basis.

Governance costs include auditors' 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 £'000	Furniture and Equipment £'000	Computer Equipment £'000	Motor Vehicles £'000	Total £'000
Cost or valuation at 1 April 2022	2,400	204	431	105	3,140
Additions	-	-	11	-	11
Disposals	-	-	-	(13)	(13)
At 31 March 2023	<u>2,400</u>	<u>204</u>	<u>442</u>	<u>92</u>	<u>3,138</u>
Depreciation at 1 April 2022	-	204	394	97	695
Depreciation charge	-	-	19	4	23
Disposals	-	-	-	(13)	(13)
At 31 March 2023	<u>-</u>	<u>204</u>	<u>413</u>	<u>88</u>	<u>705</u>
Net book value at 31 March 2023	<u>2,400</u>	<u>-</u>	<u>29</u>	<u>4</u>	<u>2,433</u>
Net book value at 1 April 2022	<u>2,400</u>	<u>-</u>	<u>37</u>	<u>8</u>	<u>2,445</u>

**The British Trust for Ornithology**  
**Notes to the Consolidated Financial Statements - Continued**  
**For the Year Ended 31 March 2023**

**9. TANGIBLE FIXED ASSETS - CHARITY**

	<b>Freehold Property and Land £'000</b>	<b>Furniture and Equipment £'000</b>	<b>Computer Equipment £'000</b>	<b>Motor Vehicles £'000</b>	<b>Total £'000</b>
Cost or valuation at 1 April 2022	2,400	200	431	105	3,136
Additions	-	-	11	-	11
Disposals	-	-	-	(13)	(13)
At 31 March 2023	<u>2,400</u>	<u>200</u>	<u>442</u>	<u>92</u>	<u>3,134</u>
Depreciation at 1 April 2022	-	200	394	97	691
Depreciation charge	-	-	19	4	23
Disposals	-	-	-	(13)	(13)
At 31 March 2023	<u>-</u>	<u>200</u>	<u>413</u>	<u>88</u>	<u>701</u>
Net book value at 31 March 2023	<u>2,400</u>	<u>-</u>	<u>29</u>	<u>4</u>	<u>2,433</u>
Net book value at 1 April 2022	<u>2,400</u>	<u>-</u>	<u>37</u>	<u>8</u>	<u>2,445</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 2022 on the basis of fair value, at £2,400k, giving a gain on revaluation of £550k for the year ended 31 March 2022. The trustees have considered the condition and value of the freehold property at the year end and believe there to have been no material change since the last external valuation in March 2022.

On an historical cost basis, the freehold property and land would have been included at a cost and net book value of £2,284k (2022: £2,284k).



The British Trust for Ornithology  
Notes to the Consolidated Financial Statements - Continued  
For the Year Ended 31 March 2023

10. INVESTMENTS

The Group

Listed Investment Funds

	Market value 1 April 2022 £'000	Disposals £'000	Additions £'000	Gain/(loss) £'000	Market value 31 March 2023 £'000
<b>Birds in Trust Fund</b>					
Dimensional Global Short Dated Bond	77	-	-	(2)	75
Dimensional Global Sustainability Core Equity	126	-	-	(4)	122
Wrap Cash	4	-	-	(1)	3
	<u>207</u>	<u>-</u>	<u>-</u>	<u>(7)</u>	<u>200</u>
<b>General Funds</b>					
Dimensional Global Short Dated Bond	95	-	-	(3)	92
Dimensional Global Sustainability Core Equity	156	-	-	(5)	151
Wrap Cash	5	-	-	(1)	4
	<u>256</u>	<u>-</u>	<u>-</u>	<u>(9)</u>	<u>247</u>
	<u>463</u>	<u>-</u>	<u>-</u>	<u>(16)</u>	<u>447</u>

On an historical cost basis, the investments would have been included at £298k (2022: £298k).

The Charity

	2023 £'000	2022 £'000
Listed Investment Funds as above	447	463
Fixed asset unlisted investments - BTO Services Ltd	-	-
	<u>447</u>	<u>463</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 2023 was £100 (2022: £100) and the company reported a £nil result after profit distributions made under a Deed of Covenant for the year (2022: £nil). £242k (2022: £326k) was paid to the Charity under a Deed of Covenant. The value of the investment in the subsidiary undertaking is £100 (2022: £100) under the equity method of valuation.

The following is a summarised statement of income for the subsidiary for the financial year:

	2023 £'000	2022 £'000
Turnover	966	969
Cost of sales	(664)	(591)
Gross profit	<u>302</u>	<u>378</u>
Net administrative expenses	(60)	(52)
Net profit before payment under Deed of Covenant	<u>242</u>	<u>326</u>

Turnover of the subsidiary includes sales to overseas markets of £261k (2022: £182k).

**The British Trust for Ornithology**  
**Notes to the Consolidated Financial Statements - Continued**  
**For the Year Ended 31 March 2023**

**10. INVESTMENTS (Continued)**

BTO Services Ltd has two dormant wholly owned subsidiaries, both registered in England and Wales, and with Registered Office at The Nunnery, Thetford, Norfolk IP24 2PU, Porzana Ltd Company No.04175071 and BTO Consulting Ltd Company No.12317596.

<b>11. STOCKS</b>	<b>2023</b>	<b>2022</b>
	£'000	£'000
<b>The Group</b>		
Finished goods, goods for resale and materials	<u>294</u>	<u>293</u>

**The Charity**

The charity holds no trading stock.

<b>12. DEBTORS</b>	<b>2023</b>	<b>2022</b>
	£'000	£'000
<b>The Group</b>		
Trade and contract debtors	1,085	775
Taxes recoverable	36	7
Prepayments	127	96
Accrued income	<u>432</u>	<u>468</u>
	<u>1,680</u>	<u>1,346</u>

	<b>2023</b>	<b>2022</b>
	£'000	£'000
<b>The Charity</b>		
Trade and contract debtors	1,011	673
Amounts due from Group undertakings	380	446
Taxes recoverable	36	7
Prepayments	111	77
Accrued income	<u>388</u>	<u>379</u>
	<u>1,926</u>	<u>1,582</u>

The British Trust for Ornithology  
Notes to the Consolidated Financial Statements - Continued  
For the Year Ended 31 March 2023

13. CREDITORS – AMOUNTS FALLING DUE WITHIN ONE YEAR

	2023 £'000	2022 £'000
<b>The Group</b>		
Trade creditors	363	572
Taxes and Social security costs	198	233
Other creditors	119	63
Accruals	117	103
Deferred income	1,582	1,408
	<u>2,379</u>	<u>2,379</u>
	<b>2023</b> £'000	<b>2022</b> £'000
<b>The Charity</b>		
Trade creditors	319	533
Taxes and Social security costs	202	229
Other creditors	116	60
Accruals	102	93
Deferred income	1,507	1,279
	<u>2,246</u>	<u>2,194</u>

14. CREDITORS – AMOUNTS FALLING DUE AFTER ONE YEAR

	2023 £'000	2022 £'000
<b>The Group</b>		
Deferred income	91	100
	<u>91</u>	<u>100</u>
	<b>2023</b> £'000	<b>2022</b> £'000
<b>The Charity</b>		
Deferred income	91	100
	<u>91</u>	<u>100</u>

15. DEFERRED INCOME RECONCILIATION

	2023 £'000	2022 £'000
<b>The Group</b>		
Opening balance at 1 April	1,508	1,624
Amount released to income	(2,064)	(2,331)
Amount deferred in year	2,229	2,215
Closing balance at 31 March	<u>1,673</u>	<u>1,508</u>
	<b>2023</b> £'000	<b>2022</b> £'000
<b>The Charity</b>		
Opening balance at 1 April	1,379	1,520
Amount released to income	(1,901)	(2,165)
Amount deferred in year	2,120	2,024
Closing balance at 31 March	<u>1,598</u>	<u>1,379</u>



**The British Trust for Ornithology**  
**Notes to the Consolidated Financial Statements - Continued**  
**For the Year Ended 31 March 2023**

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

The funds of the group and the charity include restricted funds comprising the following balances of donations and appeal monies given for specific purposes. The opening and closing fund balances for the group and the charity are identical.

**As at 31 March 2023**

	<b>Balance at 1 Apr 2022</b>	<b>Income</b>	<b>Expenditure</b>	<b>Transfers</b>	<b>Balance at 31 Mar 2023</b>
	£'000	£'000	£'000	£'000	£'000
Atlas Beyond Maps Appeal	10	2	-	-	12
Northern Ireland Fund	1	48	(32)	-	17
Dilys Breese Fund	44	-	(8)	-	36
Boddy & Sparrow Fund	2	-	-	-	2
Migration Fund	47	29	(29)	-	47
Nightingale Appeal	30	1	(9)	-	22
Swallow Appeal	8	-	-	-	8
Young Scientists' Fund	22	8	(11)	-	19
Garden Research Fund	79	9	(11)	-	77
Out of Africa Fund	60	78	(49)	(4)	85
Thrush Fund	1	-	-	-	1
Curlew Appeal	14	9	(10)	-	13
Arctic Skua Fund	21	-	(20)	-	1
BTO Wales Fund	25	1	(6)	-	20
Sound Approach Fund	82	-	(22)	-	60
Tasso Leventis Fund	43	20	(38)	-	25
Spotted Flycatcher Appeal	29	-	(9)	-	20
Chaffinch	56	1	(17)	-	40
Seabird Appeal	95	16	(34)	4	81
Urban Appeal	-	54	(34)	-	20
Rhodes Training Fund	33	-	-	-	33
Migrant Swallows & Insect Feeding Paper	2	-	-	-	2
Postcode Lottery Grant	3	-	-	-	3
Cuckoos & Nightingales	22	-	(3)	-	19
Bats Fund	15	2	(12)	-	5
Short Eared Owl	45	-	(32)	-	13
Wader Project Officer	59	12	(43)	-	28
Dulverton Trust	2	-	(2)	-	-
Insect Decline	4	16	(12)	2	10
Eddowes PhD	-	1	(1)	-	-
Ringers' Bursary Fund	1	1	(1)	-	1
Youth Engagement	59	61	(200)	86	6
Small Specific Donations	51	13	(13)	-	51
	<u>965</u>	<u>382</u>	<u>(658)</u>	<u>88</u>	<u>777</u>

**The British Trust for Ornithology**  
**Notes to the Consolidated Financial Statements – Continued**  
**For the Year Ended 31 March 2023**

**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.

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.

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. £4k transferred to Seabird Appeal at request of donor.

The Thrush Fund is to fund work on Thrushes.

The Curlew Appeal is to fund projects on Curlews.

The Arctic Skua Fund is to support Arctic Skua work.

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

The Sound Approach Fund is to support a number of specific projects.

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

The Spotted Flycatcher Appeal is to support work on Spotted Flycatcher.

The Chaffinch Appeal is to fund work on Chaffinches.

The Seabird Appeal has been raising funds for work on seabirds. £4K transferred from Out of Africa at request of donor.

The Urban Appeal is to support studies of birds in towns and cities.

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.

The Bats Fund was set up from specific donations to support work on Bats and the development of the BTO acoustic work.

The Short Eared Owl Fund is for work on Short Eared Owls in Scotland.

The Wader Project Officer Appeal Fund is for work on waders.

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. £2k donation was transferred as an expression of wish.

The Eddowes PhD fund was established to support a specific PhD project.

The Ringers' Bursary Fund is to support ringing.

The Youth Engagement Fund has been set up to support our work with young people. £86k was transferred from General funds to support this work.

Small Specific Donations are small individual donations for specific purposes.

**The British Trust for Ornithology**  
**Notes to the Consolidated Financial Statements – Continued**  
**For the Year Ended 31 March 2023**

**16. RESTRICTED FUNDS (Continued)**

**As at 31 March 2022**

	Balance at 1 Apr 2021	Income	Expenditure	Transfers	Balance at 31 Mar 2022
	£'000	£'000	£'000	£'000	£'000
Atlas Beyond Maps Appeal	8	2	-	-	10
Northern Ireland Fund	1	-	-	-	1
Dilys Breese Fund	51	-	(7)	-	44
Boddy & Sparrow Fund	2	-	-	-	2
Migration Fund	34	39	(39)	13	47
Nightingale Appeal	30	1	(1)	-	30
Swallow Appeal	8	-	-	-	8
Young Scientists' Fund	26	5	(9)	-	22
Garden Research Fund	84	8	(13)	-	79
Out of Africa Fund	58	58	(56)	-	60
Thrush Fund	1	-	-	-	1
Curlew Appeal	-	28	(14)	-	14
Arctic Skua Fund	56	3	(38)	-	21
BTO Wales Fund	26	1	(2)	-	25
Sound Approach Fund	72	21	(11)	-	82
Tasso Leventis Fund	82	-	(3)	(36)	43
Spotted Flycatcher Appeal	49	-	(20)	-	29
Chaffinch	64	10	(18)	-	56
Seabird Appeal	23	117	(45)	-	95
Rhodes Training Fund	33	-	-	-	33
Migrant Swallows & Insect Feeding Paper	3	-	(1)	-	2
Postcode Lottery Grant	3	-	-	-	3
Cuckoos & Nightingales	22	1	(1)	-	22
EDF What's Under Your Feet	17	-	-	(17)	-
Bats Fund	21	10	(16)	-	15
Short Eared Owl	48	5	(8)	-	45
Wader Project Officer	100	26	(67)	-	59
Dulverton Trust	18	-	(16)	-	2
Insect Decline	20	16	(32)	-	4
Eddowes PhD	-	21	(21)	-	-
Ringers' Bursary Fund	-	2	(1)	-	1
Thorne Ringing Fund	1	-	-	(1)	-
Youth Engagement	80	95	(130)	14	59
Small Specific Donations	53	18	(22)	2	51
	<u>1,094</u>	<u>487</u>	<u>(591)</u>	<u>(25)</u>	<u>965</u>



The British Trust for Ornithology  
Notes to the Consolidated Financial Statements – Continued  
For the Year Ended 31 March 2023

17. UNRESTRICTED FUNDS

The Group and the Charity

The funds of the group and the charity include unrestricted funds comprising the following balances. The opening and closing fund balances for the group and the charity are identical.

As at 31 March 2023

	Balance at 1 Apr 2022	Income	Expend- iture	Other Gains/ (Losses)	Fund transfers	Balance at 31 Mar 2023
	£'000	£'000	£'000	£'000	£'000	£'000
General funds:						
Birds in Trust fund	2,668	1,168	(317)	(7)	(383)	3,129
General fund	1,626	5,583	(5,889)	(8)	157	1,469
	<u>4,294</u>	<u>6,751</u>	<u>(6,206)</u>	<u>(15)</u>	<u>(226)</u>	<u>4,598</u>
Designated funds:						
Welch fund	608	-	(61)	-	-	547
Unrestricted funds excluding Pension reserve	4,902	6,751	(6,267)	(15)	(226)	5,145
Pension reserve	(3,777)	-	(110)	2,639	138	(1,110)
	<u>1,125</u>	<u>6,751</u>	<u>(6,377)</u>	<u>2,624</u>	<u>(88)</u>	<u>4,035</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. Transfers from the Birds in Trust Funds to the General Fund amounted to £381K in respect of the JNCC Partnership and £2k to Insect Decline as an expression of wish. £86K was released from General Funds to Youth Engagement. The Welch fund is for migration research. £138k was transferred from the General fund to the Pension reserve in respect of the pension deficit repair payment. Other pension reserve movements are disclosed in Note 22.

As of 31 March 2022

	Balance at 1 Apr 2021	Income	Expend- iture	Other Gains/ (Losses)	Fund transfers	Balance at 31 Mar 2022
	£'000	£'000	£'000	£'000	£'000	£'000
General funds:						
Birds in Trust fund	2,596	766	(263)	8	(439)	2,668
General fund	370	5,889	(5,522)	560	329	1,626
	<u>2,966</u>	<u>6,655</u>	<u>(5,785)</u>	<u>568</u>	<u>(110)</u>	<u>4,294</u>
Designated funds:						
Welch fund	-	700	(92)	-	-	608
Unrestricted funds excluding Pension reserve	2,966	7,355	(5,877)	568	(110)	4,902
Pension reserve	(4,794)	-	(104)	986	135	(3,777)
	<u>(1,828)</u>	<u>7,355</u>	<u>(5,981)</u>	<u>1,554</u>	<u>25</u>	<u>1,125</u>

## For the Year Ended 31 March 2023

## 18. ANALYSIS OF GROUP FUNDS ACROSS NET ASSETS

As at 31 March 2023

	Fixed Assets	Investments	Current Assets less Total Liabilities	Defined Benefit Pension Liability	Total Net Assets
	£'000	£'000	£'000	£'000	£'000
<b>Unrestricted Funds</b>					
General funds:					
Birds in Trust fund	-	200	2,929	-	3,129
General fund	2,433	248	(102)	(1,110)	1,469
	2,433	448	2,827	(1,110)	4,598
Designated funds:					
Welch fund	-	-	547	-	547
Unrestricted funds excluding Pension reserve	2,433	448	3,374	(1,110)	5,145
Pension reserve	-	-	(1,110)	-	(1,110)
	2,433	448	2,264	(1,110)	4,035
<b>Restricted Funds</b>	-	-	777	-	777
<b>Total</b>	<b>2,433</b>	<b>448</b>	<b>3,041</b>	<b>(1,110)</b>	<b>4,812</b>

As at 31 March 2022

	Fixed Assets	Investments	Current Assets less Total Liabilities	Defined Benefit Pension Liability	Total Net Assets
	£'000	£'000	£'000	£'000	£'000
<b>Unrestricted Funds</b>					
General funds:					
Birds in Trust fund	-	207	2,461	-	2,668
General fund	2,445	256	2,702	(3,777)	1,626
	2,445	463	5,163	(3,777)	4,294
Designated funds:					
Welch fund	-	-	608	-	608
Unrestricted funds excluding Pension reserve	2,445	463	5,771	(3,777)	4,902
Pension reserve	-	-	(3,777)	-	(3,777)
	2,445	463	1,994	(3,777)	1,125
<b>Restricted Funds</b>	-	-	965	-	965
<b>Total</b>	<b>2,445</b>	<b>463</b>	<b>2,959</b>	<b>(3,777)</b>	<b>2,090</b>

## 19. OPERATING LEASE COMMITMENTS

	2023 £'000	2022 £'000
At the year end the group had outstanding lease commitments for future minimum lease payments under non-cancellable leases, as follows :		
Due within one year	17	46
Due within two to five years	11	28
	<u>28</u>	<u>74</u>

For the Year Ended 31 March 2023

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

	Group 2023 £'000	Group 2022 £'000	Charity 2023 £'000	Charity 2022 £'000
<b>Net income</b>				
per Statement of Financial Activities	83	1,288	83	1,288
<b>Adjustments for:</b>				
<b>Items representing cash movements</b>				
(Increase)/decrease in stocks	(1)	(14)	-	-
(Increase)/decrease in debtors	(334)	212	(344)	192
Increase/(decrease) in creditors	(9)	41	43	47
Investment income	(17)	(1)	(17)	(1)
Proceeds of sale of fixed assets	(7)	-	(7)	-
<b>Items not representing cash movements</b>				
Depreciation	23	29	23	29
(Gains)/losses on investments	16	(18)	16	(18)
Expenditure on defined benefit pension plan liability	110	104	110	104
	<u>(136)</u>	<u>1,641</u>	<u>(93)</u>	<u>1,641</u>
<b>Cash movements not appearing in the Statement of Financial Activities</b>				
Pension deficit repair contribution	(138)	(135)	(138)	(135)
	<u>(274)</u>	<u>1,506</u>	<u>(231)</u>	<u>1,506</u>

21. FINANCIAL INSTRUMENTS

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

	Group 2023 £'000	Group 2022 £'000	Charity 2023 £'000	Charity 2022 £'000
<b>Financial assets</b>				
<b>Measured at fair value through net income/expenditure:</b>				
Fixed asset listed investments (Note 10)	<u>447</u>	<u>463</u>	<u>447</u>	<u>463</u>
<b>Equity instruments measured at cost less impairments:</b>				
Fixed asset unlisted investments (Note 10)			<u>-</u>	<u>-</u>



**The British Trust for Ornithology**  
**Notes to the Consolidated Financial Statements - Continued**  
**For the Year Ended 31 March 2023**

**22. 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 this defined contribution scheme at a minimum rate of 5% of salary, and the BTO contributes at a flat rate of 11%. The Trust made contributions of £422k during the year (2022: £389k).

**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 2021. At that date the assets were valued at £11,722k and the liabilities at £18,104k, giving a net deficit of £6,382k and a funding level of 65%. 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 2044.

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 statements of financial activities for the year and the balance sheets were as follows:

Recognised in the statements of financial activities:	<b>2023</b>	<b>2022</b>
	£'000	£'000
Expenditure:		
Interest income	352	255
Interest cost on liabilities	(462)	(359)
Net interest on net defined benefit liability	<u>(110)</u>	<u>(104)</u>
Other recognised gains/(losses):		
Actual return on scheme assets (excluding interest income)	(1,454)	372
Actuarial gain/(loss) on liabilities	4,093	614
	<u>2,639</u>	<u>986</u>
Recognised in the balance sheets:		
	<b>2023</b>	<b>2022</b>
	£'000	£'000
Fair value of scheme assets	10,672	12,108
Present value of defined benefit obligations	<u>(11,782)</u>	<u>(15,885)</u>
Defined benefit pension scheme liability at 31 March	<u>(1,110)</u>	<u>(3,777)</u>
Reconciliation of funded status:		
	<b>2023</b>	<b>2022</b>
	£'000	£'000
(Deficit) at 1 April	(3,777)	(4,794)
Employer pension deficit repair payment	138	135
Net interest on net defined benefit liability	(110)	(104)
Remeasurement gain	2,639	986
(Deficit) at 31 March	<u>(1,110)</u>	<u>(3,777)</u>

**The British Trust for Ornithology**  
**Notes to the Consolidated Financial Statements - Continued**  
**For the Year Ended 31 March 2023**

**22. PENSIONS (Continued)**

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

	<b>2023</b>	<b>2022</b>
	£'000	£'000
Fair value of scheme assets at 1 April	12,108	11,689
Interest income	352	255
Actual return on scheme assets (excluding interest income)	(1,454)	372
Employer pension deficit repair payment	138	135
Benefits paid to members	(472)	(343)
Fair value of scheme assets at 31 March	<u>10,672</u>	<u>12,108</u>

Changes in the defined benefit obligations were as follows:

	<b>2023</b>	<b>2022</b>
	£'000	£'000
Present value of defined benefit obligations at 1 April	(15,885)	(16,483)
Interest cost on liabilities	(462)	(359)
Benefits paid	472	343
Actuarial gain/(loss)	4,093	614
Present value of defined benefit obligations at 31 March	<u>(11,782)</u>	<u>(15,885)</u>

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

	<b>2023</b>	<b>2022</b>
	£'000	£'000
Equities	6,304	6,298
Bonds	4,101	4,889
Annuities	163	201
Cash	104	720
	<u>10,672</u>	<u>12,108</u>

The total return on scheme assets was as follows:

	<b>2023</b>	<b>2022</b>
	£'000	£'000
Interest income	352	255
Actual return on scheme assets (excluding interest income)	(1,454)	372
Total return on scheme assets	<u>(1,102)</u>	<u>627</u>

The principal actuarial assumptions used were as follows:

	<b>2023</b>	<b>2022</b>
Discount rate	4.90%	2.95%
Inflation assumption (RPI)	3.50%	3.95%
Inflation assumption (CPI)	2.95%	3.35%
Rate of increase for non-GMP pensions in deferment	2.95%	3.35%
Rate of increase for pensions in payment (RPI, min 3% max 5%)	3.75%	3.95%
Expected future lifetime from age 65:	<b>2023</b>	<b>2022</b>
	<b>No of years</b>	<b>No of years</b>
Male – currently aged 65	22.2	22.1
Female – currently aged 65	24.2	24.1
Male – currently aged 45	23.8	23.7
Female – currently aged 45	25.3	25.3







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