

Avian futures: predicting and preparing for the future of avian biodiversity

29 September 2026 | Novotel York Centre, UK & Zoom & Bluesky



ABSTRACTS

Abstracts are arranged in programme order. Speakers with a  Bluesky logo beside their name will also be delivering a Bluesky presentation alongside their talk.

10:05 | KEYNOTE

Understanding future biodiversity change to help inform environmental policies and targets: evidence needs and opportunities

Paul Woodcock

JNCC, UK



Environmental policy and decision-making is faced with complex questions about future biodiversity change, such as what effect different policy choices might have, how conservation objectives can be balanced with other priorities, and how biodiversity targets can be achieved. These questions are viewed both in relation to risks of future biodiversity decline and emphasis on how to achieve nature recovery. As such, there are increasing policy requirements for projections of how biodiversity might be affected by different types of environmental, policy, and socioeconomic changes. These require evidence and models that link environmental drivers (e.g. land use, pollution, climate etc.) through to projections of future biodiversity change.

Birds frequently form part of these projections because of the breadth of data available but there are still important challenges which, if not effectively addressed, will undermine confidence in projections and affect the reliability of decision-making. This presentation will discuss some of these needs, relating particularly to the availability and synthesis of data and evidence, validation and uncertainty in models, diversity of modelling approaches, and communication of outputs. The increasing policy emphasis on biodiversity projections means this is likely to become an important application of bird data and evidence, and so may stimulate opportunities for new data collection and analyses, as well as systems for integrating evidence and approaches.

Paul Woodcock works at JNCC in the Ecosystems Analysis team, which includes large-scale citizen science biodiversity monitoring partnerships, Earth Observation, and data analysis. Paul currently manages the Biodiversity Pathways programme, which aims to develop resources and evidence in relation to biodiversity scenarios and modelling – current emphasis focuses particularly on biodiversity indicators in collaboration with UKCEH and BTO. He also works on how DNA methods can be effectively integrated into environmental monitoring, and previously managed JNCC input to large-scale bird monitoring schemes run and funded in partnership with BTO and RSPB.

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10:35 | TALK

Extreme climatic events alter expected spatiotemporal patterns of seasonal migration in European shags

Rebecca Lovell (she/her)

University of Aberdeen, UK | [@rebeccalovell.bsky.social](https://bsky.app/profile/rebeccalovell.bsky.social)

Co-authors: Paul Acker (Norwegian University of Science and Technology), Sarah Burthe (UK Centre for Ecology & Hydrology), Rita Fortuna (Norwegian University of Science and Technology), Carrie Gunn (UK Centre for Ecology & Hydrology), Josie Hewitt (UK Centre for Ecology & Hydrology), Timothy Morley (University of Aberdeen), Mark Newell (UK Centre for Ecology & Hydrology), Robert Swann (Highland Ringing Group), Erin Taylor (UK Centre for Ecology & Hydrology, British Trust for Ornithology), Cassandra Ugland (Norwegian University of Science and Technology), Sarah Wanless (UK Centre for Ecology & Hydrology), Francis Daunt (UK Centre for Ecology & Hydrology), Jane Reid (Norwegian University of Science and Technology, University of Aberdeen)

Aims: Extreme climatic events (ECEs) could impose novel selection regimes on life-history traits, thereby altering evolutionary trajectories and population trends. However, outcomes cannot yet be fully predicted because spatiotemporal dynamics and eco-evolutionary implications of ECE-induced selection have rarely been quantified.

Methods: Applying multi-state mark-recapture models to 15 years of data (spanning five ECEs) on 3,510 individuals, we estimate spatiotemporal variation in survival and reproductive selection on the critical life-history trait of seasonal migration for a partially migratory population of European shags utilising multiple overwinter areas.

Results: We found that survival and subsequent reproductive success varied across years and overwinter locations, causing strong selection on the occurrence and form of seasonal migration. ECEs were associated with episodes of strong survival selection, with spatial patterns varying among ECE years and differing from more typical years.

Conclusion: Our results demonstrate how ECEs can alter spatial patterns of selection and thereby highlight how successive ECEs could reshape population futures by altering life-history evolution and resulting population dynamics.

Rebecca Lovell is a quantitative evolutionary ecologist, currently doing a postdoc at the University of Aberdeen. She is broadly interested in using statistical methods to understand ecological and evolutionary responses to environmental variation in space and time.

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10:50 | TALK

Targeted conservation effort is required for Nature Recovery

Jenni Border (she/her)

British Trust for Ornithology, UK

Co-authors: Jennifer A. Border¹, Robert A. Robinson¹, Dario Massimino¹, William H. Morgan², Ashley T. Simkins², Solène Marion³, Paul Woodcock³, Chris Cheffings³, Philippa L. Young², Adele Launay², Anita Lazurko⁴, Diana Bowler⁵, Nick J. B. Isaac⁵, William J. Sutherland², James W. Pearce-Higgins^{1,2,6}

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6. School of Biological Sciences, University of East Anglia, Norwich, UK

Aims: As part of a range of targets aimed to halt biodiversity loss and restore biodiversity, in 2022 governments around the world agreed to protect 30% of the world's land and seas in effective, well managed and well-connected protected areas by 2030. The contribution of expanding the protected area network to biodiversity recovery remains untested and is subject to uncertainties and assumptions around protected area effectiveness. Building on growing evidence for positive protected area impacts for breeding birds, we assess the possible outcomes of different approaches to protected area expansion for the four constituent countries of the UK using Breeding Bird Survey data. We additionally quantify the potential additive effect of targeted conservation management action at protected sites, using data on effect sizes extracted from Conservation Evidence's Bird Conservation synopsis. Lastly, we highlight caveats and variations in results that arise from different modelling decisions.

Methods: We used Breeding Bird Survey data and random forest modelling techniques to model the effect of different configurations of protected area expansion. Additionally, we use Conservation Evidence to model the effect of improved management in these areas.

Results: Most bird species are predicted to gain in abundance under increased protected area coverage regardless of the approach, but which spatial arrangement was most beneficial varied depending on the country, species group and metric measured. Therefore, the best strategy depends on which species are a priority when designating the new protected areas. Protected areas were most beneficial for declining and threatened species, but without the inclusion of targeted conservation management, protected area expansion alone was unlikely to be sufficient to achieve reasonable nature recovery targets.

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Conclusion: Targetted conservation management is vital to achieve nature recovery.

Jenni Border is a Senior Research Ecologist at the British Trust for Ornithology, specialising in large-scale spatio-temporal and predictive modelling of populations. This includes projects focused on Afro-Palearctic migrants, including changes in phenology, fattening and morphology linked to climate change, bats and urban planning and protected areas. Other strong research interests include air pollution effects on birds.

11:05 | LIGHTNING TALK

Microplastics in regurgitated pellets of predatory birds with overlapping diets and habitats in Southern England

Rana Ozturk (she/her)

University of Reading & UK Centre for Ecology & Hydrology, UK

Co-authors: Gbotemi A. Adediran (University of Leeds), Dominic P. Brass (UKCEH), William F. Mills (University of Reading), Alexander Robinson (UKCEH), Stuart Black (University of Reading)

Aims: This study aims to quantify microplastic exposure to two bird of prey species who share overlapping habitats and diets, Barn Owls (*Tyto alba*) and Kestrels (*Falco tinnunculus*), in the UK.

Methods: A total of eight Barn Owl and Kestrel nests ($n = 16$) were sampled from rural Hampshire. Three pellets were collected from each nest. Pellets were digested using 10% KOH followed by a Fenton's reaction. Samples were analysed using micro-FT-IR and plastic particles identified by machine learning software.

Results: Microplastics were detected in 92% of Kestrel and 83% of Barn Owl pellets. Additionally, Kestrel pellets contained 20.08 microplastic particles/g while Barn Owl pellets contained 0.78 particles/g. Number of particles detected increased as particle size decreased.

Conclusion: Our results point towards the biomagnification of microplastics through the food chain to top predators. Differences in particles/g ingested between the two species indicate that microplastic exposure may be determined by variations in prey microplastic load.

Rana Ozturk is a PhD student in Environmental Sciences jointly hosted by the University of Reading and the UK Centre for Ecology & Hydrology. The main focus of her research is microplastics, specifically their ingestion by birds of prey in the UK. Her research combines different analytical techniques to detect microplastics.

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11:10 | LIGHTNING TALK

Using an integrated modelling framework to inform flyway-scale adaptive management strategies for a declining duck species

Julien Terraube (he/him)

French Biodiversity Agency (Office Français de la Biodiversité, OFB), France |

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Co-authors: Paul Thompson (OFB), Odin Rumianowski (CEFE-CNRS), Matthieu Guillemain (OFB), Aurélien Besnard (CEFE-CNRS)

Aims: Waterfowl face cumulative anthropogenic pressures leaving several European duck species in unfavourable conservation status and raising concerns about harvest sustainability. A recent assessment identified possible overharvest in five ducks and highlighted major data gaps, particularly for Northern Pintail (*Anas acuta*) whose key demographic information remain limited across Europe. We aim to develop a flyway-scale integrated population model for the two European flyways to inform management.

Methods: We analyzed 40 years of winter survey, ring-recovery, and breeding success data to estimate flyway-specific demography. We jointly estimated population trends, survival, and productivity, projecting regional population responses to potential changes in hunting quotas.

Results: Our IPM showed that juvenile survival and productivity are key drivers of pintail population growth, which are also highly sensitive to changes in hunting quotas.

Conclusion: Our results improve understanding of the species' population dynamics and support European Commission harvest recommendations by enabling pre-season forecasts and more stable, evidence-based management.

Julien Terraube is a senior researcher at the French Biodiversity Agency with expertise in adaptive management of biodiversity at national and European scales. His research has focused on bird conservation and population ecology, alongside conservation science and particularly the assessment of protected area effectiveness.

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11:20 | KEYNOTE

Predicting escape from climate change in wild bird populations

Jane Reid

Norwegian University of Science and Technology, Norway & University of Aberdeen, UK



Many bird populations are dramatically changing in size and distribution in response to changing climates and habitats. Efficient conservation efforts require not only monitoring current changes, but ideally also adequately predicting future changes. Yet, the ambition to predict future population dynamics is highly challenging. This is not least because, as well as directly impacting demography, ongoing climate and habitat changes could also drive rapid evolution of key aspects of ecology, including life-history, phenology, movement and resulting seasonal distributions. Such rapid evolution could potentially allow populations to persist despite environmental stressors. Yet, novel forms of selection induced by new climatic extremes could also reduce population viability. While predicting the form, rate and outcome of evolution is highly challenging, it is now possible to do so using combinations of widely-collected ornithological field data. I will illustrate this approach using data from partially migratory European Shags (*Gulosus aristotelis*) in Scotland, and thereby examine whether shags could escape from mortality caused by increasingly severe winter storms through rapid evolution of seasonal migration. I show that extreme storms can alter the form of natural selection acting on seasonal migration versus residence in adults and juveniles, and thereby directly alter seasonal distributions. Yet, despite evidence of underlying heritable genetic variation in migration, the potential for rapid adaptive evolution is highly constrained by spatio-temporal variation. These analyses reveal why evolution may be unable to rescue declining populations from extinction in the context of 21st century environmental change.

Jane Reid obtained her BA at the University of Cambridge and her PhD at the University of Glasgow. She held research fellowships at the University of British Columbia and University of Cambridge. She is now a professor of population and evolutionary ecology at Norwegian University of Science & Technology and University of Aberdeen. Her main interest is in understanding how bird populations will respond to environmental changes through combinations of ecological, phenotypic and evolutionary change.

11:50 | TALK

Understanding the recent loss of migratory behaviour in a long-lived bird

Aldina Franco

University of East Anglia, UK |  @aldinafranco.bsky.social

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Co-authors: Ines Catry; Marta Acacio

Aims: We investigated the mechanisms underlying the recent and rapid loss of migratory behaviour in the White Stork (*Ciconia ciconia*) along the African–Eurasian flyway. Specifically, we tested whether population-level shifts towards residency are explained by within-individual changes (phenotypic flexibility) or between-individual processes (developmental plasticity or microevolution through selection).

Methods: We combined 25 years of census data (1995–2020), GPS tracking of 213 individuals (tracked up to 7 years), and whole-genome sequencing to assess age-specific migratory behaviour, within-individual consistency, and genetic differentiation between migrants and residents.

Results: Residency increased from 18% to 68–83% over 25 years. While 98% of first-year birds migrated to Africa, migration declined with age (67% in year two; 33% in year three), and only 19% of adults migrated. Adults were highly consistent across years, and genomes of adult migrants and residents are essentially undifferentiated. Furthermore, there was no evidence of selection favouring residency.

Conclusion: Our findings indicate that the shift towards residency in Iberian White Storks is primarily explained by developmental plasticity. While migratory behaviour appears plastic in early life, strategies become fixed during adulthood. This mechanism may enable long-lived migratory species to respond to rapid, human-driven environmental change.

Aldina Franco is a Professor in Ecology and Global Environmental Change at the University of East Anglia. Her research focuses on understanding recent changes in species distributions, behaviour and migratory strategies, with birds and butterflies as model species. Aldina is also involved in developing tracking devices to enable long distance tracking of migratory species.

12:05 | LIGHTNING TALK

Vegetation phenology mediates the responses of passerine birds to changes in temperature across Europe

Celestine Adelmant (she/her)

University of Oxford, UK |  @celestineadelmant

Co-authors: Prof. Ben Sheldon (University of Oxford), Dr Ella Cole (University of Oxford), SPI birds data owners

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Aims: We partitioned the direct and indirect effects of spring temperature on bird breeding phenology of three species of European passerine across a large spatial scale to derive a broader understanding of the factors driving phenological links across trophic levels.

Methods: We used long-term population-level reproductive phenology data from SPI birds (20 years, 71 populations, Blue & Great Tits & Pied Flycatchers), remotely sensed vegetation green-up data from MODIS, and EOBS daily mean temperatures. We partitioned the effect of spring temperature into its direct effect, and its indirect effect via vegetation phenology using Bayesian hierarchical path models.

Results: The effect of spring temperature on bird breeding timing is largely indirect, mediated by the timing of vegetation green-up. The strength of this association varies between species and latitudes.

Conclusion: These results suggest that trophic mediation may buffer some bird species against direct temperature-driven phenological shifts under climate change, and thus including vegetation phenology in predictive models may improve accuracy.

Celestine Adelmant I am a first year PhD student interested in understanding the environmental cues organisms use to determine the timing of life history events and how variation in cue use across space and time influences the potential for trophic mismatches.

12:10 | LIGHTNING TALK

Unlocking the role of environmental cues in tropic asynchrony

Sienna Rattigan (she/her)

University of Edinburgh, UK |  @siennarattigan.bsky.social

Co-authors: Emily G Simmonds, Albert B Phillimore, Hannah Froy (all affiliated with University of Edinburgh)

Aims: Trophic asynchrony can arise when interacting species shift their phenology (timing of life-history events) differently in response to climate change. It remains unclear whether this results primarily from reliance on different environmental cues or differing sensitivities to the same cues.

Methods: We disentangle these two mechanisms using 12-years of phenological data on deciduous trees, herbivorous caterpillars, and Blue Tits collected from 44 woodland sites along a 220km transect between Edinburgh and Inverness, Scotland.

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Results: We first quantify spatial and temporal variation in trophic asynchrony across the tri-trophic system before identifying the most important cues for each species using sliding window analyses. We then estimate cue sensitivity using linear mixed-effects models and evaluate how cue use and cue sensitivity contribute to trophic asynchrony using a simulation study to compare the magnitude of their effects.

Conclusion: Our findings will strengthen predictions of trophic asynchrony under future climates, helping identify populations at risk of phenological mismatch.

Sienna Rattigan is currently a first-year PhD student at the University of Edinburgh working with Dr Emily Simmonds, Dr Ally Phillimore, and Dr Hannah Froy on the Phenoweb transect. She completed her undergraduate degree, with integrated Masters, at the University of Oxford where she worked with Prof Ben Sheldon on Wytham Great Tits and winter moths.

12:15 | LIGHTNING TALK

Combined range and phenological shift by passerine migrants in response to climate change

Mark Eddowes (he/him)

Independent Researcher |  @markeddowes.bsky.social

Aims: To assess the use of migration and breeding phenological shifts and elevational and latitudinal range shifts by passerine migrants in response to climate variation.

Methods: Directional and interannual range and phenological shifts are determined from citizen science data and a 10-year nesting study, with reference to the wider literature to provide a more coherent overall picture.

Results: Climate-related change in arrival phenology, breeding phenology and range is evident. Arrival timing has advanced recently, and there is inter-annual variation with en route meteorological conditions. Nevertheless, arrival advancement temporal trends are not keeping pace with spring advancement. Earlier breeding phenology, including temperature-related inter-annual and spatial temperature plasticity, supports synchrony with springtime food resources. However, given arrival timing constraints, range shift is also required to maintain synchrony.

Conclusion: Continued multifaceted responses for climatic niche maintenance, involving directional and inter-annual phenological and range shifts, are expected in future, but their complexity and modelling limitations preclude reliable predictions.

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Mark Eddowes has a life-long interest in ornithology, pursued in a voluntary capacity through county ornithological societies, the BTO and the BOU, of which he is currently the Honorary Treasurer. He undertakes his own research, in particular into the responses of long-distance passerine migrants to climate change.

12:25 | BLUESKY

Divergent bird community responses to climate change, wildfires, and forest management in boreal forests

Junior A. Tremblay (he/him)

Environment and Climate Change Canada |  @tremblay-ecology.bsky.social

Co-authors: Guillemette Labadie, Université du Québec à Montréal; Pierre Drapeau, Université du Québec à Montréal; Diana Stralberg, Natural Resources Canada; Yan Boulanger, Natural Resources Canada

Aims: In this study, we assess how climate change, wildfires, and forest management may interact to influence bird diversity and community composition in Québec's boreal and hemiboreal forests by 2100.

Methods: Using spatially explicit simulations of forest landscapes coupled with empirical abundance models for 73 bird species, we projected avian responses under different climate scenarios (baseline, RCP4.5, RCP8.5), wildfire regimes, and forest management strategies within boreal and hemiboreal forests of Québec.

Results: Climate-change impacts were projected to be the main drivers of changes in bird species composition by 2100, surpassing the influence of wildfires and forest harvesting. Boreal coniferous and mixed forest bird species exhibited small but consistent declines in diversity. In contrast, bird species associated with thermophilous and human-temperate forests tended to increase in diversity, thriving in warmer and more heterogeneous landscapes shaped by climate change and disturbance regimes.

Conclusion: Our results highlight spatial heterogeneity in bird community responses, with species gains in northern regions and losses in the south, emphasizing the need for conservation strategies that account for both species-specific vulnerabilities and large-scale community restructuring.

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Junior A. Tremblay, a Research Scientist at Environment and Climate Change Canada and Invited Professor at Laval University, leads research on boreal birds and ecosystems to provide applied knowledge on the impacts of natural and human-induced disturbances, as well as climate change, on habitat selection and the demographic parameters of birds.

12:35 | BLUESKY

How birds navigate congested cities: a simulated approach

Gregory Eckhardt (he/him)

University of Birmingham, UK |  @gregoryeckhardt.bsky.social

Co-authors: Dr Jim Reynolds; Prof Jon Sadler; Dr Laura Graham; Dr Tom Matthews - University of Birmingham

Aims: We aimed to better understand how birds navigate cities – landscapes consisting complicated mosaics of patches of varying suitability for movement – so that we might predict the future of urban avian biodiversity. Specifically, we asked how does navigation change for birds with different perceptual ranges, and how does it change when the landscape changes, such as when traffic congestion intensifies?

Methods: We investigated this by simulating theoretical birds' movement paths on a real landscape, incorporating real congestion data.

Results: We found that birds ranged less far with greater congestion, and risk associated with birds' movement paths increased with both congestion and perceptual range.

Conclusion: We conclude that high levels of congestion may be a significant and underestimated functional barrier to avian movement, increasingly fragmenting the landscape and posing increased mortality risk at busier times. Birds with higher perceptual ranges may perceive more high-quality patches but may face a higher mortality risk in reaching them.

Gregory Eckhardt is a final-year PhD researcher at the University of Birmingham investigating how urban landscapes influence avian movement. Using simulations and GPS tracking, he explores the intersection of animal perception and urban permeability. He is currently seeking postdoctoral opportunities to further study avian movement ecology.

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13:20 | KEYNOTE

Automated insights: transforming the future of bird monitoring

Stephen Pringle

University of Kent, UK



Populations of many bird species are in decline, reflecting the wider biodiversity crisis and threatening the ecological services upon which humanity depends. Birds are highly sensitive indicators of environmental change, yet effective, long-term monitoring across more than 11,000 species and their diverse habitats remains a major scientific and logistical challenge.

Emerging Robotic and Autonomous Systems (RAS) offer a transformative opportunity to rethink how we study and conserve avian biodiversity. From autonomous aerial surveys and acoustic monitoring to intelligent sensor networks and automated species identification, these technologies could greatly expand the scale, precision, and temporal continuity of population monitoring. While significant technical challenges remain, RAS hold the potential to reveal ecological patterns and population trends previously beyond our reach. I will highlight key areas of research where novel technological advances are poised to radically extend RAS capabilities, potentially transforming our understanding of avian biodiversity over the next 30–50 years. But is this approach truly feasible and desirable? Alongside its promise, might it introduce new risks? How can we use the vast data these systems generate to guide effective conservation action? This keynote will explore how advances in RAS could revolutionize avian monitoring and conservation, envisioning a future in which technology and human expertise work together to better understand, value, and safeguard the planet's birds.

Stephen Pringle, a nuclear physicist turned multidisciplinary scientist, followed a technology-based career spanning real-time software, advanced instruments, motion control, and electronics. Alongside his technological expertise, he nurtures a lifelong passion for birds, ecology and conservation. After completing an MSc in Conservation Biology at DICE in 2016, he became an honorary researcher there. He recently played a key role in a major project investigating how Robotics and Autonomous Systems (RAS) can revolutionize terrestrial biodiversity monitoring.

13:50 | TALK

Archaeological data reveals fundamental environmental associations of declining UK bird species obscured by anthropogenically-disturbed distributions

Bethany Pittard (she/her)

University College London, UK

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Co-authors: Bethany E. Pittard¹, James P. Hansford², Joanne H. Cooper³, Jeremy A. Smith⁴, Ryan N. Felice⁵, Philip D. Mannion¹

1. Department of Earth Sciences, University College London, London, UK
2. School of Biological and Behavioural Sciences, Queen Mary University of London, London, UK
3. The Natural History Museum, Tring, Hertfordshire, UK
4. British Trust of Ornithology, Thetford, Norfolk, UK
5. Department of Genetics, Evolution and Environment, University College London, London, UK

Aims: To test whether archaeological occurrence data recover pre-industrial environmental associations obscured in modern species distributions, and to assess what comparing temporal baselines reveals about the ecological constraints structuring species ranges.

Methods: Species distribution models (SDMs) were trained on modern (2000–2020 AD) and archaeological (pre-1850 CE) datasets for two declining UK birds: Grey Partridge (*Perdix perdix*) and Eurasian Curlew (*Numenius arquata*).

Results: Archaeological models substantially outperform modern models for both species. Spatial overlap between baselines is low, with each identifying fundamentally different suitable areas. Comparing baselines distinguished climatically-limited (partridge) from habitat-limited (curlew) range contractions.

Conclusion: Utilising archaeological data in SDMs reveals ecological constraints and distributional shifts that modern data alone cannot detect. For the partridge, climate warming will expand suitable habitat but agricultural management remains the binding constraint. For the curlew, present distribution reflects displacement from lowland wetlands rather than fundamental niche preference, making wetland restoration the priority for recovery.

Bethany Pittard is a final-year PhD student applying conservation palaeobiology to modern UK birds. Her research integrates zooarchaeological and fossil records into species distribution models, evaluating how these past archives and associated palaeoenvironmental data alter projections of widespread and range-restricted species, with implications for their conservation and rewilding.

14:05 | TALK

Individual identification of Leach's Storm-petrels from their vocalisations

Brennig Hughes (he/him)
RSPB, UK

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Co-authors: Connie Tremlett (RSPB), Page Huang (BTO), Simon Gillings (BTO), Mark Bolton (RSPB)

Aims: Leach's Storm-petrel has a widespread distribution throughout the North Atlantic and Pacific, but is now considered globally threatened due to steep declines throughout much of its range. The primary drivers of this decline remain unclear, and we lack critical information on basic demographic parameters such as adult survival rates needed to assess the impact of threats and, crucially, potential conservation solutions.

Methods: Here we present a novel audio-based deep-learning framework for the individual recognition of Leach's Storm-petrels breeding at the largest UK colony, St Kilda, based on acoustic recordings collected at individual burrows across five breeding seasons.

Results: These individual identifications provide the basis of a mark-recapture history suitable for monitoring apparent adult survival.

Conclusion: Our reproducible and non-invasive data collection and analysis pipeline will enable the collection of critical data for Leach's petrels at remote island colonies where it is not feasible to collect such data currently, supporting wider and more frequent monitoring of this elusive species.

Brennig Hughes has spent the last three summer seasons working for the RSPB on St Kilda researching Leach's Storm-petrels. He's become enthusiastic about the use of bioacoustics to offer a glimpse into their elusive and nocturnal, but noisy lives.

14:25 | KEYNOTE

What past surprises tell us about the future of an endangered bird

Robert J. Fletcher

University of Cambridge, UK



Twenty-five years ago, a rapid decline of an endangered, wetland bird, the Everglade Snail Kite (*Rostrhamus sociabilis plumbeus*), alarmed scientists and practitioners. And then suddenly, a recovery occurred. What happened? And what do these dramatic changes tell us about future outlooks for conservation? I will describe long-term research across the geographic range of the snail kite in the USA that has identified a series of surprising events over time for this species, the present wicked problems for conservation that have emerged, and how these events inform expectations for the future. The decline and recovery were driven by different factors: extreme climate events led to a sharp decline based on changes in both nest and adult survival, whereas

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the spread of a highly invasive prey sparked recovery through increases in breeding effort enabled by behavioral and morphological change. Demographic changes over time now inform both near-term forecasts for wetland management and long-term predictions on species persistence to guide recovery policy. While near-term forecasts are highly accurate and provide actionable information for decision making, long-term scenarios are plagued with uncertainty about key climate parameters, anticipation of future surprises, and the ability to balance water for nature and people. I will end by discussing some solutions for future forecasting and reflect on how this system may provide insights for declining species across the planet.

Robert J. Fletcher is the Miriam Rothschild Professor of Conservation Biology at the University of Cambridge. His research interests include conservation, landscape ecology, ornithology, and quantitative science. He has long-term, applied research in the Everglades and in southern Africa. He has published over 160 scientific articles and is the lead author of the book, *Spatial Ecology and Conservation Modeling*. He is a committed teacher and mentor, having mentored over 40 postgraduate students and postdocs.

14:55 | TALK

The role of land cover change and species traits in shaping avian populations

Ivara Goulden (they/them)

University of North Carolina at Chapel Hill, USA |  @ijbg-birds.bsky.social

Co-authors: Allen Hurlbert, University of North Carolina at Chapel Hill

Aims: Understanding how habitat specialization determines species responses to landscape change is vital amid changing global landscapes and ongoing population declines. I assess how the populations of 66 bird species in the southeastern USA respond to urbanization, forest loss, and forest gain over short (1 year), medium (5 year), and long (26 year) time spans, and the degree to which specialization predicts those relationships.

Methods: We modeled population change using the North Carolina Mini Breeding Bird Survey (1999-2024), a community science project annually censusing 34 routes, as a function of landscape change within a Bayesian framework.

Results: Preliminarily, more species show rapid (one-year) responses to urbanization (35%, 23/66) than to forest loss (9%, 6/66) or gain (6%, 4/66). Notably, forest specialization, grassland specialization, and urban association do not predict these responses.

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Conclusion: Even urban-associated species decline with urbanization. Understanding drivers of success or failure in changing habitats across temporal scales improves future population predictions.

Ivara Goulden is a PhD Candidate at the University of North Carolina Chapel Hill studying how climate and land cover change are impacting bird populations.

15:10 | TALK (ONLINE)

Global habitat suitability and conservation priorities for vultures under a changing climate

Radhika Jha (she/her)

INIBIOMA- CONICET, Argentina |  @bou.org.uk

Co-authors: Ramiro Crego (University College Cork, Ireland), Paula Perrig (INIBIOMA- CONICET, Argentina), Sergio Lambertucci (INIBIOMA- CONICET, Argentina), Julian Padro (INIBIOMA- CONICET, Argentina)

Aims: This study evaluates the global impact of climate change on habitat suitability for 23 vulture species. It aims to map current suitability, project future range dynamics, identify transboundary conservation priorities, and assess effectiveness of Protected Area networks.

Methods: Utilizing Species Distribution Models, the study projects habitats under various climate scenarios to identify "climate refugia" and quantify the magnitude and trajectory of range shifts due to climate change. These were intersected with PA boundaries and international borders to identify global areas of concern.

Results: Findings suggest that shifting habitat patterns will create a geographical gap between where species live now and where suitable conditions will exist in the future. Many species face range contractions, with high-priority "hotspots" shifting across international borders, potentially leaving current PAs ineffective.

Conclusion: As highly mobile obligate scavengers, vultures require landscape-scale, transboundary conservation strategies. Static PAs may fail to protect shifting populations, necessitating dynamic, international policy frameworks to preserve essential ecosystem services.

Radhika Jha is a postdoctoral researcher at INIBIOMA-CONICET in San Carlos de Bariloche, Argentina. Originally from India, she is a vulture ecologist interested in how climate change is

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reshaping vulture habitats worldwide and what can be done to keep these landscapes suitable for birds in the future.

15:25 | TALK

Integrating climate risk into spatial planning for climate change-resilient bird conservation

Beckie George (she/her)

University of East Anglia, UK

Co-authors: Rachel Warren (University of East Anglia), Jeff Price (University of East Anglia), Aldina Franco (University of East Anglia), James Pearce-Higgins (British Trust for Ornithology), Dario Massimino (British Trust for Ornithology)

Aims: To provide insights for enhancing the climate resilience of biodiversity within UK land-use frameworks.

Methods: Global climate envelopes were modelled for 208 British bird species and projected under high-resolution future climatologies (UKCP18 Local Strand) centred on six global warming levels. These projections were overlayed with land-use scenarios illustrating nature-based solutions pathways. These scenarios were compared for their capacity to maximise species richness among habitat-associated bird assemblages under each of the alternative climate futures.

Results: Projected distribution shifts differ among habitat-associated assemblages and across climate/land-use scenario combinations. For example, assemblages associated with habitats concentrated in southern England face high climate exposure and projected richness losses, whereas gains are often projected at higher latitudes. Mitigation-oriented land-use pathways may facilitate climate-driven range shifts, while others constrain species' ability to occupy suitable climate, highlighting the interacting effects of climate and landscape composition on future avian distributions.

Conclusion: Anticipating how bird distributions respond to interacting climate and land-use changes is essential to maximise the success of future bird conservation outcomes. Embedding climate change resilience into strategic implementation of nature-based solutions can better align conservation and land-use policy frameworks to the long-term effectiveness of conservation measures.

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Beckie George is a PhD researcher focused on understanding how climate change and land use impact the distributions of British bird species. Her research aims to identify the drivers behind both historical and projected distribution changes to inform strategies that integrate climate resilience into biodiversity conservation and land use policy.

DELEGATES

Celestine Adelmant  @celestineadelmant	University of Oxford, UK	In-person
Yinka Adeniji	Imperial College London, UK	In-person
Sarah Anthony	Natural England, UK	In-person
Adham Ashton-Butt	British Trust for Ornithology, UK	In-person
Phil Atkinson	British Trust for Ornithology, UK BOUasm26 Scientific Programme Committee	In-person
Thomas Beckett	Durham University, UK	In-person
Keith Blundell	Natural History Society of Northumbria, UK	In-person
Megan Boffin	UHI Inverness, UK	In-person
Jennifer Border	British Trust for Ornithology, UK	In-person
Tom Cameron	University of Essex, UK	In-person
Hannah Coburn	University of Essex, UK	In-person
Josh Coupar-Evans	University of East Anglia, UK BOU Conference Support Officer	In-person
Abbie Craig	University of Salford, UK	In-person
Francis Daunt	UK Centre for Ecology & Hydrology	In-person
Andrew Doyle	Durham University, UK	In-person
Rosaleen Duffy	University of Sheffield, UK	In-person
Gregory Eckhardt  @gregoryeckhardt.bsky.social	University of Birmingham, UK	In-person
Mark Eddowes  @markeddowes.bsky.social	Independent Researcher, UK BOU Honorary Treasurer	In-person

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Robert Fletcher	University of Cambridge, UK BOUasm26 Keynote Speaker	In-person
Moreen Forde	University of Birmingham, UK	In-person
Aldina Franco  @aldinafranco.bsky.social	University of East Anglia, UK	In-person
Rubén Gazulla Murcia	British Ecological Society, UK	In-person
Rebecca George	University of East Anglia, UK	In-person
Dan Gornall	WWT, UK	In-person
Ivara Goulden  @ijbg-birds.bsky.social	University of North Carolina - Chapel Hill, USA	In-person
Matthew Grainger	Norwegian Institute for Nature Research, Norway BOUasm26 Scientific Programme Committee	In-person
Holly Green	University of Sheffield, UK	In-person
Dave Hay	University of York, UK	In-person
Filibert Heim	Lund University, Sweden	In-person
Emma Hill	Durham University, UK	In-person
Brennig Hughes	RSPB, UK	In-person
Patrick Lindley	Natural Resources Wales, UK	In-person
Rebecca Lovell  @rebeccalovell.bsky.social	University of Aberdeen, UK	In-person
Philip Mannion	University College London, UK	In-person
Kate McFarland	Ohio State University Center for Ethics and Human Values, USA	In-person
Beatrice McWilliams	University of Edinburgh, UK	In-person
Simone Mordue	RSPB, UK	In-person
Susan Morgan	SongBird Survival, UK	In-person
Catriona Morrison	Biomathematics and Statistics Scotland (BioSS), UK BOU Meetings Committee (Chair)	In-person

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Emma Moxham	British Ornithologists' Union, UK BOU Journal and Engagement Manager	In-person
Megan Muxlow	Durham University, UK	In-person
Patrick Newcombe	University of Cambridge	In-person
Rana Ozturk	University of Reading & UK Centre for Ecology & Hydrology, UK	In-person
Joel Pick	University of Edinburgh, UK	In-person
Bethany Pittard	University College London, UK	In-person
Stephen Pringle	University of Kent, UK BOUasm26 Keynote Speaker	In-person
Sienna Rattigan  @siennarattigan.bsky.social	University of Edinburgh, UK	In-person
Jane Reid	Norwegian University of Science and Technology, Norway & University of Aberdeen, UK BOUasm26 Keynote Speaker	In-person
Philip Scarr		In-person
Emily Simmonds	University of Edinburgh, UK BOUasm26 Scientific Programme Committee (Chair) & BOU Meetings Committee	In-person
Victoria Slugocki	University of Salford, UK	In-person
River Stewart	University of Portsmouth, UK BOU Social Media Support Officer	In-person
Julien Terraube  @julienterraube.bsky.social	Office Français de la Biodiversité, France	In-person
Megan Thompson	University of Edinburgh, UK BOU Meetings Committee	In-person
Anna Thompson	University of East Anglia, UK	In-person
Constance Tremlett	RSPB, UK	In-person
Leila Walker	British Ornithologists' Union, UK BOU Chief Operations Officer	In-person
Julia Weiss	University of Cambridge, UK	In-person

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Paul Woodcock	Joint Nature Conservation Committee (JNCC), UK BOUasm26 Keynote Speaker	In-person
Hugh Wright	Joint Nature Conservation Committee (JNCC), UK BOU Vice President	In-person
Karolina Zalewska	British Trust for Ornithology, UK BOU Engagement Committee	In-person
Emmanuel Adebija	Confluence University of Science and Technology, Osara, Nigeria	Online (Zoom)
Lisa Ammer	University of Edinburgh, UK	Online (Zoom)
Abigail Barenblitt	NASA/ UMD, USA	Online (Zoom)
Ahlame Benghedier	University of Kasdi Merbah Ouargla, Algeria	Online (Zoom)
Alex Blochel	WEC, IFAS, University of Florida, USA	Online (Zoom)
Donald Blomqvist	University of Gothenburg, Austria	Online (Zoom)
Adam Cross	Arup, UK	Online (Zoom)
Michael Cuff	British Trust for Ornithology, UK	Online (Zoom)
Melissa Curtis	BSG Ecology, UK	Online (Zoom)
Olivier Dochy	Research Institute for Nature and Forest (INBO), Belgium	Online (Zoom)
Luiz dos Anjos	State University of Londrina, Brazil	Online (Zoom)
Manuel Angel Duenas	UK Centre for Ecology & Hydrology	Online (Zoom)
Ute Eggers	NABU Bundesverband, Germany	Online (Zoom)
Julie Ewald	Game & Wildlife Conservation Trust, UK	Online (Zoom)
Kathy Fletcher	Game & Wildlife Conservation Trust, UK	Online (Zoom)
Fiona Freshney	Natural England, UK	Online (Zoom)
Hannah Gotch Curry	University of Edinburgh, UK	Online (Zoom)
Jeden Hanshaw		Online (Zoom)
Lisa Hildebrand	Helmholtz - Zentrum, Germany	Online (Zoom)
Amulya Hosur	Rijksuniversiteit Groningen, Netherlands	Online (Zoom)

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Paul Hughes		Online (Zoom)
Leyla Hunn	Game & Wildlife Conservation Trust, UK	Online (Zoom)
Eduardo Inigo Elias	Cornell University, USA	Online (Zoom)
Radhika Jha	INIBIOMA- University of Comahue, Argentina	Online (Zoom)
Blanca Jimeno	Pyrenean Institute of Ecology (IPE-CSIC), Spain	Online (Zoom)
Tiia Kärkkäinen	University of Turku, Finland	Online (Zoom)
Sean Kelly	National Parks and Wildlife Service, Ireland	Online (Zoom)
Joseph Lennon	BirdWatch Ireland, Ireland	Online (Zoom)
David Lindenmayer	The Australian National University, Australia	Online (Zoom)
Ruixue Liu	University of Groningen, Netherlands	Online (Zoom)
Mairead Lyons	Scottish Ornithologists Club, UK	Online (Zoom)
John Mallord	RSPB, UK	Online (Zoom)
Lucy Mason	RSPB, UK BOUasm26 Scientific Programme Committee	Online (Zoom)
Carlos Jose Moreno Arroyave		Online (Zoom)
Diane Neudorf	Sam Houston State University, USA	Online (Zoom)
Nina O'Hanlon	BTO Scotland, UK BOU Grants Committee	Online (Zoom)
Valerio Orioli	University of Milano – Bicocca, Italy	Online (Zoom)
Johanna Osterberg	BioConsult SH GmbH & Co. KG, Germany	Online (Zoom)
Anaïs Pessato	Station Marine, MNHN, France	Online (Zoom)
Mike Pienkowski	UK Overseas Territories Conservation Forum, UK	Online (Zoom)
Gargi Sawant	University of East Anglia, UK	Online (Zoom)
Melanie Schroer	University of Birmingham, UK	Online (Zoom)
Catherine Sheard		Online (Zoom)
D.L. Sowerbutts		Online (Zoom)
Tohar Tal	Waardenburg Ecology, Netherlands	Online (Zoom)

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Gabriela Večeřová	Institute of Vertebrate Biology, Czech Academy of Sciences, Czech Republic	Online (Zoom)
Martin Weggler	Ornithologiebüro Weggler, Switzerland	Online (Zoom)
Peter Wilkinson		Online (Zoom)
Emil Yordanov	PERPERICA, Bulgaria	Online (Zoom)
Leran Zhang	University of Glasgow, UK	Online (Zoom)