2026 OHIO AVIAN RESEARCH CONFERENCE

Saturday, November 14, 2026

Grange Insurance Audubon Center, Columbus, Ohio

OHIO BIRD CONSERVATION INITIATIVE

GRANGE INSURANCE Audubon CENTER

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

Exhibitors & Supporters

Black Swamp Bird Observatory
Founded in 1992, Black Swamp Bird Observatory's mission is to inspire the appreciation, enjoyment, and conservation of birds and their habitats through research, education, and outreach. https://www.bsbo.org/

Columbus Audubon
Founded in 1913 and, with nearly 3,000 members, Columbus Audubon is one of the largest chapters of the National Audubon Society. We enjoy a unique partnership with the Grange Insurance Audubon Center and welcome adults and children, novices and experts, members and potential members to our programs. https://columbusaudubon.org/

Grange Insurance Audubon Center
Located just south of downtown Columbus, the Center provides environmental education and serves as a model of sustainable design. It anchors a major reclamation effort that transformed the former industrial Whittier Peninsula into the Scioto Audubon Metro Park as part of a broader plan to expand public green space and revitalize the Scioto River corridor. https://grange.audubon.org/

Ohio Biological Survey
OBS is a consortium of colleges, universities, museums, agencies, metro parks, arboreta, zoos, other organizations, and individuals in Ohio and the surrounding region. By cooperating with the professional staffs of membership, OBS produces and disseminates objective scientific and technical information concerning the flora and fauna of Ohio and areas of which Ohio is an integral part. https://www.ohiobiologicalsurvey.org/

Ohio Ornithological Society
Composed of backyard bird watchers and researchers in the field, the Ohio Ornithological Society meets across the state to watch birds, to share our sightings and insights, and to advance our collective knowledge about Ohio's birdlife. By uniting as a Society, the OOS will all speak with one voice to protect Ohio's birds and bird habitats. https://ohiobirds.org/

ODNR-Division of Wildlife
The Division of Wildlife's mission is to conserve and improve fish and wildlife resources and their habitats for sustainable use and appreciation by all. https://wildlife.ohiodnr.gov/

The Ohio State University—School of Environment & Natural Resources
SENR creates science-based knowledge and fosters environmental sustainability through teaching, research and outreach. By integrating the natural and social sciences, we promote discovery and leadership through a comprehensive approach to better understand and address environmental and natural resource challenges locally, regionally and globally. https://senr.osu.edu/

Schedule

8:00 - 9:00 Registration, poster set up, exhibitors

9:00 - 9:10 Welcome & announcements

9:10 - 10:10 Keynote presentation

Dr. Olivia Smith, *Michigan State University*
From pests to partners: Rethinking agricultural systems to support people and birds

15-minute break

10:25 - 12:00 Presentation session 1

Rachel Mansfield, *Wright State University*
How far can we hear marsh birds? Implications of acoustic detection distance for survey design

Jennifer Fuller, *National Audubon Society*
Improved Great Lakes marsh bird monitoring using autonomous recording units

Joseph Lautenbach, *ODNR-Division of Wildlife*
Designing a passive acoustic monitoring program for owls

Devin Mingesbruney, *The Ohio State University*
Development of a Bird City program for Ohio

12:30 - 1:15 Lunch + *mentor-mentee program*

1:15 - 2:15 Poster session

2:15 - 3:25 Presentation session 2

Anne Mauro, *Winous Point Marsh Conservancy*
West Nile Virus surveillance across an urban-rural gradient: from mosquitoes to birds

Greyson Poutas, *The Ohio State University*
Investigating how consistent individual differences in fear generalize across distinct threats in Black-throated blue warblers (*Setophaga caerulescens*)

Matthew B. Shumar, *The Ohio State University*
Developing Ohio's next bird atlas

3:25 - 3:30 Closing remarks

Keynote Presentation

From pests to partners:
Rethinking agricultural systems to support people and birds

Dr. Olivia Smith

Assistant Professor
College of Agriculture & Natural Resources, Department of Horticulture
Michigan State University

Agriculture is the single largest land use on Earth and a leading driver of bird declines, making working lands a pivotal part of conservation efforts. Although birds are often perceived as agricultural pests, they can also provide valuable ecosystem services, such as controlling crop-damaging insects and vertebrates. In this talk, I will discuss several field experiments and large-scale observational studies showing how the costs and benefits of birds on farms depend on farm management and broader landscape contexts. I will highlight research demonstrating how practices such as farm diversification and raptor nest boxes can shift the cost–benefit tradeoffs of birds on farms, enhancing ecosystem services while reducing risks. Altogether, my research shows that agricultural systems can be redesigned to align conservation and production in affordable and feasible ways that support both farmers and birds.

Olivia M. Smith, Ph.D., is an assistant professor at Michigan State University, where she leads the Smith BIRDS Lab. Her research focuses on how working landscapes can be managed to support both people and nature. Taking an ecosystem services perspective, her work examines how birds contribute to ecosystem services such as pest control while addressing potential disservices, particularly food safety risks. Using large-scale observational studies, field experiments, and interdisciplinary approaches, she develops practical, incentive-based conservation strategies for working lands. Smith earned a B.S. from Siena Heights University in 2013, where she was also a McNair Scholar. She then went on to earn her M.S. from The Ohio State University in 2015, and a Ph.D. in biology from Washington State University in 2019. Smith has received competitive fellowships including a USDA Pre-Doctoral Fellowship, USDA Postdoctoral Fellowship, and Michigan State University Presidential Postdoctoral Fellowship in Ecology, Evolution, and Behavior. She has published 41 peer-reviewed articles in scientific journals, including first-authored manuscripts in PNAS, Nature Ecology & Evolution, Trends in Ecology & Evolution, Journal of Applied Ecology, and more. She has co-authored articles in leading journals such as Science, Global Change Biology, and One Earth. Her research has been recognized through honors such as the Frontiers Planet Prize and Ned K. Johnson Early Investigator Award from the American Ornithological Society.

Morning Session – Oral Presentations

How far can we hear marsh birds? Implications of acoustic detection distance for survey design

Rachel Mansfield[1], Brendan Shirkey[2], Nate Stott[3], and Volker Bahn[1]

[1] *Wright State University*
[2] *Winous Point Marsh Conservancy*
[3] *The Ohio State University—School of Environment and Natural Resources*

Secretive marsh birds are challenging to monitor but conservation depends on accurate population data. Understanding the sampling space of autonomous recording units (ARUs) and how it compares to human-conducted surveys is necessary for designing effective monitoring programs and integrating data collected using different methods. Because uncertainty in ARU detection range can bias population estimates, we quantified distance-dependent detection performance using controlled playback experiments in open-field and natural marsh environments and constructed detection functions by species and call type. Simultaneous human-observer trials in marsh trials allowed us to contrast ARU-based and human-based detections. Detection probability declined with distance but varied among species and call types. Species-level effective detection distances were greatest for Virginia Rail (106 m, 95% CI: 100.4-111.6 m), Sora (102 m, 95% CI: 97.1-107.0 m), and King Rail (101.7 m, 95% CI: 96.3-107.3 m), but markedly lower for American Bittern (52.2 m, 95% CI: 43.9-59.6 m) and Least Bittern (43 m, 95% CI: 35.7-49.1 m). Experienced observers maintained higher detection probabilities over distance, whereas novice observers performed similarly to ARUs. We found no significant difference in detection probability between open-field and densely vegetated marsh conditions. These species-specific effective detection distance estimates can improve ARU survey design by informing recorder spacing, interpretation of non-detections, and comparisons with human-conducted surveys. We are using these results to guide the integration of ARU and point-count data across wetlands in Ohio and Michigan with to improve occupancy estimates and ultimately link those estimates to habitat metrics useful for wetland management and conservation.

Improved Great Lakes marsh bird monitoring using autonomous recording units

Jennifer Fuller[1], Sam Schurkamp[2], Sarah Saunders[1], and Stephanie Beilke[1]

[1] *National Audubon Society*
[2] *University of Michigan—School for Environment and Sustainability*

Marsh birds are important indicators of wetland health, many of which face decline due to wetland loss and degradation. Monitoring is therefore crucial for assessing wetland restoration success, but their secretive nature and inaccessible habitat present challenges. We evaluated whether autonomous recording units (ARUs) combined with deep neural network sound recognition software can improve marsh bird detections and occupancy compared to traditional call-broadcast surveys. In collaboration with the National Fish and Wildlife Foundation and Indiana DNR, we collected and analyzed 60 ARU deployments at 16 sites and four states between 2022-2024, each paired with call-broadcast surveys using the Conway protocol. ARUs recorded for 46 days and recordings were classified using BirdNET Analyzer for 16 focal marsh bird species. We validated fifteen days of recordings for each species using classifier guided listening. ARUs or both ARUs and point counts almost always obtained the highest marsh bird richness, and ARUs detected species of high conservation concern that point counts did not. ARUs also supported occupancy models for substantially more species due to the longer sampling period and detection rates. We found that ARUs can considerably improve marsh bird monitoring and strengthen our assessments of wetland restoration outcomes.

Designing a passive acoustic monitoring program for owls

Joseph Lautenbach, Mark Wiley, Nathan Stricker

ODNR—Division of Wildlife

Due to their cryptic and nocturnal behavior, owls are difficult to monitor. Observers, particularly volunteers, often lack motivation to complete nocturnal surveys due to the unusual hours and conditions involved. Passive acoustic monitoring offers an alternative method to collect owl occurrence across large areas. We aimed to develop guidelines for an acoustic monitoring program for owls in Ohio. Autonomous Recording Units (ARUs) were deployed at 33 sites in southeastern Ohio in 2024 to test this methodology. We used BirdNET to analyze recordings to identify if the classifiers were sufficient for detecting Barred Owl, Eastern Screech-Owl, and Great Horned Owl. If the classifiers in BirdNET were adequate, we used occupancy modeling to identify daily detection probabilities and to identify and recommend deployment durations for ARUs to monitor owls in Ohio. Our results suggest that the BirdNET classifiers for Barred Owl and Great Horned Owl were satisfactory, while the classifier for Eastern Screech-Owl was insufficient. With 3 hours of recording (2 hours post-sunset, 1 pre-sunrise), we found that the daily detection probability for barred owl was 0.39 (95% CI: 0.37–0.41). Recorders would need to be deployed for a minimum of 7 or 10 days, depending on the desired confidence of occurrence. Daily detection probability for Barred Owl decreased as the number of daily recordings decreased, thus increasing the required duration of deployment. While improvements to Eastern Screech-Owl detection are needed, our results provide a foundation for statewide acoustic monitoring of Barred Owl and Great Horned Owl populations in Ohio.

Development of a Bird City program for Ohio

Devin Mingesbruney1, and Nenita Lapitan[2]

[1] *The Ohio State University—School of Environment and Natural Resources*
[2] *Audubon*

Bird City Ohio is a new statewide conservation and community engagement program co-led by the Ohio Bird Conservation Initiative and National Audubon Society's Ohio Centers. The program aims to connect Ohio communities to the larger Bird City Network across the Americas, encouraging communities of all sizes to collaborate with residents and community partners to create healthier environments for both birds and people. The program provides a framework of achievable actions that support bird habitat, reduce threats to migratory and resident birds, promote environmental education, and foster community stewardship. Participating communities can earn recognition for implementing bird-friendly practices while contributing to statewide and broader conservation goals. Bird City Ohio is designed to align with and elevate existing conservation efforts across the state, including the Ohio Lights Out program and the Native Plant Backyard Challenge. A central component of the initiative is community participation in World Migratory Bird Day, a global celebration of migratory bird conservation held each spring and fall. Participating communities will be encouraged to organize public events, educational programs, native plant sales, bird walks, conservation volunteer projects, and awareness campaigns that engage residents in taking action to support migratory birds. Through community engagement and conservation action, Bird City Ohio seeks to establish a statewide network of bird-friendly communities that advance conservation initiatives, inspire environmental stewardship, and enhance biodiversity across Ohio.

Afternoon Session – Oral Presentations

West Nile Virus surveillance across an urban-rural gradient: from mosquitoes to birds

Anne Mauro[1], Megan E. Meuti[2], Brendan Shirkey[1], Laura Pomeroy[3], and Jacqueline Nolting[4]

[1] *Winous Point Marsh Conservancy*
[2] *The Ohio State University—Department of Entomology*
[3] *The Ohio State University—College of Public Health, Division of Environmental Health Services*
[4] *The Ohio State University—College of Veterinary Preventative Medicine*

West Nile Virus is a common insect-borne disease but disease transmission factors that occur in the temperate climate such as reinitiation every spring and persistence in the environment from an urban to rural gradient are currently unknown. While previous research has taught us transmission dynamics, we are not aware of factors driving transmission across a broader scale both temporally and spatially. We hypothesize that seasonal changes in mosquito and avian community compositions drive disease epidemics in the temperate region. To test this hypothesis, we are capturing and collecting blood samples from passerines and near passerines in urban and rural sites in Central and Northern Ohio to test for active infections and antibody prevalence. At every site, mosquitoes are also captured and tested for active infection. As the research is still ongoing, we present the methods for disease surveillance, preliminary antibody prevalence data in avian species across the landscape gradient, and preliminary mosquito test results for West Nile Virus across the landscape gradient.

Investigating how consistent individual differences in fear generalize across distinct threats in Black-throated blue warblers (*Setophaga caerulescens*)

Greyson Poutas and James Mouton

The Ohio State University—Department of Evolution, Ecology & Organismal Biology

Although behavior is often considered to be the most flexible phenotypic trait, individual animals often express remarkably consistent behaviors across time and contexts. For example, when facing danger, some individuals consistently react boldly while others may always be fearful, resulting in consistent individual differences (CID) in risk-taking behavior. These behavioral patterns have important implications for an individual's fitness, population dynamics, and species' persistence. Yet, research on how CID in fear responses generalize across different dangerous contexts remains scarce, limiting our understanding of the evolution of risk-taking behavior and fear. Here, we assess adult females' responses to three types of danger: a predator that threatens adults, a nest predator, and humans in a breeding population of migratory Black-throated Blue Warblers (*Setophaga caerulescens*). To assess an individual's fear of predation, we measure latency to return to incubate after presentation of an adult predator and a nest predator. To measure fear of humans, we approach the nesting female and record the distance between the observer and the bird when it flies away. This allows us to examine whether CID in fear responses generalize across distinct predator types and if fearfulness towards predators correlates with fear of humans.

Developing Ohio's next bird atlas

Matthew B. Shumar[1], Logan Anderson[1], Jamey Emmert[2], Joseph Lautenbach[2], Laura Kearns[2], Stephen N. Matthews[1], Christopher N. Tonra[1], S.K. Winnicki[1]

[1] *The Ohio State University—School of Environment and Natural Resources*
[2] *ODNR—Division of Wildlife*

To date, two Breeding Bird Atlases and one Winter Bird Atlas have been conducted in Ohio, which have provided invaluable information on the distribution and population of birds within the state. These monumental efforts have resulted in numerous scientific publications, books, technical reports, and graduate student theses and dissertations. Additionally, results from the Second Atlas have informed changes in the classification of 18 state listed bird species and informed updates to the Ohio Department of Natural Resources (ODNR)-Division of Wildlife's (DOW) State Wildlife Action Plan as well as the generation of an updated All-Bird Conservation Plan for Ohio. The continuation of this research is essential given the widespread changes that have been documented for North American avifauna. In the two decades since the launch of Ohio's second Breeding Bird Atlas, we have observed substantial changes in the behavior and demographics of individuals participating in outdoor recreation. More and more, people are participating in non-consumptive outdoor recreation, and across the country 96 million people participate in birdwatching and contribute over 279 billion dollars annually to the economy. We hope to capitalize on this increased interest to boost participation in the Atlas and connect more Ohioans to conservation issues. Development of Ohio's third bird atlas began in 2024, led jointly by the ODNR-DOW and OSU, with support from individuals at more than 12 different institutions across the state. To better address the need for full annual-cycle conservation efforts, the Ohio Bird Atlas 3 will survey both breeding and overwintering periods. The Atlas team is finalizing details on several aspects of the project, including abundance surveys, winter protocols, nocturnal surveys, and more. The third Atlas is set to launch on December 1, 2027.

Poster Presentations

An assessment of the role of bird perches in woody plant establishment in prairies of the Midwest

Lindsey Dewey, Diego Masson, and Ryan McEwan

University of Dayton

Prairie habitats face significant threats from invasive species and habitat fragmentation. Habitat fragmentation often limits the range of wind-dispersed seeds, making animal-mediated dispersal, particularly by birds, essential. Birds disperse seeds of both native and invasive plants, often concentrating them at forest edges and beneath perches. We hypothesized that seed dispersal by birds would be greater in edge habitats, that artificial perches would accumulate more seed rain, that birds are facilitating the spread of invasive woody species into open prairie habitats, and that generalist bird species are primarily responsible for invasive seed dispersal. To test these hypotheses, we deployed bird perches and seed rain collection baskets, along with trail cameras, at three sites in southwestern Ohio. Bird droppings were collected every two weeks, and trail cameras monitored six perches which were used to identify bird species. Seeds were identified to species, and data on dispersal distance and perch versus non-perch deposition was recorded. Our results indicate that dispersal distance from the forest edge is not significant, but that it was influenced by season. We found strong support for our second hypothesis, as over 90% of bird droppings were collected in baskets placed beneath perches. Additionally, our findings suggest that birds are dispersing more woody invasive species than native prairie plants, with seasonal variation influencing the composition of dispersed seeds. These findings suggest that time of year and perch presence are the two greatest factors that affect seed dispersal by birds, with implications for restoration and invasive species management.

The influence of habitat change on Henslow's Sparrows and Bobolinks on a reclaimed surface mine

Audrey Hovorka, Margo Shorter, Clara Pettit, and Izabelle Genet

Muskingum University

Henslow's Sparrows (*Centronyx henslowii*) and Bobolinks (*Dolichonyx oryzivorus*) are two of a number of grassland bird species that have exhibited sharp population declines during the past 50 years (Hill and Dieffenbach 2014). Our research group observed declines in both species between 2013 and 2026 (Ingold and Dooley, pers. comm.). During this same period there has been a large increase in the presence of shrubs - principally autumn olive (*Elaeaguns umbellata*) and bush honeysuckle (*Lonicera* spp.) across our study site. Given that both bird species are typically found in open grasslands, we hypothesize that changes in shrub number and size are important drivers for patterns of occupancy in these species. In this study we examined patterns of Henslow's Sparrow and Bobolink occupancy across 40-point count sites on a reclaimed surface mine from 2013-2026 using a presence/absence model. Our modeling suggests that Henslow's Sparrows and Bobolinks underwent steep demographic declines from 2013-2020 (Henslow's) and 2013-2021 (Bobolinks) followed by a period of slower decline from 2021-2026. The model with the best fit to the data for Henslow's Sparrows included the sum of shrub heights as a covariate. By contrast, Bobolinks did not respond significantly to changes in vegetation growth. The response by Henslow's sparrows to changes in habitat structure is not surprising and consistent with what others have reported for this species. The fact that demographic responses by Bobolinks did not seem to be associated with changes in habitat structure occurring across the landscape, suggests other factors may be driving their responses.

Reproductive biology of American Robins and Mourning Doves in an urban university campus

Diego Masson[1], Mariela Gantchoff[1], and Alex Jahn[2]

[1] *University of Dayton*
[2] *Oregon State University*

Urban environments create unique nesting challenges and opportunities for birds. We characterized site selection for 100 American Robins (*Turdus migratorius*) nests and 37 Mourning Doves (*Zenaida macroura*) nests in a highly modified landscape, an urban university campus, during spring–summer 2026. For each nest, we recorded nest height, distance to tree center, above coverage, orientation, and tree species/building. Mean robin nest height was 4.4 ± 2.0 m (n = 100), compared with 3.7 ± 1.1 m for doves (n = 36), and differed significantly (Welch's two-sample t-test p = 0.02). Mean distance to tree center was 2.4 ± 1.8 m for robins (n = 99) and 2.7 ± 2.2m for doves (n = 35); not statistically significant (p = 0.33). Above nest coverage was classified as low, medium, or high based on visual estimation. Among robin nests, 8% had low, 27% medium, and 64% high coverage; among dove nests, 2.7% had low, 35.1% medium, and 56.8% high coverage. Most common nest orientation was SW for robins and SE for doves; however, they were very variable and not statistically meaningful. Nesting success was 68% for robins, and 65% for doves; not statistically different (p=0.80). Nests were located across a variety of tree species, most common genus for both species was *Malus* sp., while doves also frequently nested in *Pinus* sp. Further research is needed to determine how nest-site characteristics relate to reproductive success and how nesting patterns vary across urban habitats.

Investigating the effects of prairie dog towns on juvenile grassland bird survival

Natalie Miller[1], James Mouton[1], and Andy Boyce[2]

[1] *The Ohio State University—Department of Evolution, Ecology & Organismal Biology*
[2] *Smithsonian's National Zoo and Conservation Biology Institute*

Grassland birds are the fastest declining group of avifauna in North America. Effective conservation efforts require information about the ecological and demographic drivers of population decline. However, studies examining key vital rates of grassland birds are lacking. For example, there is little research on the habitat-use and survival of juvenile grassland birds, a key component of population dynamics that may drive declines. Understanding how habitat shapes juvenile survival is especially important because management and conservation actions could focus on creating, improving, or protecting high-quality habitat to positively influence population trajectories. While habitat loss is an obvious and important driver of declines, there is a tremendous range of habitat and ecosystem variation on remaining grasslands. In the Northern Great Plains, black-tailed prairie dogs (*Cynomys ludovicianus*) greatly impact grassland habitat by clipping vegetation and creating areas of short-grass/bare ground habitat. This increased habitat heterogeneity has been shown to positively impact bird biodiversity and breeding biology and may also be important for juvenile survival. On one hand, increased forage visibility on prairie dog towns may facilitate higher juvenile survival. Conversely, the high abundance of predators associated with prairie dog towns may increase predation risk and lower juvenile survival. To fill these knowledge gaps, we tracked fledgling Chestnut-collared Longspurs (*Calcarius ornatus*) using radiotelemetry to determine survivorship on and off prairie dog towns. This work will help to understand how species interactions and ecosystem engineering activities influence juvenile survival in an imperiled grassland songbird.

Expansion of shrubs across a former grassland habitat at The Wilds

Isabelle Thomas, Pricilla Waldlington, Tillman Hawk, Jim Dooley, and Danny Ingold

Muskingum University

Over the past twenty years, obligate grassland birds have exhibited steep declines across many areas of North America (Pennisi 2019). One of the most important sources of grassland bird breeding habitat in the midwestern and Appalachian regions of the U.S. has been reclaimed surface mines (Ingold and Dooley 2013). Fifty years into recovery, many of these areas are showing signs of ecological succession as shrubs spread across these landscapes. Our research group has been studying the ecology of five species of grassland birds on The Wilds, a reclaimed surface mine in east-central Ohio, for 25 years. In that time shrubs - principally autumn olive (*Elaeaguns umbellata*) and bush honeysuckle *(Lonicera* spp.) have greatly increased in terms of number and size across our study site. During the past four years we have collected data on shrub numbers and heights across 40 point-count stations at the Wilds. Shrubs demonstrated significant increases in each of our three measures: mean shrub count ($t = -2.67$, $df = 39$, $P < 0.005$), sum shrub height ($t = -4.13$, $df = 39$, $P < 0.0001$) and mean shrub height ($t = -3.31$, $df = 39$, $P < 0.001$). These increases parallel our findings of declining numbers in some grassland bird species on our study site, including Savannah Sparrows (*Passerculus sandwichensis*), Grasshopper Sparrows (*Ammodramus savannarum*), and Henslow's Sparrows (*Centronyx henslowii*). The evidence presented here showing the dramatic increase in shrub number and size speaks to drastic changes in what was grassland habitat.