

Harnessing Community Science: A Catalyst for Bird Conservation



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In the realm of conservation, community engagement is proving to be a powerful force for positive change. Nowhere is this more evident than in the field of bird conservation, where community science initiatives are playing a pivotal role in monitoring and protecting avian species. Among these initiatives, eBird stands out as a shining example of how collective action can drive meaningful conservation outcomes.

Community science

Community science, also known as citizen science, involves the participation of ordinary individuals in scientific research and data collection. Unlike traditional scientific endeavors, which are often confined to academia, community science opens up opportunities for people from all walks of life to contribute their observations and insights to larger conservation efforts. The idea of Community Science is about people coming together in their community

to help with bird science. Even if you're out birdwatching by yourself, when you share what you see, you're joining a bigger group effort! When it comes to bird conservation, initiatives like eBird are leading the charge in democratizing access to data and mobilizing communities to become stewards of their local ecosystems.

The scientific literature on community science outlines various motivations for people to get involved: a desire to contribute, learning about local environmental issues, enjoying time outdoors, curiosity, and even exploring or advancing career paths. With the Covid-19 pandemic, these reasons have become even more significant, leading to a resurgence in community science (Fuller, 2020).

The scientific community itself is also undergoing a shift in perspective on how volunteers can provide essential data in a rapidly changing world. With robust monitoring protocols in place, volunteer efforts can yield high-quality data.



Additionally, participation in community science projects may inspire individuals to become more involved in conservation efforts. As Caren Cooper, author of "Citizen Science: How Ordinary People Are Changing the Face of Discovery," articulated in a 2017 TedX talk: "Citizen science is a movement that challenges us to reconsider how science is conducted."

Importance of community science

But why is community science, particularly initiatives like eBird, so essential for bird conservation?

Community science exponentially expands the reach of conservation efforts. With thousands of birdwatchers actively contributing data to eBird, researchers gain access to a comprehensive and dynamic dataset that spans continents and encompasses a wide range of habitats. This wealth of information is invaluable for monitoring bird populations, identifying trends, and pinpointing areas in need of conservation action.

Secondly, community science fosters a sense of ownership and connection to nature among participants. By engaging in birdwatching and contributing to scientific research, individuals develop a deeper

appreciation for the natural world and become more invested in its preservation. This sense of stewardship often extends beyond data collection to community-led conservation initiatives, habitat restoration projects, and advocacy efforts aimed at protecting bird habitats.

Moreover, community science initiatives like eBird facilitate collaboration and knowledge sharing among scientists, conservationists, and the public. By breaking down barriers to entry and promoting open access to data, these platforms enable stakeholders to work together more effectively towards common conservation goals. This collaborative approach is essential for addressing the complex and interconnected challenges facing bird populations, from habitat loss and climate change to invasive species and pollution.

As we confront the urgent threats to avian biodiversity, community science emerges as a powerful tool for monitoring, understanding, and conserving bird species worldwide. By harnessing the collective wisdom and enthusiasm of birdwatchers and nature enthusiasts, initiatives like eBird are not only advancing scientific knowledge but also empowering communities to take



meaningful action to protect the birds we cherish.

Massive data support and analyses

At its core, eBird is a global online database where birdwatchers, enthusiasts, and professionals can record their bird sightings and contribute to a vast repository of avian data. What sets eBird apart is its user-friendly interface, real-time data entry, and robust analytical tools that make it easy for anyone with an interest in birds to participate. By harnessing the collective power of birdwatchers worldwide, eBird has amassed an unparalleled wealth of information on bird distribution, abundance, and habitat preferences.

Avian community science initiatives encompass a spectrum from localized endeavors to worldwide campaigns, and the data they generate can inform conservation efforts at various scales. eBird stands out as a prime example of utilizing volunteer-contributed data to drive impactful outreach on a global level. Each time you submit an observation of a bird species to eBird, it adds to the collective avian map, thereby enriching our understanding of avian distributions and behaviors (figure 1).

When an individual contributes an observation to eBird, they become aware that it's a component of a significantly

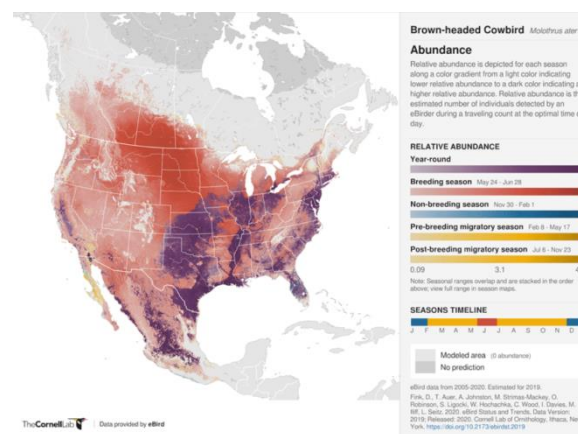


Figure 1: map of brown-headed cowbird (source: e-bird)

broader initiative aimed at documenting the distribution and abundance of birds worldwide. While each observation holds its own significance, the collective impact of hundreds of thousands of observations entered into eBird daily is truly remarkable. (In October 2020, eBird recorded over 15 million observations!)

The publication of "Decline of the North American Avifauna" in 2019 shed light on the staggering loss of nearly three billion birds since 1970, showcasing the immense value of volunteer data on a grand scale (Rosenberg, et. al 2019). The North American Breeding Bird Survey (BBS),



overseen and quality-assured by the U.S. Geological Survey and Environment and Climate Change Canada, relies on the efforts of thousands of volunteers to assess the status of breeding bird populations across the United States and Canada. The long-term data collected by BBS played a pivotal role in the findings of the 2019 report, alongside data from Audubon's Christmas Bird Count.

What sets eBird apart is its revolutionary approach: while observations contribute to large-scale population analyses and trends, they also directly inform conservation efforts at local levels. For instance, organizations like Portland Audubon and their partners utilize volunteers and eBird data to monitor the population of Black Oystercatchers in Oregon, gaining crucial insights into this species of concern and its susceptibility to human disturbance.

Volunteers also play a crucial role in tracking short-term events, such as the recent die-off of migratory birds in North America. In an October 2020 article titled "Dying Birds and the Fires: Scientists Work to Unravel a Great Mystery," volunteers provided essential on-the-ground observations in numerous locations, aiding in our understanding of the impact of events

like forest fires on bird populations (Paul, 2020).

As highlighted in a 2016 article in *Biological Conservation*, citizen science has the potential to enhance conservation science, natural resource management, and environmental protection (McKinley et al. 2016). Volunteer efforts contribute valuable data that can inform conservation and land management practices in various ways. The abundance of data enables researchers to conduct new types of analyses and gain deeper insights into the needs of birds and their habitats. Moreover, the power of numbers becomes evident when compelling outreach efforts, such as eBird's abundance or migration maps, reach large audiences, further emphasizing the significance of community involvement in bird conservation.

In conclusion, community science, exemplified by initiatives like eBird, is revolutionizing bird conservation by engaging people from all walks of life in scientific research and data collection. Through their contributions, community scientists are not only expanding our understanding of avian ecology but also driving conservation efforts forward with passion, dedication, and a shared



commitment to safeguarding the natural world. As we continue to harness the power of community science, let us remember that the future of bird conservation lies in the hands of everyday citizens united by a love for birds and a desire to protect our planet's precious biodiversity. The advantages of volunteering and spending time in nature are

Bibliography

Fuller, L. (2020, December 28). *Community Science: Why we do it, and why we call it that*. Retrieved from eBird Northeast:
<https://ebird.org/pnw/news/community-science-why-we-do-it-and-why-we-call-it-that>

McKinley, D., Miller-Rushing, A., Ballard, H., & Bonney, R. (2016). Citizen science can improve conservation science, natural resource management, and environmental protection. *Biological Conservation*, 15-28.

manifold, yet engagement in community science initiatives also fosters involvement in other spheres. While individuals may initially join a project for enjoyment or scientific interest alone, we consider it an additional benefit if participation ignites action towards conservation or advocacy for bird-friendly policies!

Paul, K. (2020, October 18). Dying birds and the flies: scientists work to unravel a great mystery. *The Gaurdian*. Retrieved from
<https://www.theguardian.com/environment/2020/oct/18/dying-birds-and-the-fires-scientists-work-to-unravel-a-great-mystery>

Rosenberg, K., Dokter, A., Blancher, P., & Sauer, J. (2019). Decline of the North American Avifauna. *Science*, 366(6461), 120-124. Retrieved from
<https://www.science.org/doi/10.1126/science.aaw1313?ijkey=dcWYzH9MGv13I&keytype=ref&siteid=sci>

