

## **WNAR Webinar**

By Daniel Fink, Cornell Lab of Ornithology

### **eBird Status and Trends: The challenges of modeling avian distributions and abundances at scale with citizen science data**

It is our great pleasure to announce the WNAR webinar by Dr. Daniel Fink from Cornell Lab of Ornithology

**Time:** 9:30am to 10:30am PDT (12:30 to 1:30pm EDT), Thursday Oct. 8, 2020

**This is a free event and registration is required:**

<https://www.eventbrite.com/e/wnar-webinar-ebird-status-and-trends-tickets-121250434313>

**Zoom Dial-in information and webinar link will be sent 24 hours before the event.**

#### **Abstract:**

Information on species' distributions and abundances and how they change over time are central to the study of wildlife populations and their conservation. For many taxa, this information is challenging to obtain at relevant spatiotemporal scales and extents, leading to large knowledge gaps. However, birds are conspicuous, occur in all habitats, and are enjoyed by tens of millions of individuals globally. The goal of the eBird Status and Trends project is to use data from eBird, a global citizen science bird monitoring project, to produce and freely disseminate a reliable, standardized source of up-to-date biodiversity information for the world's bird populations.

In this presentation, we describe how eBird data are being used to estimate individual species' distributions, abundances, and trends for over 500 North American breeding birds at fine spatial and temporal scales throughout the year. This includes the use of statistical learning models to fill spatiotemporal gaps based on remote sensing data describing local environments. It also includes strategies to control for the biases inherent in species observation data collected by volunteers – including data filtering, feature engineering, and causal models. The size of this project (over 20M species checklists at over 3M locations) also required developing a workflow that balanced statistical objectives with computational constraints.

Finally, we will show how Status and Trends data products are being used in ecological and conservation applications. These results show how citizen science data and appropriate analyses can fill information gaps, increase our understanding of the processes that affect populations, and improve monitoring and conservation planning across a range of spatial and temporal scales.

#### **Speaker Bio:**

**Daniel Fink** is a Senior Research Associate at the Cornell Lab of Ornithology. He received his Ph.D. in statistics at Cornell University in 2002. His professional interests include statistical modeling, machine learning, and semiparametric regression in a spatiotemporal context to solve challenging problems in ecology and conservation.

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