

# Data Paper

*Ecology*, 102(6), 2021, e03329

© 2021 The Authors. *Ecology* © 2021 The Ecological Society of America

## An annotated set of audio recordings of Eastern North American birds containing frequency, time, and species information

LAUREN M. CHRONISTER <sup>1,3</sup> TESSA A. RHINEHART <sup>1</sup> AIDAN PLACE <sup>2</sup> AND JUSTIN KITZES <sup>1</sup>

<sup>1</sup>*Department of Biological Sciences, University of Pittsburgh, Pittsburgh, Pennsylvania 15260 USA*

<sup>2</sup>*Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, Pennsylvania 15213 USA*

*Citation:* Chronister, L. M., T. A. Rhinehart, A. Place, and J. Kitzes. 2021. An annotated set of audio recordings of Eastern North American birds containing frequency, time, and species information. *Ecology* 102(6):e03329. 10.1002/ecy.3329

**Abstract.** Acoustic recordings of soundscapes are an important category of audio data that can be useful for answering a variety of questions, and an entire discipline within ecology, dubbed “soundscape ecology,” has risen to study them. Bird sound is often the focus of studies of soundscapes due to the ubiquitousness of birds in most terrestrial environments and their high vocal activity. Autonomous acoustic recorders have increased the quantity and availability of recordings of natural soundscapes while mitigating the impact of human observers on community behavior. However, such recordings are of little use without analysis of the sounds they contain. Manual analysis currently stands as the best means of processing this form of data for use in certain applications within soundscape ecology, but it is a laborious task, sometimes requiring many hours of human review to process comparatively few hours of recording. For this reason, few annotated data sets of soundscape recordings are publicly available. Further still, there are no publicly available strongly labeled soundscape recordings of bird sounds that contain information on timing, frequency, and species. Therefore, we present the first data set of strongly labeled bird sound soundscape recordings under free use license. These data were collected in the Northeastern United States at Powdermill Nature Reserve, Rector, Pennsylvania, USA. Recordings encompass 385 minutes of dawn chorus recordings collected by autonomous acoustic recorders between the months of April through July 2018. Recordings were collected in continuous bouts on four days during the study period and contain 48 species and 16,052 annotations. Applications of this data set may be numerous and include the training, validation, and testing of certain advanced machine-learning models that detect or classify bird sounds. There are no copyright or propriety restrictions; please cite this paper when using materials within.

**Key words:** *acoustic recordings; annotated recordings; autonomous recordings; bioacoustics; birds; soundscape.*

The complete data sets corresponding to abstracts published in the Data Papers section in the journal are published electronically as Supporting Information in the online version of this article at <http://onlinelibrary.wiley.com/doi/10.1002/ecy.3329/supinfo>.

### OPEN RESEARCH

Associated data are also available at Dryad: <https://www.doi.org/10.5061/dryad.d2547d81z>

Manuscript received 6 November 2020; revised 22 December 2020; accepted 15 January 2021. Corresponding Editor: William K. Michener.

<sup>3</sup> E-mail: [lmc150@pitt.edu](mailto:lmc150@pitt.edu)