Bird watching: An easy way to get students collecting real biological data

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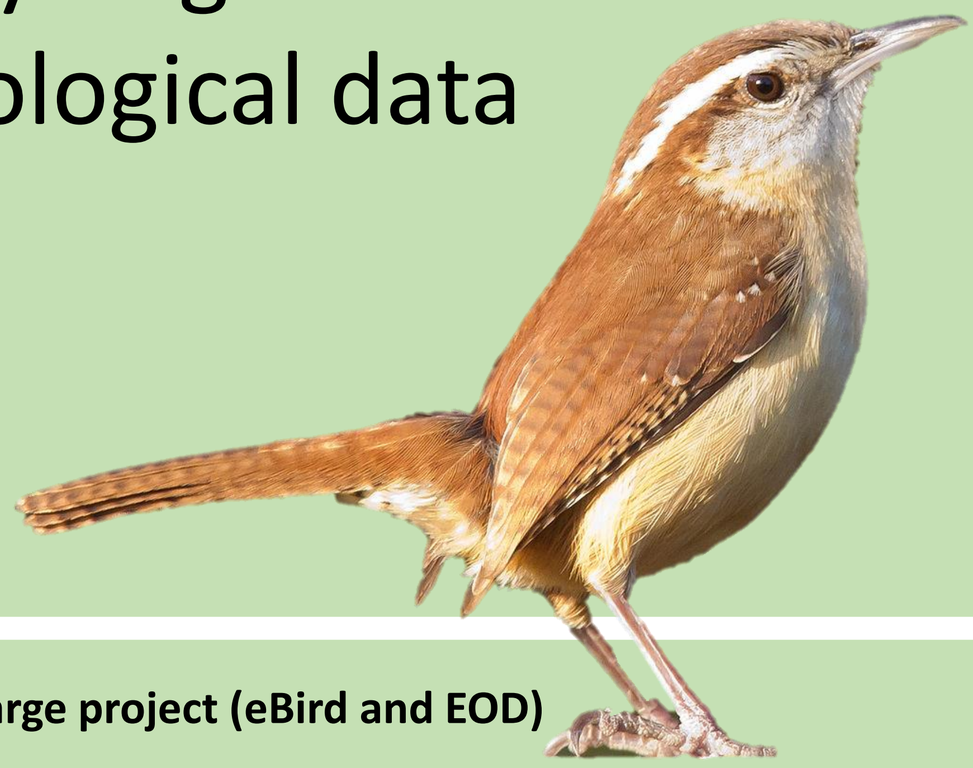


Abstract: Citizen science-based bird watching is an easy way to get students involved in collecting real scientific data. Here, I discuss two different implementations of citizen science bird watching. One is a small project that was implemented in a lower-level ecology course and takes very little class time to implement. The other is a larger-scale project used in an upper-level biology course, and it allows for more independent student research and quantitative data analysis. Neither involves any cost, and neither requires any special equipment or prior knowledge of bird identification. In both cases, students enjoyed the activities and ranked them among their favorite parts of the course. In addition, students reported that even the small project changed the way they view their surrounding ecosystem and increased their appreciation for the field of ecology.

Small project (Celebrate Urban Birds)

- Celebrate urban birds
- Incorporated into a sophomore-level Ecology class (would also be appropriate for General Biology)
- Requires students to watch birds for just 10 minutes a day for 3 days.
- Turned in evidence of completion including photos of their study site, their data table, and screenshots of their uploaded data into “Celebrate Urban birds”
- In-class discussion about what they found. Discussion centered around what affects species ranges and distributions, as well as limitations, possibilities, and benefits of citizen science.

- PROS: Really simple, no prior bird knowledge needed, implemented as a multiweek homework assignment
- LIMITATIONS: Data analysis opportunities are more limited than when using eBird.

Large project (eBird and EOD)

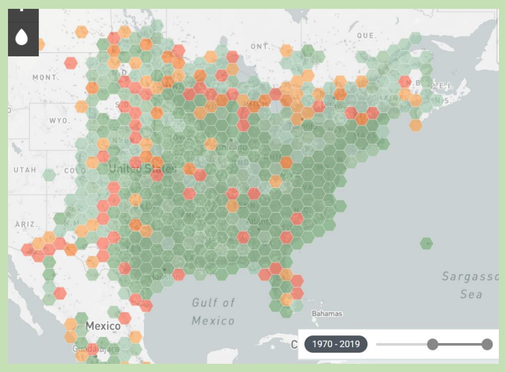
Data collection

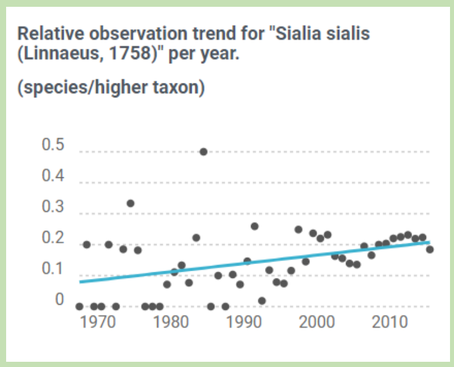
- To identify birds, students use the app “Merlin”. This is a free app, and easily guides students to the correct bird they have seen by answering a few questions.

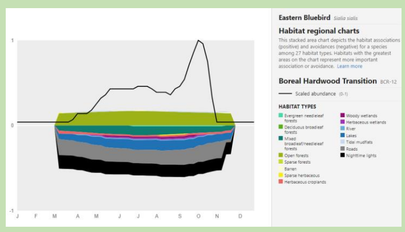
- To record their observations they will use either the eBird app (recommended), or will log their data later on the eBird website. I have students complete the free “eBird Essentials” course before beginning.
- Students did 4 15 minute observations. They had to provide screenshots on the data the reported as well as field notes from the observation.

Using eBird to answer questions

- Students proposed a question that they wanted to answer using eBird data
- They then used eBird (specifically the eBird Observation Dataset to answer the question and present on their findings
- eBird has over 700 million data points

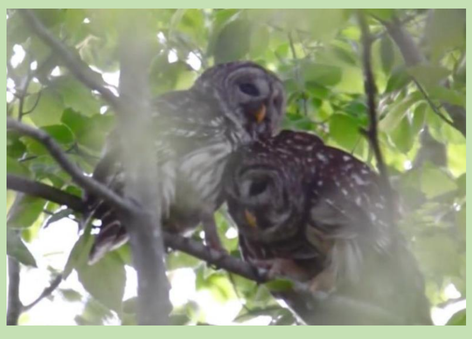






Alternative Assignment: eBird Local Species Poster

- Students chose a species they had seen during their observations and did a “deep dive” into the species biology.



Student Feedback: The feedback I have received from students in both versions of this project indicated that it was often their favorite class assignment. Even the “small project” was very impactful to students. In my course survey they spoke of how it helped them appreciate the world around them more. Students really liked getting out in the field, and this was an easy way to do so with a large class. One student continued on with the dataset and did her honors senior research using data from eBird on Sandhill cranes.