

## Engaging Volunteers of a Pennsylvania County Park in Research through Scholarly Collaborations<sup>1</sup>

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The York County (Pennsylvania, USA) Department of Parks & Recreation was established in 1968 with the express goal of providing “the community with a wide variety of activities and to acquire, develop, maintain and preserve lands for future generations to enjoy.” In eleven county parks, including the Richard M. Nixon Park Figure 1, 39.8842° N, 76.7322° W), it maintains over 4, 300 acres (over 1,740 hectares, or 17.4 million square meters) of parkland for the enjoyment of visitors. Although research activities in the county parks are uncommon, they are considered on a case-by-case basis for qualified researchers who approach us in writing.

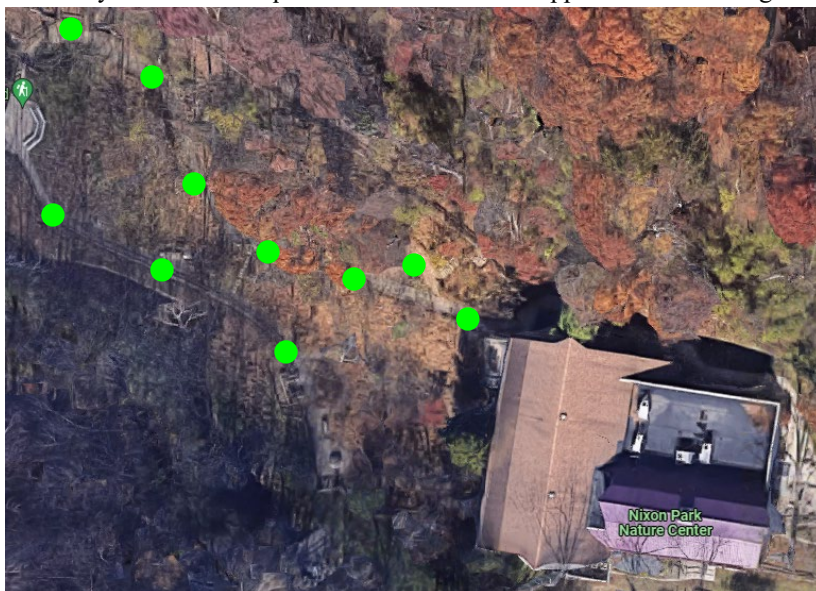


Figure 1. Nature Center building and the contiguous trail (green circles) that circumscribes the area of the redbud, bees, and lichen studies. Map comes from Google Maps, circa 2019.

Approximately four years ago, Dr. Jorge A. Santiago-Blay (Department of Paleobiology, Smithsonian Institution, Washington, District of Columbia, USA

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and Penn State University, York, Pennsylvania) requested permission to conduct research on the biology of the eastern North America redbud, *Cercis canadensis* Linnaeus, 1753 (Fabaceae). The area selected is a small (ca. 1,200 m<sup>2</sup>), forested area dominated by eastern North America black walnuts, *Juglans nigra* Linnaeus, 1753 located immediately northwest of Nixon Park's Nature Center circumscribed by the Geology Trail. As time elapsed, Dr. Blay has expanded the scope of his projects, always with permission, to other areas of scientific interest within the same study site. Those projects now also include the lack of fructification of the redbuds in year 2020, bee biodiversity (2020 to the present), and an experiment with lichens that began in 2021.

In addition to my help during Dr. Blay's visits to Nixon Park for research purposes, numerous volunteers have assisted in his research, as shown in Figures 2 and 3. Also, many visitors, from children to elderly people, have had their intense curiosity reciprocated by accessible explanations meant to communicate science to all.

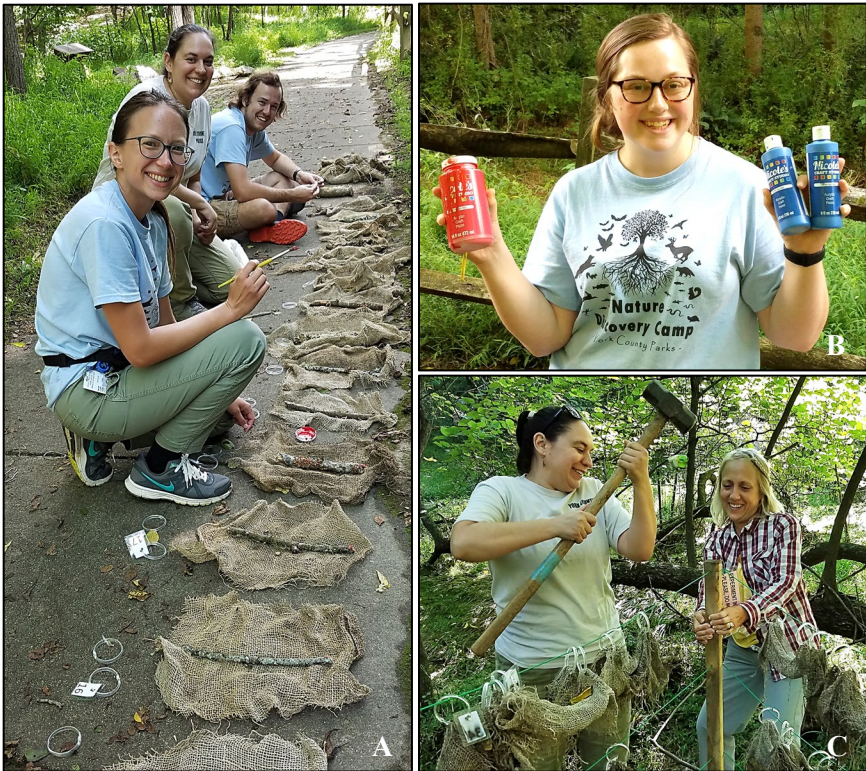


Figure 2. A. Working on the lichen project. From front to back, Hope Halza, the author, and Mason Millar. B. Piper Johnson. From left to right, the author and Ivana Shandor.



Figure 3. Working on the bee project. A. Mark Kocher. B. Laura Zielinski, C. Karen Roundtree. D. James Richardson. Over a dozen more people have helped; their images are not available.