Title: Identifying and Preventing Plant Extinction Events

Presentation Abstract: Preventing extinction events is the lowest bar for conservation success we can set as conservationists. Unfortunately, we are not always succeeding in preventing extinctions. Our new geologic era requires modern methods to prevent extinction events. In 2021, I led a publication that identified the extinct plants of the continental United States and Canada since European settlement. This analysis showed that 65 taxa (51 species and 14 infraspecies) are believed extinct. Five taxa are considered Extinct in the Wild and are known only for garden collections. Of these 65 extinctions, 64% were known from just a single-site. Despite the disproportionally high level of plant extinctions coming from single-site endemics, no method exists to identify them, and no analysis has been conducted to prioritize these taxa for in situ and ex situ conservation action. In gathering data on single-site endemic plants, we have uncovered additional species that may already be extinct. I will give an overview of plant extinction in the continental United States and Canada. I will discuss some of the more compelling extinction stories and discuss the five Extinct in the Wild plants. Lastly, I will discuss what we can do about the situation by presenting preliminary data on the project to identify single-site endemic plants.

Photo provided by Wesley Knapp

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Wesley Knapp is the Chief Botanist at NatureServe, a leading biodiversity conservation non-profit in the United States. NatureServe leverages the power of science, data, and technology to guide biodiversity conservation and stewardship. Wes has over 20 years of experience in the Natural Heritage Program Network as a Botanist and Ecologist with both the Maryland and North Carolina Natural Heritage Programs. He has extensive field experience across much of the United States with additional fieldwork experience in Australia, Canada, and Central America. His research includes the first examination of the extinct plants of the United States and Canada, new plant species descriptions, and treatments of various plant groups in various Floras and Manuals. He also published his first book, Vascular Plants of Maryland, USA: A Comprehensive Account of the State's Botanical Diversity which is freely available through the Smithsonian Scholarly Press. His research interests include identifying and preventing plant extinction events, describing undescribed plant species, systematics, ecology, and taxonomy. He has a B.S. from Catawba College, a M.S. from Delaware State University and is currently a Ph.D. student at the University of North Carolina at Chapel Hill in Alan Weakley's lab.