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Conclusion to the Special Issue on Pollinators of the Great Plains

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The authors of this special issue and I hope the research reported herein provides our audience with an improved understanding of the importance of grasslands for supporting pollinators and the role humans play in creating and managing habitat. For example, our special issue includes two papers investigating bee community response to prairie restoration. Although results from restoration efforts of individual prairies need to be interpreted with caution, the combined findings of Lamke et al. (2022) and Portman et al. (2022) show the benefits of prairie restoration for bees. Indeed, the number of bee species detected within individual restored prairie complexes is impressive, with 60 and 44 species being observed by Portman et al. (2022) and Lamke et al. (2022), respectively. Furthermore, Lamke et al. (2022) showed high-diversity prairie restorations supported higher native bee richness and abundance than remnant prairies, thereby highlighting the benefit of restoration efforts for native pollinators. Portman et al. (2022) shows how specific management actions such as haying benefited bee communities of Six Mile Prairie Restoration in Minnesota.

Our special issue also includes a statewide assessment of bumble bee diversity and abundance (Pei et al. 2022) and a 100-year comparison of native bee diversity (Evans et al. 2022) throughout North Dakota. Furthermore, our special issue provides a first-hand look at spring pollinator communities of western North Dakota (Campbell and Morphew 2022) and cavity-nesting bees of eastern North Dakota (Simanonok et al. 2022). Baseline inventory of native bees is sorely lacking in many parts of the US, which is problematic as these biological inventories often serve as the foundation of species monitoring efforts (Woodard et al. 2020). For example, in this special issue Evans et al. (2022) documented several changes in native bee and forb communities in North Dakota grasslands by comparing modern bee and forb inventories to those conducted by O. A. Stevens in the 1910s and 1920s. We hope this special issue will inspire researchers to inventory native bees in other grassland systems, while being sensitive to the potential negative impacts of aggressive removal sampling on native bee communities (Portman et al. 2020). In addition, research in this special issue demonstrates the cost-effectiveness of different sampling strategies for monitoring habitat, such as Manzanares et al. (2022) who tested multiple methods for estimating the density of *Asclepias* spp. (Milkweed) across multiple land covers. With an additional 1.3 billion milkweed stems required to prevent the extinction of the eastern population of the *Danaus plexippus* Linnaeus (Monarch Butterfly) (Thogmartin et al. 2017b), it is important for the research community to be able to efficiently count milkweed, and other essential pollinator resources, so that we can track progress towards recovery goals.

Fortunately, monitoring data collected by professional ecologists are not the only source of information scientists draw from to investigate temporal patterns in native pollinator communities and their habitats. It appears the dawn of community science is upon us, and the sheer volume of data generated by community science-led monitoring programs cannot be ignored (Silvertown 2009). For example, there are over 200,000 digitized observations of *Bombus* spp. (bumble bee) occurrences in the US that have been uploaded by community scientists to

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iNaturalist. The contribution of community scientists to inventorying our native pollinators will only continue to grow as online tools become increasingly available in assisting amateur naturalists with insect identification (Spiesman et al. 2021). Furthermore, the ubiquitous availability of digital recording equipment and social media platforms makes it easy for people to share recordings of insect behavior and life history observations, further facilitating our understanding of these organisms. As we progress through the 21st century, a new cohort of scientists will emerge who specialize in analyzing data generated from community science monitoring programs and make great progress in modeling pollinator population trends.

As habitat loss, agrochemical use, and climate change continue to stress our native pollinator communities and their habitats (Goulson et al. 2015), there is a pressing need to understand the impact of these stressors on population change and forecast the effect of future change on pollinator communities. In this light, natural history research can aid in our understanding of biological baselines for inferring population changes and to correlate these changes with anthropogenic threats. I hope this special issue on pollinators will encourage additional research and conservation action for this ecologically important group of organisms on which our own diets and well-being depend.

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