

Understanding pollinator use on RIM conservation easements

One of the most pressing questions in wild bee conservation is how effective conservation plantings are in conserving wild bee communities. While some evidence exists that wildflower plantings attract an abundance of wild bees, it is less clear if these bees are typical of the tall grass prairie habitats conservationists aim to recreate.

The area surrounding conservation plantings is often dominated by intense agricultural production, which likely affects the species that inhabit the planting by either forming a barrier to bees looking for a new home or favoring the establishment of a different community of bees suited to surviving in an agricultural environment.



Graduate researchers from the University of Minnesota Bee Lab, Christina Herron-Sweet and Ian Lane check their bee traps.

To find out more, graduate researchers from the University of Minnesota Bee Lab, guided by Dr. Dan Cariveau, are conducting two studies that investigate how surrounding agriculture influences bee communities in natural prairies compared to prairie restorations.

In the summer of 2017, bee communities at 16 Reinvest in Minnesota (RIM) sites of a similar age, but with varying amounts of agriculture in the surrounding area were sampled. Researchers used a number of passive methods such as bowl traps and blue vane traps, as well as active methods such as hand netting directly from flowering plants every

three weeks starting in mid-May and going until mid-September.

To date, researchers have collected 11,666 individual bees, with approximately 7,400 bees netted from flowers. They are in the process of cataloging these bees by species, including a few rare bumblebees.

Dan Shaw, BWSR Senior Ecologist, “This is an important study because it will greatly improve our knowledge about what bees are using restored prairies as compared to natural prairies, helping to guide our future site selection and project planning.”

Researchers plan to conduct another field season in 2018, including a thorough spring survey of bees before finalizing their results.

Using the information collected, researchers will ask how the number and types of bee species collected change across agricultural landscapes. The results of this work will provide a better understanding of how agriculture influences bee communities and to what degree conservationists should consider landscape settings when planning new restorations.



Trays of individual bee specimens.