

Great Lakes Pollinators

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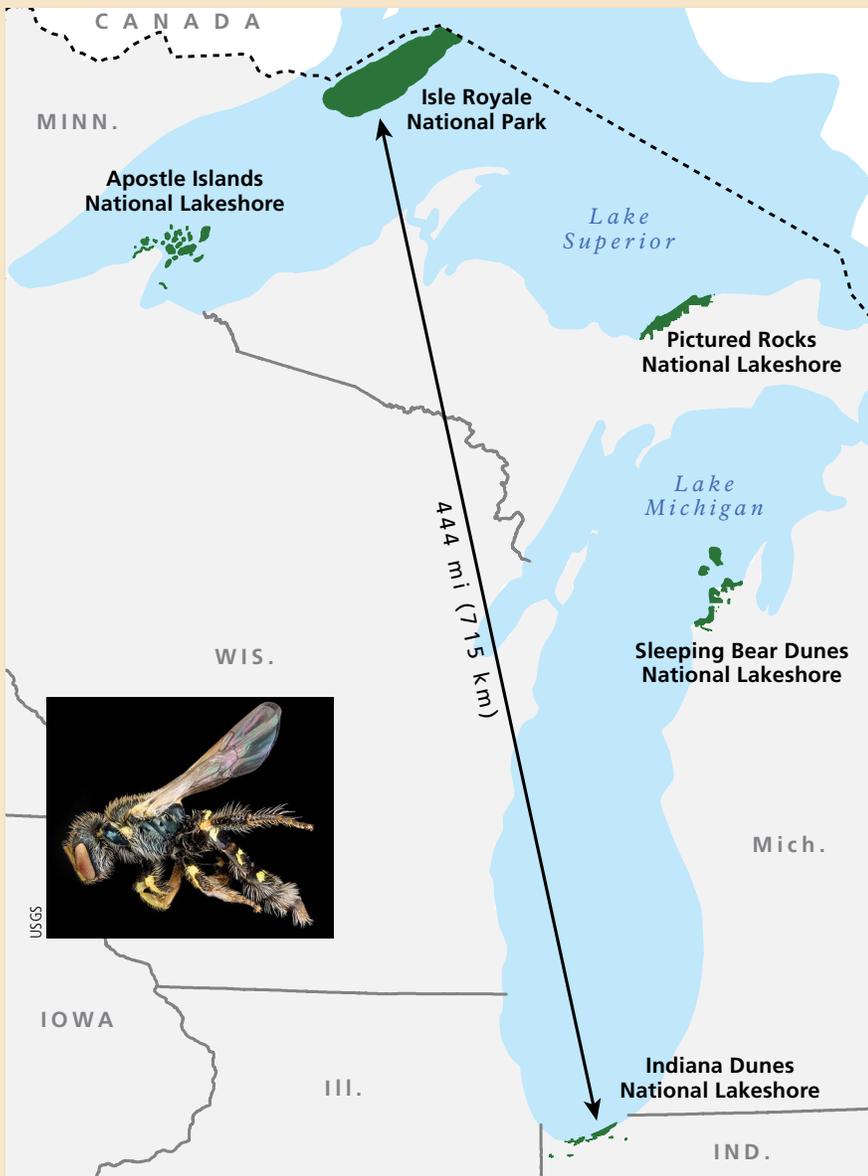


NPS PHOTO

The lakeshore dune site at Pictured Rocks (Mich.) on Lake Superior.

Around the western Great Lakes, bees were sampled at five parks (see map) in paired fore-dune and inland habitats. The two habitats were compared within and between parks (photo, at left). Dune ecosystems are often restricted to a narrow zone near the Great Lakes, and we might expect that species inhabiting such restricted habitats are more vulnerable to extirpation from changing climate than bees in more common inland habitats. Although parks in this region are

separated by up to 715 km (444 mi), a site in one of the habitat types (dune or inland) shared more bee species with like habitats across parks than it did with its paired (different) habitat within the same park (fig. 1). The marked difference between dune and inland bee communities suggests that forces of environmental change differentially affecting habitat types across this region will act on different sets of pollinators (fig. 2).



(Inset) An uncommon mining bee associated with deep sand, *Perdita swenki*, was found in large numbers at the vulnerable lakeshore dune site at Pictured Rocks. It was also found in the dunes at Indiana Dunes (Ind.) and Gateway (N.Y.).

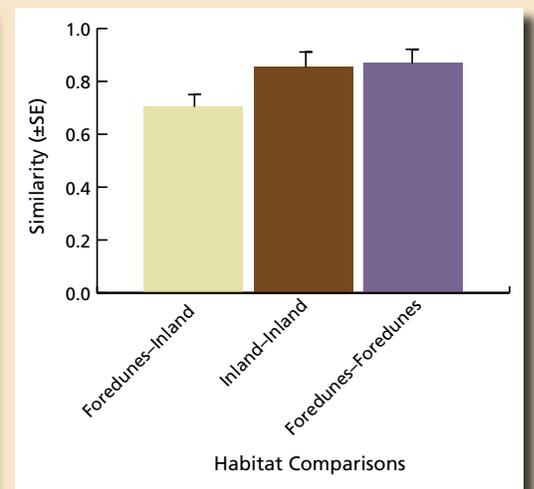


Figure 1. Bee species are more similar among like habitats (foredunes or inland) across five different parks than they are among foredune/inland-paired habitats within parks.

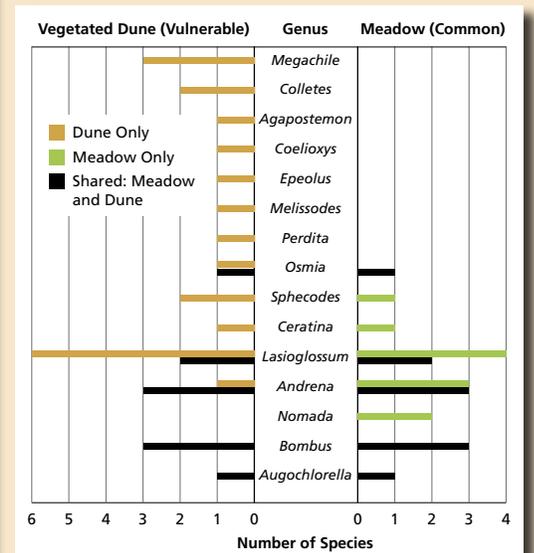


Figure 2. Comparison of bee species richness in vegetated dune (vulnerable) and meadow (common) sites at Pictured Rocks (Mich.), showing the number of species unique to each habitat type.