



Bees in the Park

“There are certain pursuits which, if not wholly poetic and true, do at least suggest a nobler and finer relation to nature than we know. The keeping of bees, for instance. “

Henry David Thoreau

Importance

Bees are the main pollinators in most areas and thus play a major role in the functioning of ecosystems. Pollinators transfer male plant parts from one flower to another and assist in plant reproduction which allows development of fruits and seeds. Because bees move between many flowers they also help increase genetic diversity. Honey bees for example can visit 50 to 100 flowers during a single nectar collection trip. Estimates are that a third of the food we eat, especially fruits and vegetables, are dependent upon pollinators. People also use plants for clothing, medicines, shelter, and enjoy their beauty. Annual economic contributions of bees include more than \$15 billion in crop pollination services, and \$150 million in honey production. In addition, ninety percent of wild plants thrive because of pollinators suggesting that bee declines can cause serious ecological problems.



Pollination in action

Status and Trends

There are almost 20,000 known species of bees worldwide and 500 in Wisconsin. At Apostle Islands recent bee surveys done in cooperation with the U.S. Geological Survey found 54 species in the Little Sand Bay area. Open field habitat and sandscape habitat, considered vulnerable to climate change, were surveyed. All but three species were represented by an individual bee. There were 36 species in the field habitat and 24 species in the sandscape habitat. Interestingly, only 6 of the bee species overlapped and were present in both locations. This is likely due to feeding preferences of bees, which includes specialists that focus on a few plant species for food, and generalists, who will use several plant species.

Unfortunately bee populations are declining worldwide. Between 2006 and 2009 some 35% of the U.S. honey bee population was lost to “colony collapse disorder” and some beekeepers reported losing more than 80% of their hives over the 2006-07 winter. Several things believed to contribute to decline of bee species include disease, mites, parasites, poor habitat and forage, decline of flowering plants, urban growth, exotic species, pesticides, air pollution, and climate change.

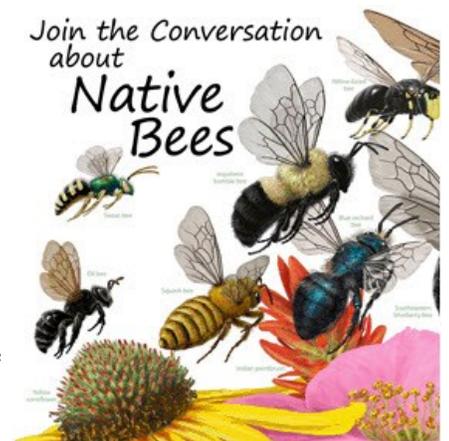


The most common bee species found in park surveys (*Lasioglossum leucozonium*)

Management Implications

Several of the problems contributing to decline of bees relate to vegetation, and monitoring park plant species can help identify the quality of bee habitat. We currently monitor rare plant species, forest, and sandscape vegetation. This data informs decision making, especially related to restoration. We have completed numerous restoration projects especially on sandscapes, one of the vulnerable communities surveyed for bees and this work will continue in the future. Exotic plant species are present in the park and we annually search for new species and locations, and treat them using the least invasive but most effective means possible. Finally, we can engage the public in efforts to protect the flowering plants that support pollinators.

Citizens can also get involved in a number of ways including learning and sharing information, planting wildflower and pollinator gardens, and supporting local beekeepers or keeping bees. The Pollinator Partnership (www.pollinator.org), of which the National Park Service is a member, has more information available at their website.



Pollinator Partnership Poster

