



Tiger Swallowtail Butterfly

## Get Involved and Spread the Word

The more neighbors use best practices for pollinators, the greater the potential benefit to pollinator health. Here are some ways you can help.

- Visit the following site for valuable information & resources : [www.xerces.org](http://www.xerces.org)
- Participate in the **Million Pollinator Garden Challenge** [www.millionpollinatorgardens.org](http://www.millionpollinatorgardens.org)
- Get involved in prairie restoration projects through a Friends group or other local organizations
- Become adept at distinguishing honey bees, bumble bees, solitary bees, wasps, and flies
- Get involved in citizen science:
  - ⇒ **Bumble Bee Watch:** [www.bumblebeewatch.org](http://www.bumblebeewatch.org)
  - ⇒ **The Great Sunflower Project :** [www.greatsunflower.org](http://www.greatsunflower.org)
  - ⇒ **Monarch Watch:** [www.monarchwatch.org](http://www.monarchwatch.org)



Soldier Beetle

## Additional Resources:

- Pollinator Partnership regional planting guides—use the “**Eastern Broadleaf Forest Continental**” guide for southern WI and the “**Laurentian Mixed Forest**” guide for northern Wisc. <https://www.pollinator.org/guides>
- Michigan State University Extension. October 2015. “**Bees of the Great Lakes Region and Wildflowers to Support Them**” Guide for identifying bees and wildflower planting guidelines. [http://shop.msu.edu/product\\_p/bulletin-e3282.htm](http://shop.msu.edu/product_p/bulletin-e3282.htm)
- Wisconsin DNR list of native plant nurseries: <http://dnr.wi.gov/files/pdf/pubs/er/er0698.pdf>
- State of Wisconsin Pollinator Protection Plan: [https://datcp.wi.gov/Pages/Programs\\_Services/PollinatorProtection.aspx](https://datcp.wi.gov/Pages/Programs_Services/PollinatorProtection.aspx)
- Bee identification guide: <http://fyi.uwex.edu/wwhort/files/2016/06/WI-BEE-IDENTIFICATION-GUIDE.pdf>
- Wisconsin Spring bee guide: <http://energy.wisc.edu/bee-guide/>
- 2012 UW Extension guide: <https://learningstore.uwex.edu/Assets/pdfs/G4001.pdf>

**Sponsored by Dane County Environmental Council and Extension. Photos by Susan Carpenter. 2019**



<https://environmentalcouncil.countyofdane.com/>

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# Protecting Our Dane County Pollinators

A pollinator is any animal that visits flowering plants and transfers pollen from flower to flower, aiding plant reproduction. Wisconsin pollinators include bees, butterflies, moths, flower flies, beetles, wasps, and hummingbirds. Bees purposefully collect pollen as a protein source for their offspring, making them the most efficient pollinators.

There are approximately 20,000 bee species in the world, 3,600 in the United States and over 400 in Wisconsin. All forty-seven species of North American bumble bees nest in colonies, as do some smaller bees, but over 90% of all bee species are solitary (do not live in colonies). The overwhelming majority of all bees are wild (not managed by humans).



Honey Bee (left) and Bumble Bee

In Wisconsin, pollinator-dependent crops account for over \$55 million in annual production. These crops include apples, cranberries, cherries, green beans, pickling cucumbers and fresh market fruits and vegetables. Honey and beeswax contribute an additional \$3.5 million.

High rates of annual honey bee colony loss are of concern in the United States and Europe. During the 2014-15 winter season, Wisconsin was among the U.S. states suffering an annual honey bee colony loss greater than 60%. (See map)



Regal Fritillary Butterfly



## Native Bees Need a Home

Beekeeper's hives provide honey bee colonies a home, but all other species of bees found in Wisconsin nest in the wild. Bumble bees are social and nest in small colonies, but most other species of bees are solitary. Many small-bodied bees only travel 200 yards or less from their nests, so it is important that nesting habitat be located near pollinator-attractive flowers. Some tips for providing nesting habitat:

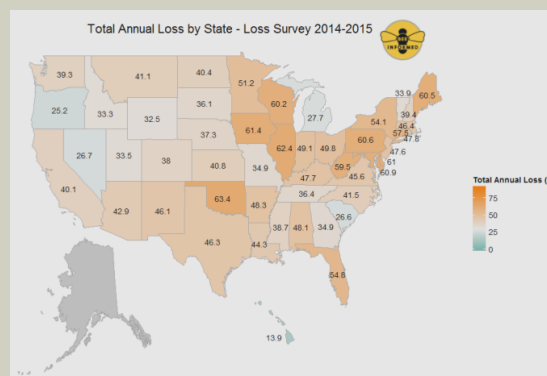
- Leave some areas undisturbed. Most bumble bees and many solitary bee species nest in the ground, in bare patches of semi-loose soil. Frequent tilling can disturb nests.
- Plant native bunch grasses such as little bluestem. Bumble bees and solitary bee species will also nest at the bases of bunch grasses.
- If local ordinances allow it, leave things a little messy. Bumble bees tend to nest in old rodent burrows, cavities, abandoned bird nests, and brush piles. Solitary bee species often nest in hollow or pithy plant stems, downed logs, leaf, or old beetle holes.
- Avoid disturbing existing bee nests. Ground bee nests can resemble ant hills. Take time to observe and identify their occupants before assuming nests are inhabited by ants or wasps. Solitary bees are docile and rarely sting unless handled.

## Actions You Can Take to Help Pollinators

- Reduce pesticide use, especially to flowering plants and shrubs or to areas where pollinators may be nesting.
- Cultivate or plant flowering trees, shrubs, and herbaceous flowering plants that bloom throughout the growing season from early spring until late fall, especially native species.
- Choose a variety of flower colors. Bees are most attracted to blue, white, yellow, and purple flowers. Butterflies like white, pink, purple, red, yellow, and orange. Beetles are attracted to white and green flowers. Moths like white flowers that bloom at night.



Hummingbird Moth



"Bee Informed Partnership" <https://beeinformed.org/results/colony-loss-2014-2015-preliminary-results/>



Sweat Bee (left) and Bumble Bee

## Pesticides Affect Pollinators

The use of pesticides can affect pollinator health. Pesticides are substances meant to deter or kill organisms considered pests, including insects (insecticides), weedy plants (herbicides), fungi (fungicides), mites (miticides), and many others. Pesticides are generally more toxic to insects when direct contact is made, and may harm beneficial insects like pollinators when broadcast over an area. Some classes of systemic insecticides, such as neo-nicotinoids, are persistent and can remain in soil and be taken up by flowering plants long after soil treatments or treated seed has been planted.

## Take Actions to Reduce Pesticide Use:

- Identify the pest and assess the damage. Many plants can tolerate insect damage and no action may be necessary. The Extension Horticulture diagnostics lab can help identify insect damage or disease.
- If pest damage is extensive, explore and understand options for management. Choose methods that minimize harmful effects on pollinators and beneficial insects that prey on pests.
- Follow labels carefully
- Spray when bees are not active (night)
- Cover plantings if things are in flower to discourage bee visits when pesticides are still active