

eat every day. The wonderful part is, no matter how old you are or where you live, you can make our world and Chesterfield better by helping **Pollinators** as they are essential to the other three **Ps** and to our natural world systems.

Pollinators Need Our Help

Pollinators are in serious trouble. In the last decade, honey bees (which were brought from Europe by the colonists) by the hundreds of millions have disappeared and died in what scientists call Colony Collapse Disorder. Some large beekeepers in the U.S. have lost 90 percent of their hives. Many scientists believe this huge die-off is a result of chemical pesticides. Through decades-long experience with pollinating crops with bees, Ted Jansen, a long-term Chesterfield professional beekeeper, confirmed his hives had experienced critical losses he attributed to the widespread use of chemicals as well as the transportation of bees out of state. Bees return to their hives with mites, viruses, and diminished honey production capabilities. Native **Pollinators** are also in trouble because they have been adversely affected by chemicals, pollution, viral infections, mites, and sharply reduced native habitat that all wildlife now contend with.

With the introduction of exotic species that out-compete native **Plants**, non-native species take over critical habitat and have no natural enemies. Exotic **Plants** do not provide the food native **Pollinators** need and choke out **Plants** that do. Exotic animals often attack and kill native species, consuming food before native species can, expand rapidly, and push out native animals. Getting rid of exotics is a critical task.

How You Can Help

All of us can do a lot that will help **Pollinators** recover. That includes what individuals, families, companies, subdivision trustees, institutions like schools and libraries, and cities like Chesterfield can do to pitch in.

- **Minimize the use of chemical pesticides and herbicides.** Many chemicals used in residential and communal gardens and farms are broad-spectrum types, meaning they can kill beneficial species like bees, bumblebees, butterflies, and other **Pollinators**.
- **Use native perennial **Plants** and nectar-producing flowers** in gardens around your home, common grounds, schools, and in community gardens in city parks and other public spaces that create native habitat for **Pollinator** foraging, nesting, roosting, and mating.
- **Maximize flower space and **Plant** species diversity in gardens** when possible. Provide a succession of bright-colored, blooming

Plants throughout the growing season, spring through fall, and a mix of flower shapes to accommodate different **Pollinator** species.

- **Provide host **Plants** to feed caterpillars** as well as nectar **Plants** for adult butterflies and native trees/bushes with berries and nesting habitat for birds. Be sure to eliminate exotic and invasive **Plants**.
- **Combine **Pollinator** gardens with rain gardens** to maximize beneficial effects for the environment.
- **Support farmers and beekeepers** by buying local honey and locally grown organic **Produce**.
- **Follow Chesterfield's 25th anniversary Signature Garden Helps **Pollinators** Model** for home, institutional, common ground, and business gardens, like the West County YMCA and Sachs Library.
- **Come to Chesterfield's Earth Day at the end of April** to get free native flora to plant in your garden to help pollinators.
- **Add your **Pollinator** garden** to the City's National Wildlife Federation Certified Community Habitat metrics.
- **Want to see native **Plants**? Visit our parks**, including the area around City Hall, Central Park, Dierberg's Mediation Park, Eberwein Park, and Faust County Park to see Chesterfield's National Wildlife Federation's anchor project for community certification—the Native Tallgrass Prairie and the Grow Native! Demonstration Garden.

Spread the word to your friends, neighbors and city officials about the importance of **Pollinators** to **Plants**, **Produce**, and **People** and about how they can participate in making Chesterfield and the world a better place in which to live. It's fun and it works.

References

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Other Information Sources

Center for Native Pollinator Conservation, St. Louis Zoo;
<http://www.stlzoo.org/conservation/wildcare-institute/center-for-native-pollinator-conservation/>

City of Chesterfield websites: <http://www.chesterfield.mo.us/national-wildlife-federation.html> and <http://www.chesterfield.mo.us/planting-a-butterfly-garden.html> and <http://www.chesterfield.mo.us/signature-garden-award.html>

Missouri Botanical Garden websites:
<http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/help-for-the-home-gardener/plants-of-merit.aspx>; and
<http://www.missouribotanicalgarden.org/sustainability-conservation/conservation-in-action/at-the-butterfly-house.aspx>; and
<http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/help-for-the-home-gardener/sustainable-gardening.aspx>

Missouri Prairie Foundation website: <http://grownative.org/>

National Wildlife Federation websites: <http://www.nwf.org/Home/How-to-Help/Garden-for-Wildlife.aspx> and <http://www.nwf.org/How-to-Help/Garden-for-Wildlife/Community-Habitats.aspx>

U.S. Forest Service information at <http://www.fs.fed.us/wildflowers/pollinators/> and http://www.fs.fed.us/r9/wildlife/plants_botany/docs/National_Pollination_v3.pdf

The Xerces Society for Invertebrate Conservation websites:
<http://www.xerces.org/pollinator-conservation/> and <http://www.xerces.org/butterfly-conservation/>

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The 4 Ps Make Chesterfield a Better Place!



An easy way to start is by becoming an enthusiastic supporter of the **Four Ps: Pollinators, Plants, Produce, and People**. Most **People** are familiar with three of the **Four Ps**; it's the diversity of **Pollinators** we need to understand. **Pollinators** fertilize our food crops as well as most flowering **Plants**. The diversity of **Pollinators** is vital to maintaining healthy ecosystems and are an essential part

of the web of life that connects and sustains all living things. Having more robust **Pollinators** translates into vigorous **Plants**, more **Produce** for our tables and pets, and healthier **People**. Visit Eberwein Park to see the **Four Ps** in action, especially during summer.

Pollen and Pollination

Pollen is that fine to coarse "powder" many of us are allergic to. But when pollen is transferred from a male **Plant** to a female **Plant** of the same species, pollination occurs and fertile seeds are produced. Almost all flowering **Plants** must be pollinated. A few **Plants** are pollinated by wind or water, and some are even self-pollinating. However, most flowering **Plants** depend on the efforts of **Pollinators**. Different **Plants**, food crops, trees, and wildflowers require different **Pollinators**.

Pollinators

Pollinators are essential for **Plant** reproduction and to help ensure genetic diversity. The more diversity in the **Plant** Kingdom, the better **Plants** can adapt to environmental change. One very important reason we should be concerned about bees and all **Pollinators** is that they are responsible for pollinating 80 to 90 percent of the world's flowering **Plants** and nearly 75 percent of food crops worldwide. Without **Pollinators** we would have a lot less food and without flowering **Plants** our world would be much less delightful and fascinating.

We all eat food from **Plants**, including the **Produce** in our supermarkets. Without **Pollinators** most of our orchards, field crops, forage crops, and home gardens would fail to produce the food we need to sustain life. Imagine living without coffee, tea, cola, cocoa (chocolate), sugarcane, cotton, berries of all kinds including strawberries, apples, bananas, cherries, grapes, lemons and limes, melons, pumpkins, tangerines and tangelos, tomatoes, alfalfa, beans of all kinds including soybeans, broccoli, carrots, celery, chili peppers, mustard, onions, spices, almonds, cashews, macadamia nuts, and many other foods we