

## 'Butterflies, blooms & bees'

By [John Myers](#) on Apr 5, 2014 at 7:49 p.m.

**T**he bad news just seems to keep coming for bees and butterflies, from long-term global population declines to massive die-offs in local areas.

While monarch butterflies and honeybees are attracting the most attention — monarch numbers have dropped 43 percent since just last winter and are at all-time lows since surveys have been taken — a host of other lesser-known pollinator species also may be declining, threatening not just food crops but species diversity and Northland ecosystems.

The problem, two Minnesota experts say, is a combination of declining wild habitat and increasing use of long-lasting pesticides.

There are more than 300 species of native bees in Minnesota alone, including 18 kinds of bumblebees, and little data on how their populations are doing, said Heather Holm, a Minnetonka, Minn.-based expert on Minnesota native plants and pollinating insects.

"We see what's going on with the high-profile species like monarchs and honeybees. But we don't have baseline data for most of Minnesota native pollinator species," she said. "We can surmise, though, that the same problems with pesticides and habitat are affecting our native species, too."

A landscape designer, blogger and consultant, Holm is also the author of "Pollinators of Native Plants" and a keynote speaker at Saturday's annual St. Louis County Spring Gardening Extravaganza at Hermantown High School – titled "Butterflies, Blooms and Bees." The event features 10 experts on gardening, native plants and native pollinators.

Holm is leading by example.

She transformed her two-thirds of a 1-acre suburban yard into a haven for bees, butterflies and other beneficial insects by planting native species, some of which start blooming in early spring followed by a summer of flowers and then plants that bloom deep into autumn.

"Our native pollinators co-evolved along with our native plants. They need each other. But some are out early and need early flowers. They may live only have a few weeks as an adult and they need the flower during that time," Holm said.

The little native mining bee, for example, could benefit from early spring bloomers such as bitterroot and wild geranium, she noted.

Holm urges anyone with a garden to try planting a few native species, either by dedicating a corner of your garden or even mixing natives in with your nonnative favorites. "Even if all you have is a balcony



you can grow native plants in pots and create habitat for pollinators," she said.

The key is to buy truly native species from Minnesota growers (the Minnesota Department of Natural Resources has a list) who don't use systemic pesticides, she said. Many flowers and shrubs purchased from large, big-box retailers are grown by commercial nurseries that use insect-killing chemicals in the soil that are taken up into the plants through the roots.

"Some of these plants can remain toxic for months, even years for woody shrubs, and gardeners are unknowingly killing beneficial insects because the flowers they buy are toxic," Holm said, adding that the key to getting rid of unwanted insects may be attracting more wanted ones, not using more chemicals.

"Eventually, when you're the garden begins attracting beneficial insects, those insects will prey on the few detrimental insects," Holm said.

Karl Foord, a horticulturist for the University of Minnesota Extension Service in the Twin Cities, who is also speaking at Saturday's gardening event, hopes to leave his audience with a clear message.

"Do something. Take action. Create whatever habitat you can for these species in decline. And then limit your chemical usage as much as possible," said Foord, who also has a Ph.D. in genetics.

Foord said his epiphany came during a photo shoot a few years ago at the University's landscape arboretum west of Minneapolis. In the midst of a healthy ecosystem of diverse, native plants where chemicals are rare, Foord noticed there were flying insects — mostly pollinators — in every photo.

Commercial honeybee colony losses have jumped from an average of 15 percent to more than 30 percent for European import bees, Foord said, threatening food crops such as California almonds, Maine blueberries and Michigan apples, in addition to the crop yields for numerous vegetables. In Minnesota, where beekeepers like to rest their bees near clover, fewer wild fields exist as the state's agricultural region has become an even more vast sea of corn and soybeans, especially with the rapid decline in grassland habitat efforts such as the federal Conservation Reserve Program.

The same loss of wild grasses and weeds that has hindered species such as pheasants and ducks is hurting bees and butterflies, both commercial and wild populations.

"We've seen a number of bumble species just disappear. People aren't seeing them anymore," Foord noted. "In China, the pollinators are gone because of the pesticides. They're hiring people to pollinate apple trees by hand. We don't want to let that happen here."

Foord said losses of habitat due to commercial agriculture and development continue to threaten pollinators here at home.

"We have become very good at raising one or two crops ... and we make some pretty awesome insecticides that reach from the soil right up into the plant and keep killing. Even at parts per billion we're seeing impacts on (insect) ability to navigate and reproduce and pollinate," Foord said. "Not just aphids and other 'bad' bugs, but all of the good ones that stop at that flower."

Whatever people can do to restore flowering habitat, even on a small scale, can help, especially in urban and suburban areas that are still being developed into blacktop, buildings and turf. Foord has a special problem with turf, the suburban sea of short, green grass.

Instead of planting, mowing and adding chemicals to get putting green grass, Foord suggests homeowners try a lawn of fescues and clovers. It will grow fairly short, like bluegrass, but will only need cutting half as often as a traditional lawn, won't need to be watered and won't need chemicals.

"And the best part is all those little flowers for the bees and the butterflies," Foord said. "It's not that hard to turn your yard from a pollinator desert into a little island paradise for them."