



PETER LEE, RECORD STAFF

Jim Dyer, a Cambridge consultant specializing in agriculture and environmental issues, hopes to get volunteers to monitor pollinators.

Who has seen the bees?

Drop in number of pollinators hurting food supplies, prof says

By BOB BURTT
RECORD STAFF

At first thought, having fewer bees and bats around might not seem like such a bad thing. But think again.

A decline in pollinating insects and animals could have a profound effect on our food supplies, ecosystems and home gardens, a report by the National Academy of Sciences in Washington suggests.

The report documented a "demonstrable decline" in the populations of honeybees, hummingbirds and bats in Canada

and the United States.

Honeybees, bats and hummingbirds are among thousands of animal species, in addition to butterflies, wasps and other bees, that pollinate 250,000 kinds of flowering plants.

Peter Kevan, a professor of environmental biology at the University of Guelph and an expert in pollination, was one of 15 scientists who helped prepare the report.

"The problem is already a major threat in some parts of the world," Kevan said. "There are already shortages in the

production of apples in India, Pakistan and China. China exports apples to Canada and the United States.

"So, yes, we have a serious problem."

Pollinators are important because they start the sexual process in plants that is necessary for the development of fruit.

The lack of pollinators affects a large number of crops, from almonds in California to blueberries in Atlantic Canada.

In Canada, blueberries, raspberries, apples, alfalfa, oilseed crops, cherries and other tender fruits depend on pollination, Kevan said.

"Over the years, there has been increasing concern about the status of pollinators in agri-

culture and natural ecosystems," he said.

"It has gotten to the point where there are some places where there are definite pollinator shortages."

About three-quarters of the world's flowering plants, and up to 35 per cent of food crops, rely on pollinators, according to some studies.

While the lack of pollinators worries growers in Canada, it is a serious concern in the United States and some other parts of the world, Kevan said.

Canadian beekeepers and farmers have at least taken steps to mitigate the damage by investing in research and not cutting corners.

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Bees: Apples a worry for scientist

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Kevan said the honeybee is one of the major pollinators of agricultural crops, but beekeepers are facing problems with bee diseases and pests.

Loss of habitat is another problem, caused in part by the over-use of pesticides, which has sent bee populations plummeting, notably in Atlantic Canada.

Beekeepers rent out bees to pollinate crops in fields and greenhouses.

For apple growers, the pollination problem is often due to orchard design — too many rows of trees devoted to one species. Bees won't travel more than a few rows to carry pollen from one variety of apple to another, Kevan said.

Hummingbirds play a vital role in pollinating plants such as the trumpet creeper — considered rare in southern Ontario — columbine and other flowers.

The birds stick their bills in the pollen when they try to get nectar. The pollen sticks to the bills and is transferred to the next flowers the birds visit.

While bats are important pollinators for cactus in the southwest United States and fruits in the tropics and Southeast Asia, they don't play much of a role in Canada.

"We don't have the right kind of bats or the right plants," Kevan said.

Once abundant, bumblebees seem to be disappearing from our landscape, he added. In the United States, honeybee populations are down by a third. In part, that's because of disease the bees picked up in Europe, where they were sent for breeding.

"We can't point to any single thing

"There a lot of indicators that suggest some species are in trouble and the trend is in the wrong direction."

JIM DYER

CAMBRIDGE CONSULTANT

for cause and effect," Kevan said. "We have habitat loss, large areas of monoculture crops, habitat destruction, use of pesticides and all sorts of things — the whole suite of things that people concerned about conservation bring to our attention all the time.

"We have a system that we are intimately involved with and we are going to be affected by because it is our food chain as well as food chains in nature.

"I think our problem (in Canada) is serious and we need to pay a lot of attention to it. But we don't have the same urgency as they do in some places with some crops."

Kevan said problems in the Ontario apple industry are cause for concern.

"It wasn't long ago we were ripping out orchards because farmers couldn't compete with imports from Washington, and now Chinese apples are coming in."

Pollination in apple orchards is important because it has a significant effect on the yield in any given year. Good pollination practices are necessary to ensure maximum yields.

Jim Dyer, a Cambridge consultant who works on agricultural and environmental issues, shares Kevan's concerns. He has developed a system that depends on citizen scientists to monitor conditions for pollination.

Although the roots of the program

are in Waterloo Region, Dyer hopes to take it nationwide next year or in 2008. It's supported by Environment Canada and Seeds of Diversity Canada.

Volunteers will count pollinators, check available habitat and observe what makes good habitat.

When the program is up and running, Dyer expects to have 40 or 50 people in Waterloo Region keeping an eye on local conditions.

"This will give us a good idea of the pollinators in this area and distinguish what the best sites are — riverbanks, parks, private gardens or industrial campuses," he said. "It's a new issue and no one really knows definitely.

"There a lot of indicators that suggest some species are in trouble and the trend is in the wrong direction. We are losing species so every species loss is serious. It's easy to say there are thousands of species so what if we lose a few."

The reality, Dyer said, is that the world depends on a diversity of species to offset even naturally occurring failures.

"You need an assemblage of pollinators so some replace others if they are down."

Dyer hopes his project will provide advice on how to manage yards and property.

For now, he suggests people use fewer pesticides, allow part of their property go wild or natural, and not fuss over a green, manicured lawn.

Plants such as Queen Anne's lace and goldenrod have a purpose, he said.

"If pollinators don't have these plants, they won't be available to pollinate plants in the garden."

bburt@therecord.com