

## Disappearing Insects—A Call for Urgent Action

We elevate the public debate about the hazards of pesticides from a human and environmental perspective in the context of a clear solution to the pesticide problem. I start with my conclusion: We can eliminate hazardous pesticides with alternative practices and products that are compatible with organic systems. How we advance both an understanding of the problem and how we frame the solution is critical to the ultimate outcomes and the speed with which they are achieved. We are living at a time when the urgency for integrating our work into the big picture of human survival gains clarity every day. So, we draw the interconnections between the indiscriminate destruction of living organisms caused by pesticides, habitat loss, and global climate change.

### Bringing it to the mainstream

To do this, we do need to articulate the problem by bringing to the public arena new scientific discussions that are often buried in the scientific literature. That is why Beyond Pesticides spends so much of its resources evaluating science and translating it into language that is accessible to the general public. Our objective is to take the analysis and reporting in this journal, and the information in our factsheets, *Daily News*, and databases to community discussions at town, city, and county council meetings, as well as school boards and park commissions, and with neighbors, family, and editorial boards of local media.

### The insect apocalypse

So, you can imagine how important it was in late November for the *New York Times* magazine to publish its front page article, *Insect Apocalypse*. This piece clearly explains the current crisis of disappearing insects and the devastating biodiversity decline. The author, Brooke Jarvis, brought to the mainstream media the disturbing news that readers of this journal have been following.

As Ms. Jarvis says, “[T]here were documented downward slides of well-studied bugs, including various kinds of bees, moths, butterflies and beetles. In Britain, as many as 30 to 60 percent of species were found to have diminishing ranges. Larger trends were harder to pin down, though a 2014 review in *Science* tried to quantify these declines by synthesizing the findings of existing studies and found that a majority of monitored species were declining, on average by 45 percent.” She continues: “Ornithologists kept finding that birds that rely on insects for food were in trouble: eight in 10 partridges gone from French farmlands; 50 and 80 percent drops, respectively, for nightingales and turtledoves. Half of all farmland birds in Europe disappeared in just three decades. At first, many scientists assumed the familiar culprit of habitat

destruction was at work, but then they began to wonder if the birds might simply be starving.”

### Bringing science to the mainstream

Various studies have found reductions of up to a factor 60 over the past 40 years—there were 60 times as many insects in some locations in the 1970s. Over 75% of insect abundance has declined over the last 27 years, according to research published last year by European scientists in *PLOS One*. The dramatic drop in insect biomass has led to equally dramatic pronouncements from highly respected scientists and entomologists. “We appear to be making vast tracts of land inhospitable to most forms of life, and are currently on course for ecological Armageddon,” study coauthor David Goulson, Ph.D. of Sussex University, UK, told *The Guardian*. “If we lose the insects then everything is going to collapse.”

As we discussed when he published his book, *A Sting in the Tale* (2014), Dr. Goulson writes, “We need worms to create soil; flies and beetles and fungi to break down dung; ladybirds and hoverflies to eat greenfl[ies]; bees and butterflies to pollinate plants to provide food, oxygen, fuel and medicines, and hold the soil together; and bacteria to help plants fix nitrogen and . . . cows to digest grass. . . . [Yet] we often choose to squander the irreplaceable, to discard those things that both keep us alive and make life worth living.”

### Where must we be headed with all this?

What do we want to achieve? Certainly, we do not want to spend our lives on the treadmill of banning pesticide after pesticide that are used in land and building management systems because underlying pest conducive conditions are not fixed or prevented. How would we define a preventive approach that avoids the problems that lead to pesticide use and pesticide dependency, that create resistant organisms requiring more potent chemicals to control, that are fossil fuel dependent, use fracking water, destroy the soil and aquatic food webs, and contribute to global climate change or, conversely, does help to manage carbon?

With organic systems, we are well on our way to eliminating the toxic pesticides that wreak havoc with life. However, a lot more urgency is needed. *Best wishes for healthy and organic new year!*

**Jay Feldman,**  
executive director of  
Beyond Pesticides

