



NATURAL RESOURCES DEFENSE COUNCIL
THE EARTH'S BEST DEFENSE



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ISSUE ARCHIVE

IT'S NOT ABOUT THE HONEY

Colony Collapse Disorder Threatens Our Food Supply

Unless you are Pooh Bear, a life without honey is easily imaginable. There are, after all, other ways to satisfy a sweet tooth. But what about a life without fruit, nuts and vegetables -- without the apples and peaches, almonds and cashews, garlic and broccoli that keep our meals interesting and bodies healthy?



It is not a rhetorical question. A diet primarily of bread and gruel may be our future if we do not address the honey bee crisis and the broader problem of "pollinator decline."

Pollinators are animals that help plants reproduce by transferring pollen from flower to

flower. Some 200,000 different species are engaged in the task around the planet, including birds, bats and a wide variety of insects. But when it comes to pollinating crops in the United States, no species is more important than the honey bee.

Though not the only species up to the job, the honey bee is the mainstay of industrial agriculture, which pays migratory beekeepers millions each year to bring their hives around at blooming time. So it is no small matter that a third of the nation's managed honey bee colonies died off in 2006 due to a syndrome that has come to be known as Colony Collapse Disorder (CCD), or that the disaster repeated itself the following year and is expected to do so again in the year ahead.

What exactly is CCD? A huge mystery, that's what. One day a hive is humming with activity. The next, it is virtually empty of adult bees. They simply fly off and never return. Is it possible that these master navigators, famed for their ability to dance out directions, cannot find their way back home? If so, what dread disease or poison could be responsible? Or perhaps the sick bees are purposely going off to die on their own, as these highly social insects are wont to do to keep the mother ship safe.

No one has yet been able to explain the vanishing act, but research done to date suggests that more than one "stressor" is involved. Suspects include an AIDS-like virus that weakens the bee's immune system, the invasive varroa mite, malnutrition and pesticide exposure. Some scientists say that if CCD continues, honey bees could disappear by 2035.

Clearly, we need to rev up the research engine -- and quickly. Recognizing the urgency, Congress allocated emergency funds for studying CCD to the Department of Agriculture in 2007. What became of the money is anyone's guess. The department has so far refused to account for it. Neither has it



advisor to NRDC, posts a new *This Green Life* every month. Sheryl makes her home in Tribeca (NYC), where—along with her children, Sophie and Gabby, and husband, Peter—she tries to put her environmental principles into practice. No fooling. [Read more about Sheryl.](#)

FREE: *This Green Life* by email

ONLINE RESOURCES

NRDC

[The Bees' Needs](#)

THE DAILY GREEN

[In Search of the CCD Culprit\(s\)](#)

NATURE

[Silence of the Bees](#)
(video)

WASHINGTON POST

[First Honey Bees, Now Bumblebees](#)

U.S. FOREST SERVICE

[Our Future Flies on the Wings of Pollinators](#)

WILD ABOUT GARDENING

[Attracting Pollinators](#)

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[Urban Bee Gardens](#)

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NRDC has been pushing the Department of Agriculture to stop sitting on its hands -- and I encourage you to [add your voice](#). We cannot afford to take a wait-and-see approach to a problem as dire as CCD.

You can address the broader problem of pollinator decline, which stems at least in part from loss of habitat, by making your yard pollinator-friendly. There are plenty of wild bee species -- many unfortunately threatened -- that could be picking up the honey bee slack if we only left them places to live and feed. While you're at it, invite butterflies, moths, beetles and hummingbirds to join the feast. They don't all help with crop pollination, but they give an assist to wild plants, which need pollination, too.

Here's what you can do:

- [Create a native flower garden](#) in a sunny area. Choose an array of flower species with different blooming times, so there is food for pollinators from spring through fall. Make sure that you have flowers with different colors and shapes blooming within each season. Note that bees prefer blue, purple, white and yellow flowers, while butterflies and hummingbirds like yellow, red and orange. When planting, cluster flowers of the same species together.
- Provide a supply of water for your visitors in a shallow container or birdbath. Lay stones in the water to create perches for them.
- Let a corner of your yard return to nature. Brush, grasses, wildflowers and weeds offer pollinators additional food and shelter. Some bees nest directly in the dirt, so consider leaving a small patch of ground with sandy soil bare. Go one step further and [build a bee nest](#).
- [Avoid using pesticides](#) on your lawn and garden -- they can be toxic to bees and other animals. Come to think of it, do this even if you don't care about pollinators. It will make your yard safe for children and pets and help to keep the water supply clean.

Also, [buy organic food](#) whenever possible to keep pollinators free of pesticides in the fields.

Finally, something we all can work on is a change in attitude. [Insects are not our enemies](#) -- they help to hold the world together, fertilizing plants, tilling the soil and serving as food for other animals. As the multi-prize-winning entomologist and author E. O. Wilson warns: "It would be a serious mistake to let even one [insect] species out of the millions on Earth go extinct." Let's not let it happen to, of all insects, the honey bee.

—Sheryl Eisenberg

NPR
[A Week to Recognize Pollinators](#) (audio interview with E.O. Wilson)



The amazing honey bee. Long before CCD struck, I researched honey bees for an animated feature my firm created for NRDC. (It's no longer on NRDC's site, but you can [see it here](#).) Among the fascinating factoids I found were these:

Honey bees collect pollen with sticky hairs on their hind legs.

It takes nectar from 2 million flowers to produce a pound of honey.

Wax from the bee's abdomen is used to make the honeycomb.

To direct sister bees to flowers, a bee does a "[waggle dance](#)."

Buzzing is the sound of a bee's beating wings.



X marks the spot. Many flowers have nectar guides that lead bees to the nectar and pollen. Some are markings like the lines on the pansy above; others are [ultraviolet patterns](#) that we can't see, but bees can.

Pesticide to blame? One contributor to CCD may be clothianidin, a pesticide approved for use in 2003 on condition that the manufacturer study the impact on honey bees. For some reason, the EPA hasn't been interested in sharing what came of the study, so recently [NRDC sued](#) for the information. Meanwhile, France and Germany have suspended use of the pesticide due to concerns that it is contributing to CCD, which also afflicts European honey bees.

Your favorite nature spots and mine



The latest addition, as of this writing, to the collaborative *This Green Life* nature map is Squamish, near Vancouver, where bald eagles can be viewed. To see this and other people's recommendations, [go to the map on Google](#) and click the markers. To add your own favorites to the map:

1. [Go to the map on Google](#).
2. SIGN IN to your Google or Gmail account. (You need an account to edit the map.)
3. Click the edit button in the panel to the left of the map.
4. DON'T CHANGE the map title or description! INSTEAD, click the balloon icon near the map zoom controls.
5. Move the balloon to your favorite spot and click.
6. Tell us why you love it!
7. Click OK.

Sheryl Eisenberg is a web developer and writer. With her firm, Mixit Productions (<http://www.mixitproductions.com>), she brought NRDC online in 1996, designed NRDC's first websites, and continues to develop special web features for NRDC. She created and, for several years, wrote the Union of Concerned Scientists' green living column, *Greentips*, and has designed and contributed content to many nonprofit sites.

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