



neighborhoods surveyed were destroyed “in case they fell into the wrong hands and could increase the risks to residents.” These explanations have infuriated the study’s critics. Michael Spagat, an economist at Royal Holloway, University of London, who specializes in civil conflicts, says the scientific community should call for an in-depth investigation into the researchers’ procedures. “It is almost a crime to let it go unchallenged,” adds Johnson.

Co-author Roberts is no stranger to such

controversy. He led a smaller study of Iraqi casualties, published in *The Lancet* in 2004, that estimated 100,000 deaths. That work was criticized for relying on too few samples. This time, he says, “we took enough samples, and if anyone wants to verify our results, it’s easy.” The study suggests that close to four times the number of deaths occurred in the first half of 2006 than in the first half of 2002, he says, “and anyone could simply pick four to six spots in Iraq and go to the local graveyards. The increase ... should be obvious.”

For now, Spagat says he is sticking with casualty numbers published by the United Nations Development Programme (UNDP). A UNDP survey of 21,668 Iraqi households put the number of postinvasion violent deaths between 18,000 and 29,000 up to mid-2004. “When a survey suggests so much higher numbers than all other sources of information,” he says, “the purveyors of this outlier must make a good-faith effort to explain why all the other information is so badly wrong.”

—JOHN BOHANNON

## ECOLOGY

# Report Warns of Looming Pollination Crisis in North America

California almonds are a huge food crop in the United States, and land devoted to almond trees is expected to increase another 50% by 2012. But that growth depends in large part on availability of the almonds’ pollinator, the honeybee.

And honeybees are in trouble, according to a report on North American pollinators\* unveiled this week by the National Research Council (NRC) of the National Academies.

Although there is “no strong evidence for a current pollination crisis,” there may be one looming, reports an NRC committee led by entomologist May Berenbaum of the University of Illinois, Urbana-Champaign.

The committee calls for better long-term monitoring of all pollinators, noting that few records exist for species other than honeybees.

A study earlier this year documented decreasing pollinator diversity

in Europe, and there are similar fears about what’s happening in North America (*Science*, 21 July, p. 286). Last year, for the first time since 1922, California almond growers imported bees from Australia to service their trees because U.S. bee colonies are being decimated by a

\* *Status of Pollinators in North America*, [www.nap.edu/catalog/11761.html](http://www.nap.edu/catalog/11761.html)

mite, *Varroa destructor*, which sucks the life out of larvae. According to the report, the mite, which first showed up in 1987, is even overshadowing the Africanized honeybee, which—adaptable, angry, pushy, and proliferative—has been steadily encroaching in the southern United States and muscling aside the gentler European honeybee population.

Roughly one-third of the North American diet comes from food—fruits, vegetables,

The NRC report notes that just as modern agriculture relies too much on monocultures, there is too much reliance on honeybees, which beekeepers truck around from one crop to another, like migrant workers. Almonds are particularly vulnerable, says Kevin Hackett of the Agricultural Research Service, because their trees flower early in the year when honeybee colonies are weakened from winter mite infestations. He says mites have caused the price of bee rental for almond growers to go from about \$30 to as much as \$150 per hive.

NRC calls for more research on the mite problem, noting that *Varroa* have become resistant to antibiotics and pesticides. It’s been difficult to breed mite resistance into the bees, in part because of the queens’ loose mating habits. Hence the need, says the committee, to develop “non-*Apis*” pollinators such as the alfalfa leaf-cutter bee, which doesn’t have a mite problem.

The committee also advises that the U.S. government establish discovery surveys for wild pollinators of U.S. crops and of rare or endangered plants. The NRC report adds that beyond increased research and data-gathering, simple steps, such as growing wildflowers in golf-course roughs, can help keep a diverse array of pollinators in business.

Adding to the buzz surrounding the report, the 3-year-old North American Pollination Protection Campaign ([www.pollinator.org](http://www.pollinator.org)) sponsored a symposium this week at USDA to discuss better management of pollinator resources worldwide.

—CONSTANCE HOLDEN



**Stamps of approval.** Next spring, the U.S. Post Office will issue these and other stamps depicting pollinators.

seeds, and nuts—that rely on animal pollinators, which include beetles, butterflies, flies, bats, hummingbirds, and bumblebees. But the king of pollinators is *Apis mellifera*, the European honeybee. Much preferred over its African cousin, it’s a “generalist” that pollinates a huge variety of crops. It is also highly social and thus easy to muster.