



## Threats to bees are threats to all

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At a recent legislative meeting, in which House Bill 175, the Pollinator Bill, was passed unanimously by a bipartisan committee, I testified to the national crisis affecting honey bees.

I want to outline the numerous challenges affecting honey bees, only one of which is posed by current surface mine reclamation methods.

The challenges facing honey bees fall into various categories: biological, chemical, genetic and cultural issues. Honey bees have been in decline since the 1980s when two mites appeared in North America. Since honey bees had no genetic resistance to these mites, the effect of these mites meant many beekeepers lost half of their hives, some more.

Even now, these two mites remain serious threats, and chemicals no longer work. So genetic resistance is becoming the only option to deal with mites, but beekeepers (most of whom receive no federal subsidies for their losses) continue to lose hives since genetic-resistant queens are expensive.

The cultural challenges are harder to track: Young people prefer to have more predictable career paths, and beekeeping is anything but predictable. It is, like many agricultural industries, subject to arbitrary weather patterns.

Drought, prolonged winters such as the current one and rainy seasons mean the bees will have difficulty finding nectar and pollen. In some seasons, the bees will do well to produce enough honey for themselves, much less extra for the beekeeper.

Unlike other agricultural industries, however, there is no federal subsidy program for beekeepers. Whereas corn, wheat, and soybeans enjoy subsidies even in record-setting profit years, beekeepers continue to struggle. In 2010, the U.S. is 200,000 hives short for almond pollination.

Furthermore, there are fewer than 2,000 commercial beekeepers. A shortage of hives and beekeepers adds up to a serious long-term problem when it comes to the U.S. being able to provide adequate pollination for its major crops — and thus affordable fresh food for its citizens.

Another challenge is the reliance upon agricultural chemicals for monocultural crops and orchards. Honey bees inadvertently bring back chemical residues from foraging trips to the field, and beeswax absorbs these residues.

In a recent study done by Pennsylvania State University, over 50 agricultural chemicals were stored in beeswax. The sub-lethal effects of some of these chemicals are just beginning to be studied.

More to the point of HB 175, the suburbanization of cities — emphasizing manicured lawns, chemical treatments and zoning restrictions in which families are fined for vegetable gardens — creates a landscape vastly different than the wildflower plots and marginal areas in which bees do well.

If I could reclaim Lexington and Louisville with pollinator-friendly trees and flowers, I would.

Quite simply, the coal companies with whom I work offer progressive opportunities to reclaim surface mine sites with pollinator-friendly species, building upon a successful formula for reforestation defined by the Appalachian Regional Reforestation Initiative.

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