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FOR IMMEDIATE RELEASE

Some Pollinator Populations Declining; Improved Monitoring and More Biological Knowledge Needed to Better Assess Their Status

WASHINGTON -- Long-term population trends for some North American pollinators -- bees, birds, bats, and other animals and insects that spread pollen so plant fertilization can occur -- are "demonstrably downward," says a new report from the National Research Council. However, there is little or no population data for many pollinators, which prompted the committee that wrote the report to call for stepped-up efforts to monitor these creatures and improve understanding of their basic ecology.

In order to bear fruit, three-quarters of all flowering plants -- including most food crops and some that provide fiber, drugs, and fuel -- rely on pollinators for fertilization, and farmers often lease thousands of colonies of bees to ensure pollination. Research indicates that shortages of pollinators for agriculture already exist and that decreases in wild pollinator populations could disrupt ecosystems in the future. "Despite its apparent lack of marquee appeal, a decline in pollinator populations is one form of global change that actually has credible potential to alter the shape and structure of terrestrial ecosystems," said committee chair May R. Berenbaum, Swanlund Chair, entomology department, University of Illinois, Urbana-Champaign.

The report notes that much more data have been gathered on pollinators in Europe, where researchers have definitively documented declines and even extinctions. Nevertheless, there was sufficient evidence for the committee to conclude that some North American species are in decline, especially the honeybee. Honeybees are crucial to agriculture, pollinating more than 90 commercially grown crops; for example, it takes about 1.4 million colonies of honeybees to pollinate 550,000 acres of almond trees in California. Studies show that U.S. honeybee populations have dropped since the 1980s, when a non-native parasitic mite was introduced, although the full extent of the decline is unclear because of problems with the way the federal government collects statistics on the beekeeping industry. The U.S. Department of Agriculture's National Agricultural Statistics Service should improve its methods for surveying honeybee populations, and do so on a yearly basis, the committee said.

The shortage is significant enough, however, that honeybees had to be imported from outside North America last year for the first time since 1922, when the Honeybee Act banned such imports for fear they would introduce non-native pests. Such fears are still justified, the committee warned, recommending that USDA and relevant agencies in Canada and Mexico take steps to prevent the introduction of new pests, parasites, and pathogens if bees are imported.

Antibiotic-resistant pathogens and encroachment by Africanized honeybees also are hurting North American honeybee levels, the committee noted. It recommended that USDA support research to improve pest-management and bee-breeding practices.

Long-term trends for several wild bee species -- especially bumblebees -- as well as some butterflies, bats, and hummingbirds also show population drops, the committee found. However, it emphasized that a paucity of data on most wild pollinators, together with incomplete knowledge of their taxonomy and ecology, make authoritative assessments exceedingly difficult.

The causes of decline in wild pollinators vary by species and are difficult to determine, the report says. Like the

honeybee, the bumblebee has been hurt by the introduction of a non-native parasite. Many pollinator declines are associated with habitat loss, although U.S. data often are inadequate to link the two definitively; one exception is the drop in the bat population, which can be attributed to destruction of cave roosts.

To better track wild pollinators in North America, the United States should collaborate with Canada and Mexico to form a network of long-term monitoring projects, the committee recommended. A rapid, one-time survey should be conducted as soon as possible to establish baseline data to which future assessments can be compared. USDA also should support research to improve the quick identification of pollinator species, which is very difficult in the field.

Although the consequences of wild pollinator declines for nonagricultural settings are more difficult to define, one result could be a greater vulnerability of some plant species to extinction, the report adds. Few plants rely on a single pollinator, but certain species could be at increased risk.

Effective conservation and restoration of pollinator populations requires a level of knowledge that does not yet exist, the committee determined. It urged USDA and other federal agencies to support research aimed at the sustainable management of these populations. In the meantime, landowners can take simple and relatively inexpensive steps to make habitats more "pollinator friendly," for instance by growing native plants. Encouraging such practices will require active public outreach, the committee pointed out.

The North American Pollinator Protection Campaign (NAPPC), representing several agencies and organizations in the United States, Canada, and Mexico dedicated to raising awareness of this issue, requested the Research Council report. It was sponsored by the U.S. Department of Agriculture, the U.S. Geological Survey, the National Academies, and the Research Council's Division on Earth and Life Studies. NAPPC will hold a symposium on pollinators, including a presentation of this report, on Wednesday, Oct. 18, at the USDA in Washington, D.C.; see <www.pollinator.org> for more details.

The National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council make up the National Academies. They are private, nonprofit institutions that provide science, technology, and health policy advice under a congressional charter. The Research Council is the principal operating agency of the National Academy of Sciences and the National Academy of Engineering. A committee roster follows.

Copies of Status of Pollinators in North America are available from the National Academies Press; tel. 202-334-3313 or 1-800-624-6242 or on the Internet at http://www.nap.edu. Reporters may obtain a pre-publication copy from the Office of News and Public Information (contacts listed above).

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