http://www.pollinator.org

December 4, 2008—via e-mail

TO: EPA Science Advisory Board Committee on Valuing the Protection of Ecological Systems and Services (C-VPESS)
CC: Laurie Davies Adams, P2 Executive Director

FR: R. Thomas (Tom) Van Arsdall, Public Affairs Director

RE: Importance of Including Pollinators in Valuation of Pollinator Ecosystem Services

The Pollinator Partnership (P2) is a nonprofit organization headquartered in San Francisco, California. P2's mission is to catalyze stewardship of biodiversity. P2 places a high priority on efforts to protect and enhance animal pollinators (*invertebrates, birds and mammals*) and their habitats in both working and wild lands. More information about P2 may be accessed at http://www.pollinator.org.

P2 is a strong advocate of a collaborative, science-based approach. P2 is honored to have a number of beneficial pollinator partnership efforts ongoing through management of the North American Pollinator Protection Campaign (NAPPC), a tri-national, public-private collaboration of scientific researchers, managers and other employees of state and federal agencies, private industry and conservation and environmental groups. The Office of Pesticides is a key collaborator in NAPPC, and EPA will be hosting the international NAPPC conference in 2009. More information about NAPPC and its collaborative efforts can be found at http://www.nappc.org.

P2 applauds the 5-year effort by the EPA SAB to develop an expanded and integrated, science-based approach that can be applied by EPA to the valuing the protection of ecological systems and services. Typically such services have been seriously undervalued in environmental cost-benefit analysis and decision-making. EPA has tended to measure what is readily measurable. We are pleased the SAB appears to be nearing completion of its charge and hope that the recommendations will be applied in real-world ecosystems contexts.

P2 Recommendation: **Include Pollinators**. P2 appreciates that the important work of the Committee is at the "10,000 foot" level, with recommendations to be applicable to valuing the full range of ecological systems and ecosystem services. Pollination services should be a part of implementing each of the Committee's three key recommendations.

In reviewing the current draft, P2 is pleased that the Committee has specifically recognized pollination services and provided two examples of research to value these services through spatial models. We urge the Committee to express support for funding for additional research.

One recommendation in the draft is to identify services of likely to be of importance early in the process and then to focus on valuing those services. P2 supports this approach and urges that at a minimum pollinators and pollination services, both in the context of natural ecosystems and agricultural pollination, be included on a standard checklist. It's important to at least ask the

question. Similarly in any valuation surveys, pollinators should be included. Too often pollinators have been invisible on decision radars.

P2 supports the Committee's recommendation that an integrated approach needs to be applied in national rulemaking, regional partnerships and local site-specific decisions and urges that pollinators be factored in at each level..

P2 Recommendation: **Increase and Coordinate Research & Include Pollinators**. One of NAPPC's initiatives led to a 2006 National Academy of Sciences (NAS) report on the status and science of pollinators in North America. Not surprisingly the panel found a paucity of good data and research, but did find indications of significant problems and made a series of recommended actions which P2 is working to help implement. The SAB Committee's last recommendation—to better coordinate and share research and data on ecosystem services and increase research efforts—is consistent with the NAS report recommendation.

P2 Recommendation: **Include Pollinator Expertise in Implementation Phase**. Looking ahead, P2 recommends including pollinator expertise in teams implementing the recommendations where appropriate. P2 can facilitate identification and recruitment of such expertise.

The Committee's work is far more than an academic exercise. Failure to recognize value and adopt appropriate protective actions has real consequences, which in natural ecosystems may be irreversible. Pollinators are lynchpin species in every terrestrial ecosystem, EPA's dual mission of human health and the environment are demonstrably intertwined in the pollinator context. Their fate and wellbeing are often key indicators to the health of an ecosystem and the services it provides, and to the impacts of anthropogenic activities. Habitat destruction, global climate change and pesticide use are but 3 examples.

Today, possible declines in the health and population of pollinators in North America and globally pose what could be a significant threat to the integrity of biodiversity, to global food webs, and to human health:

- A 2008 study by French and German Scientists on the economic valuation of the vulnerability of world agriculture confronted with pollinator decline[1] found that bees and other insect pollinators pollinated nearly $250 billion of food crops globally.
- Due to several reported factors, the number of commercially managed honeybee colonies in the U.S. has declined from 5.9 million in the 1940's to 4.3 million in 1985 and 2.5 million in 1998. The recent outbreak of Colony Collapse Disorder (CCD) is yet another challenge.
- Native bees, which reportedly provide a majority of crop pollination services in the developing world, are also at risk. Researchers are finding that native pollinators provide significant ag pollination services in the U.S. In the United States and Great Britain, for example, there are documented instances of sharp declines and even extinctions in populations of bumble bee species that once occurred in abundance.

Thank you for this opportunity to share our views.

[1] Nicola Gallai, Jean-Michel Salles, Josef Settele, Bernard E. Vaissière: Economic valuation of the vulnerability of world agriculture confronted with pollinator decline. *Ecological Economics* (2008).