PROJECT SUMMARY

Native Pollinator Guide Helps Wild Bees and Organic Farms

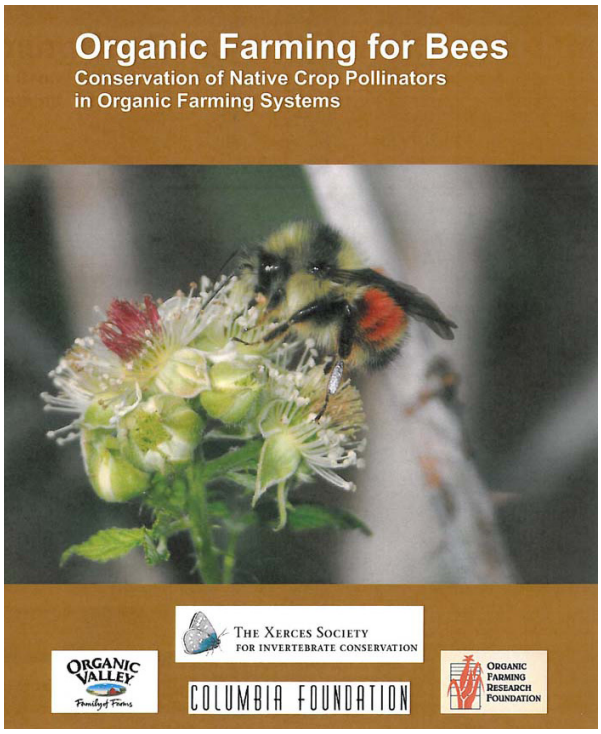
Managing farm habitat for wild pollinators

Wild pollinators can provide important pollination services for many food crops. Wild bees in particular can significantly augment—and sometimes even replace--pollination services provided by the European honey bee. For some crops wild bees are even more effective pollinators than their honey bee cousins. By understanding the landscape and conservation needs of wild bees and other native pollinators, organic farmers can manage wild pollinator habitat and enhance pollination services on their farms.

The Xerces Society for Invertebrate Conservation has developed a comprehensive toolkit for native pollinator conservation on organic farms: *Organic Farming for Bees – Conservation of Native Crop Pollinators in Organic Farming Systems,* partially funded by OFRF. The toolkit provides materials designed to help organic farmers conserve native pollinators and take advantage of the crop pollination services they can provide. In addition, a workshop curriculum complements these resources and provides training on native pollinator conservation on organic farms.

In Brief:

Wild pollinators, especially native bees, can provide excellent pollination services to various crops. The Xerces Society has developed a handbook and toolkit for organic farmers to help attract native bee pollination services to their farms, and to help provide and protect habitat for wild species of bees.



The Xerces Society's native pollinator toolkit is a valuable and informative handbook for organic farmers and others who want to understand native pollinator conservation.

The goal of this project is to provide organic growers with sustainable pollination services through the creation and management of farm habitat that supports native bees. Specific project objectives are to educate organic growers about (1) recent research that increases our understanding of the role native bees play in crop pollination, (2) the specific habitat needs of native bees, (3) how to provide this habitat, and (4) how to reduce impacts of organic farming practices on these pollinators.

Native pollinators have two basic habitat needs: a diversity of flowering plants and nesting sites.

The native pollinator toolkit is organized into fact sheets, each outlining a different protocol for maximizing habitat and minimizing risks to wild pollinators. The fact sheets include extensive regional plants lists for creating native bee habitat, guidelines for building and maintaining artificial nest sites, and strategies for managing organic pesticides to reduce harmful impacts to bees. Special attention is given to

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the subject of tillage and other weed management practices, which are among the organic farming activities that pose the most potential harm to native bees. While different species of native bees use a variety of nesting sites including natural tunnels and cavities, approximately 70% of our native bees nest underground.

In addition to more secure and effective pollination, organic growers benefit from the other ecological services these protocols provide. The same habitat enhancements and management practices that support wild pollinators also support beneficial insects such as parasitoid wasps, predacious flies and beetles, ambush and assassin bugs, lacewings and others.

Many of these conservation efforts can be funded through cost-sharing and incentive payments made available through farm bill programs. Among these funding sources are Natural Resources Conservation Service programs such as the Environmental Quality Improvement Program and the Wildlife Habitat Improvement Program, as well as the Farm Service Agency Conservation Reserve Program (CRP) and the CRP State Acres for Wildlife Enhancement program.

The Xerces Society is an international, nonprofit organization that protects wildlife through the conservation of invertebrates and their habitat. Scott Hoffman Black, the organization's director, believes pollinator conservation and organic farms are a natural fit. The group embarked on this project because they saw the need to work more with farm landscapes in their ongoing efforts in support of invertebrate protection.

"Agriculture is the largest global land use on the planet, and we need to conserve biodiversity through working with agriculture," says Hoffman Black. "We felt that pollinators would be a great way to reach out to farmers--if you want an apple, you need pollinators. The organic farmer audience was perfect because we could talk about a benefit to them—that they could benefit the environment and benefit themselves at the same time. They get it."

By establishing management protocols for wild bees, wild pollinators gain new opportunities for success and a new place in agricultural ecosystems. This is a win-win situation, providing growers with better pollination and new habitat for native species.

From the native pollinator fact sheets:

Courtesy of The Xerces Society

- Approximately 4,000 species of bees are native to the U.S.
- The non-native, European honey bee is the most important crop pollinator.
- Honey bee numbers are in decline because of disease and other factors, making native pollinators even more important to the future of agriculture.
- The honey bee is not native to North America and is not as well adapted to some climatic conditions as native bees.
- Some native bees are more efficient pollinators than honey bees for native new world crops (such as tomatoes, squash, pumpkins, cranberries, and blueberries) as well as many old world orchard crops (such as apples and cherries).
- Unlike honey bees, native bees perform buzz pollination, which is highly beneficial for the cross-pollination of tomatoes, peppers, cranberries and blueberries, as well as other plants. In tomatoes, buzz pollination by bees results in larger and more abundant fruit.
- Research is documenting declining native bee numbers across the country. While native bees are not affected by the same disease and parasite problems as honey bees, they are facing unprecedented habitat loss and exposure to pesticides.
- The reduced use of pesticides as well as more sustainable management practices makes organic farms an important asset in protecting pollinators. Many organic operations already have good numbers of existing wild bees. In some cases, these native bees can effectively provide all necessary crop pollination services when bee-friendly management practices are implemented.

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