

# FOCUS ... on Pollinators

## Why We Should Care About Pollinators

By Mike Higgins  
and Bob Adamcik

**What do Contra Costa** wallflowers at Antioch Dunes National Wildlife Refuge in California, Masked Bobwhites at Buenos Aires National Wildlife Refuge in Arizona, and black bears at Seney National Wildlife Refuge in Michigan have in common? Their very existence depends upon pollinators. Pollination is an essential, if often under-appreciated, ecological function.

Pollinators encompass a diverse group of organisms, from insects such as bees, beetles and butterflies, to hummingbirds and even to

some species of bats. Pollinators are crucial for the reproduction of many plants, which in turn provide food and shelter for a multitude of other species. Indeed, without pollinators, most ecosystems would simply collapse.

Pollinators may also play an important role in the management of threatened and endangered species. Certain species of plants may evolve closely with one or only a few species of pollinators. Because of their close ecological ties, when either the pollinator or the plant declines, the other is adversely affected. Several species of plants, like the threatened Mead's milkweed, have declined at least in part because of a paucity of pollinators.

These usually small and often unobtrusive creatures do not come immediately to mind when we think of the National Wildlife Refuge System. However,



*Pollinators can be considered guardians of the biological integrity of ecosystems. (USFWS)*

## Managing for Pollinators and Wildlife

By Kim Winter

**Although a third of the food** we eat and the fruits, seeds and foliage that so many wildlife species rely upon depend on pollinators, they often go “under the radar” for many ecologists. Yet today, possible declines in the health and population of pollinators pose a significant threat to biodiversity, global food webs, and human health.

In 1999, scientists and land managers concerned with pollinator conservation founded the North American Pollinator Protection Campaign (NAPPC), administered by the Coevolution Institute to promote the health of resident and migratory pollinating animals. NAPPC has grown to become a partnership of more than 100 organizations, ranging from universities and environmental groups to utility companies, zoos, and several government agencies

(<http://www.napppc.org/partners2005.html>).

The U.S. Fish and Wildlife Service recently signed a Memorandum of Understanding with the Coevolution Institute, giving the National Wildlife Refuge System access to a network of more than 120 experts in pollination biology. NAPPC will connect you with an expert in your particular project or concern if you call 301-405-2666.

NAPPC has inspired such outreach activities as *The Great Pollinator Partnership* traveling garden and photographic exhibit, lesson plans and educational materials about pollinators, and the expansion of Canadian and Mexican partner work groups. These Canadian and Mexican scientists will be inviting land managers in each country to the first-ever NAPPC meetings in Ottawa, Canada and Oaxaca, Mexico later this year.

pollinators can be considered guardians of the biological integrity of ecosystems, and with the National Wildlife Refuge System Improvement Act of 1997 came new responsibilities to “ensure that the biological integrity, diversity, and environmental health of the system are maintained.”

We now have a responsibility to recognize and incorporate the needs of pollinators into our management. Addressing their needs often has broader implications related to managing for biodiversity and biological integrity in general. We often think of birds as the indicators of environmental conditions, yet pollinators are in fact a far better way to measure whether an ecosystem is intact and healthy. When pollinators are in trouble, ecosystems are in trouble.

### Taking the Lead

Because of the close ecological relationship between plants and pollinators, managing for one will often have a positive effect on

the other. Native pollinators thrive in abundant and diverse native plant communities and, in turn, help to maintain that diversity. Providing native pollinating species with suitable nesting sites, a diverse plant community that flowers throughout the seasons, and undisturbed habitats in which to overwinter will help maintain biological integrity and diversity within a national wildlife refuge and beyond.

There is increasing evidence that many pollinator species are in decline, so it is appropriate that the Refuge System take a lead in conserving them. Invasive species, inappropriate use of insecticides and herbicides, and the degradation of habitats and environmental health are all responsible for declines in pollinator populations.

Pollinator conservation involves providing for the needs of pollinating species and minimizing the threats. Management for pollinators on a national wildlife refuge

can occur at any scale. On a larger scale, consider a diversity of native vegetation when restoring areas treated for invasive species control or after prescribed burning. On a smaller scale, the construction and placement of bee nesting blocks (created by drilling different size holes into blocks of lumber or tree limbs) throughout the refuge can be a great volunteer project.

A modest native plant garden near a visitor center could be another volunteer project that results in a living educational display.

Simply planning for the conservation of pollinators when conducting other refuge management activities can go a long way in encouraging a diversity and abundance of pollinating species and maintaining the biological integrity of the refuge. ♦

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The National Academy of Sciences has initiated a study of the “Status of Pollinators” that includes seven NAPPCC partners on its panel. The study should provide recommendations for further research and monitoring.

Refuges can become involved with the pollinator conservation campaign by:

- 🍃 Working with NAPPCC scientists to plan pollinator conservation projects.
- 🍃 Creating pollinator habitats using “Pollinator Friendly Practices” guidelines, a joint project of NAPPCC and the Wildlife Habitat Council. Guidelines are available online at: <http://www.nappc.org>. The guidelines focus attention on foraging, nesting and reproductive requirements of pollinating species.
- 🍃 Offering their insights as land managers on projects that help conserve pollinators and their habitats. A NAPPCC Task Force is drafting a

pamphlet for land managers that will outline best management practices. Interested refuge managers may contact Mike Higgins, a task force member who is with the Refuge System Division of Natural Resources, 410-573-4520, or Kim Winter at NAPPCC [kw@nappc.org](mailto:kw@nappc.org) or 301-405-2666.

- 🍃 Learning more about NAPPCC activities at [www.coevolution.org](http://www.coevolution.org) and [www.nappc.org](http://www.nappc.org). To receive links to news articles and publications or inquire about pollinators or management practices, join the pollinator listserv at: <http://lists.sonic.net/mailman/listinfo/pollinator>, a great resource for finding collaborating scientists who can help with data collection and other refuge projects.
- 🍃 Offering feedback to the National Academy of Sciences Study on the Status of North American Pollinators

at <http://www4.nas.edu/cp.nsf/Projects+by+PIN/BLSX-K-02-06-A?OpenDocument>

- 🍃 Contributing to the pollinator conservation database about plants and their pollinators. If you would like to contribute to the database or use it in your habitat planning, send an e-mail to [info@nappc.org](mailto:info@nappc.org). ♦

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