# The Facts About Pollinators

## What is a Pollinator?

A pollinator is an animal or insect that transfers pollen grains from flower to flower. Bats, butterflies, beetles, bees, and hummingbirds are all pollinators. Successful pollination allows for the production of seeds and fruit, resulting in plant reproduction!

## How Pollinators Contribute to Biodiversity

Many pollinators have evolved with the native plants that they pollinate, and each has developed special characteristics to make pollination efficient. Hummingbirds, for example, see red very well but have no sense of smell. Plants that attract hummingbirds are red, nearly odorless, and have petals that dust the hummingbird's head and back with pollen as it hovers. Because pollinators and plants are so interdependent, the decline in pollinators threatens plant biodiversity—and conversely, a losing plant biodiversity may contribute to pollinator decline.

## Fun Facts

- Male bees cannot sting!
- Pollination services to U.S. agricultural crops is valued at $10 billion annually.
- Of the 1,400 crop plants grown, almost 80 percent depend on pollinators, including coffee, almonds, and apples.
- Numerous animal species, from birds to bears to humans, include fruit and seeds as an important part of their diets.
- Plants provide egg laying and nesting sites for many insects.
- There are 20,000 different species of bees.
- The DoD Legacy Program has funded over 30 pollinator-related projects.

## Are Pollinators Important in Other Ways?

Yes! Most of the world's crops depend on pollinators. Pollinators contribute to clean air by converting carbon dioxide into oxygen; they also contribute to clean water by preventing erosion with root systems and foliage that softens rainfall on the soil. In addition, flowering plants are beautiful to look at! Flowers decorate the gardens, prairies, and forests that are the foundation of our natural heritage.

*For more information, visit: http://www.dodpollinatorworkshop.com/*

## Why Pollinators Are Important to DoD's Mission

Diverse, native plant communities are resilient to impacts from DoD activities and other stresses (such as drought and invasive species). They also make up the landscape on which warfighters depend for realistic training and testing. Restoring natural plant communities (and removing and controlling invasive species) can result in cost savings, and can protect threatened and endangered species. Native plants, for example, are better adapted to the environment and use less water and require fewer chemicals to be controlled. DoD installations present opportunities to restore habitats for pollinators and contribute to biodiversity and food security. By monitoring pollinator populations DoD could also be viewed as an important contributor to conservation and as an example to other federal agencies.

## Are Pollinators Really Declining?

Unfortunately, pollinator populations have been declining since at least the 1950s. Parasites and competition from non-native bees have contributed to the decline in managed bee colonies. Wild bee species and some butterflies, bats, and hummingbirds, also have been declining. Declines are associated with parasites, habitat loss, fragmentation, landscape deterioration, and climate change.

## How You Can Help Pollinators!

- Incorporate strategies to benefit pollinators into installation Integrated Natural Resource Management Plans (INRMPs).
- Restore land with plants that attract pollinators, and include pollinator-friendly plants in gardens.
- Create corridors between pollinator habitats, and minimize fragmentation.
- Provide windbreakers and nesting areas, such as bat boxes or sites without high vegetation for bee nests.
- Control invasive plants using an integrated pest management approach.
- Reduce or eliminate pesticide use in sensitive areas.
- Monitor sites over time, noting pollinator species present and habitat composition.
- Volunteer to help create a pollinator garden at a local school.

*For more information on Legacy pollinator projects, visit: https://www.dodlegacy.org*