

The Facts About Pollinators

What is a Pollinator?

A pollinator is any animal that transfers pollen grains from flower to flower. Bats, butterflies, beetles, bees, hummingbirds, and lemurs, among many other species, are all pollinators. Successful pollination allows for the production of seeds and fruit, resulting in plant reproduction.

Why Are Pollinators Important to DoD's Mission?

The U.S. Department of Defense (DoD) manages over 29 million acres of land. These lands encompass a wide variety of habitats, including many that are now rare and unique. Healthy landscapes are vital to carrying out the military mission. Diverse, native plant communities are resilient to impacts from DoD activities, such as erosion from tank maneuvers, fire, and other stresses, including drought and invasive species. Plant communities also make up the landscape on which our soldiers depend for realistic military training and testing activities. Pollinators are an essential component to these vital habitats, and play a key role in keeping landscapes healthy. Restoring natural plant communities (and removing and controlling invasive species) can protect imperiled species and save money. For example, native plants are better adapted to their environment so they use less water and require fewer chemicals than non-native species. DoD lands present opportunities to restore habitats for pollinators and contribute to plant diversity and food security.



A Western honey bee extracts nectar from a flower using its proboscis. Tiny hairs covering the bee's body maintain a slight electrostatic charge, causing pollen from the flower's anthers to stick to the bee. Pollen is transferred when the bee lands on another flower.



A female ruby-throated hummingbird sips nectar from a scarlet beebalm while the flower petals dust pollen on her head and back. When she visits the next flower, the pollen falls off and pollinates the flower.

How Do Pollinators Contribute to Nature?

Many pollinators evolved with the plants they pollinate, and each developed special characteristics to make pollination more 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 above the flower to sip nectar. Because pollinators and plants are so interdependent, the decline in pollinators threatens many plants. Conversely, losing plants also may contribute to pollinator declines.

Are Pollinators Important in Other Ways?

Yes! Many of the world's crops depend on pollinators. In fact, nearly 75% of the world's crops require pollination. Pollinators also benefit plants that in turn contribute to clean air by converting carbon dioxide into oxygen. They contribute to healthy streams by pollinating plants whose root systems keep soil in place and help prevent erosion. In addition, flowering plants are beautiful to look at! Flowers decorate the gardens, prairies, and forests that are the foundation of our natural heritage.

Are Pollinators Really Declining?

Yes, pollinator populations have declined steadily since at least the 1950s. Disease, parasites, and competition from non-native bees have contributed to declines in managed and wild bee colonies. Some butterflies, bats, and hummingbirds also have declined. These losses are associated with diseases, parasites, habitat loss, habitat fragmentation, landscape deterioration, and climate change.



Enabling the Mission, Defending the Resources
Department of Defense Natural Resources Program

How Does DoD Promote Pollinators?

In 2010, the DoD Natural Resources Program (NR Program) helped develop a charter to initiate the DoD Pollinator Working Group (WG) which held its first formal meeting at the 2011 National Military Fish and Wildlife Association annual conference. The WG's primary goal is to conserve pollinators and their habitats on lands used for training by the Military Services. Relevant topics include collaborative research, education, management, and restoration. In addition to supporting personnel on military installations, the NR Program conducts outreach projects to help educate the general public about the importance of pollinators on DoD lands. From 2009-2010, the NR Program funded over 50 pollinator-related National Public Lands Day (NPLD) projects across 23 states. NPLD is the nation's largest hands-on volunteer effort to improve and enhance our nation's public lands. NR Program staff also participated in the U.S. Department of Agriculture's 2010 and 2011 Pollinator Week events.



*A monarch butterfly sipping nectar from a flower.
Photo: USFWS*

How Can You Help Pollinators?

- Create a backyard pollinator garden.
- Volunteer to help create a pollinator garden at a local school.
- Reduce or eliminate pesticide use in sensitive areas.
- Control invasive plants using an integrated pest management approach.
- Provide windbreaks and nesting areas, such as bat boxes or sites with low vegetation for bee nests.
- Restore land with native plants that attract pollinators, and integrate pollinator-friendly plants into gardens.
- Create corridors between pollinator habitats to minimize fragmentation.
- Monitor sites over time, and make note of pollinator species habitat composition.
- Incorporate pollinators into installation Integrated Natural Resources Management Plans (INRMPs).



*The lesser long-nosed bat.
Source: U.S. Forest Service*

Fun Facts:

- Over 200,000 animal species serve as pollinators.
- There are 20,000 different species of bees.
- Male bees cannot sting!
- Numerous animal species, from birds to bears to humans, eat fruit and seeds that require pollination.
- Of the 1,400 crop plants grown, almost 75% depend on pollination, including coffee, almonds, many fruits, and chocolate.
- Pollination services to U.S. agricultural crops is valued at \$10 billion annually.
- Nectar-eating bats are attracted to pale or white flowers that blossom at night.
- The lesser long-nosed bat, threatened by habitat loss, pollinates the blue agave plant when it feeds on the plant's nectar. The blue agave plant is used to make tequila.

Want More Information?

For more information about what the DoD NR Program is doing to help pollinators, visit:
<http://dodpollinators.org>.

For more information about DoD-funded pollinator projects, visit: www.dodlegacy.org and search for keyword "pollinator".

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