

How the U.S. Fish and Wildlife Service Helps Conserve Migratory Species Featured on the 2012 Pollinator Poster

1. Monarch butterfly (*Danaus plexippus*)

North America's monarch butterfly migration is one of nature's most spectacular events. In the spring, tens of millions of monarchs migrate north from overwintering sites in the forests of central Mexico into Texas and other southern states. The butterflies feed on nectar and lay eggs as they continue along the migration route to summer habitats across the northern United States and southern Canada. Monarchs returning to Mexico in the fall are the great-great-grandchildren of the butterflies that left the previous spring. For some monarch butterflies, the fall migration may be a 3,000-mile journey. There is a western population of monarchs that migrate between overwintering sites along the California coast and breeding habitats in western states.

Conservation of the monarch butterfly and its migration phenomenon is dependent upon conservation of habitats in Canada, the United States, and Mexico. The U.S. Fish and Wildlife Service works to facilitate monarch conservation through a variety of initiatives and activities including the Monarch Butterfly Sister Sites Network, a project of the [Trilateral Committee for Wildlife and Ecosystem Conservation and Management](#) and development and implementation of the [North American Monarch Conservation Plan](#)

Since 1996, through the [Wildlife Without Borders-Mexico Grants](#) program, the U.S. Fish and Wildlife Service has provided over \$800,000 for projects to protect the overwintering habitat of the monarch butterfly in Mexico. Much of the work supported by these grants has focused on the Monarch Biosphere Reserve, where more than 2,000 local farmers have been trained in sustainable natural resource use, including reforestation, restoration, and ecotourism.

The U.S. Fish and Wildlife Service National Wildlife Refuge System participates in the activities of the [Monarch Joint Venture \(MJV\)](#), a partnership of federal and state agencies, non-governmental organizations, and academic programs working together to support and coordinate efforts to protect the monarch migration across the lower 48 United States.

2 and 3. Long-nosed bats (*Leptonycteris* spp.) and saguaro cactus (*Carnegiea gigantea*)

Long-nosed bats are important pollinators of such iconic plant species as the century plants, saguaro cactus, and organ-pipe cactus. Primarily nocturnal, these bats seek evening or night blooming plants whose flowers produce a large amount of nectar and emit strong, musky or fruity odors. Long-nosed bats belong to a family that is entirely native to the Americas. They migrate south to Mexico in the winter from places in Canada and the United States. Their north-south migration corridors are not well known, but there is at least one coastal and one inland corridor.

The [lesser long-nosed bat](#) (*Leptonycteris curasoae yerbabeunae*) and the [Mexican long-nosed bat](#) (*Leptonycteris nivalis*) are federally listed as endangered species by the U.S. Fish and

Wildlife Service under the [Endangered Species Act of 1973 \(ESA\)](#). These bats were listed under the ESA in 1988 because of disturbance and loss of roosting sites and the decline of agaves, a primary source of food, which resulted in a decline in bat populations. In the U.S., the ESA provides protection for bats and their habitat.

Night-blooming plants, such as agave and cactus, are important sources of nectar for these bats during their migrations between the United States and Mexico. Two species of agave and all cacti are protected by the [Convention on International Trade in Endangered Species of Wild Fauna and Flora \(CITES\)](#), which is implemented in the United States by the U.S. Fish and Wildlife Service [International Affairs Program](#) through the International Wildlife Trade Program. Plant and animal species are listed in the [CITES Appendices](#) to protect them from being overharvested from the wild for the purposes of international trade. Agave and cacti are traded mostly as ornamental plants, to be used as household plants and in landscaping. Ornamental plants are sometimes harvested (or poached) from the wild, especially the older, larger, and mature specimens. This practice can be devastating to wild populations because many of these species do not reproduce until they are several decades old. However, many U.S. nurseries are satisfying commercial demand for these species by growing these plants from seeds or cuttings, which has helped to alleviate collection pressure on the wild plants.

Through the [Wildlife Without Borders-Mexico Grants](#) program, the Service has provided over \$160,000 for fruit bat (another important pollinator) conservation in the Mexico and Latin America and Caribbean regions. Activities have included environmental education for teachers, subsistence farmers, and indigenous communities in Mexico.

4 & 5. Rufous hummingbird (*Selasphorus rufus*) and Ruby-throated hummingbird (*Archilochus colubris*)

Hummingbirds are known for their fast, darting flight and ability to hover in place. This unique flight capacity allows them to feed on the nectar of certain flowers and to catch flying insects. Hummingbirds are native only to the New World and are especially abundant in South America. In North America hummingbirds are most diverse in northwestern Mexico and southeastern Arizona. The rufous and ruby-throated hummingbirds migrate in the winter from places in Canada and the United States, to sites in Mexico and as far south as Panama. Hummingbirds do not travel in flocks, are territorial, and scientists believe that individual birds overwinter in the same location each year.

The U.S. Fish and Wildlife Service works closely with partners to help develop and support efforts to protect hummingbirds. The U.S. Fish and Wildlife Service contributes to [Western Hummingbird Partnership](#) efforts to build an effective and sustainable hummingbird conservation program through science-based monitoring and research; habitat restoration and enhancement; and education and outreach efforts for 15 species of hummingbirds that pollinate a variety of plants throughout the western United States. Additionally, [Partners in Flight](#), another partnership in which the Service participates, has listed four of these 15 species - the Costa's, Calliope, Rufous and Allen's hummingbirds - on their Watchlist due to concerns about threats to their habitats, population size or distributions. The listing status affords these species special

attention with regard to monitoring, research and conservation needs to ensure that they remain common and thriving throughout their current ranges.

The U.S. Fish and Wildlife Service protects species that are threatened by international trade through the [Convention on International Trade in Endangered Species of Wild Fauna and Flora](#) (CITES), which is implemented in the United States by the [International Affairs Program](#) through the International Wildlife Trade Program. Under CITES, animal and plant species are listed in the [CITES Appendices](#) to protect them from being overharvested from the wild for the purposes of international trade. In 1975, only one hummingbird species was protected under the Appendices. However, in 1987, protections were expanded to include the entire family of hummingbirds (Trochilidae), which includes over 300 New World species. As a result, the United States does not engage in the commercial trade of hummingbirds, and exports have been limited primarily to specimens or samples for scientific purposes. Threats to hummingbirds include habitat loss and zoo or feather trade. There is some evidence that hummingbirds might be especially vulnerable to climate change. Hummingbirds are also protected under the Migratory Bird Treaty Act of 1918, which makes it illegal to take (defined as pursue, hunt, shoot, wound, kill, trap, capture, collect, or the attempt of any of these activities), possess, transport, import and export a hummingbird or its eggs, parts, and nests.