

the lesser long-nosed bat

by Alexis Marie Adams

As the buds of the saguaro cactus begin to form along the Sonora-Arizona border each spring, thousands of lesser long-nosed bats (*Leptonycteris curasoae*) leave their winter roosts in southern Mexico. For the next three months, they journey north, following a 1,000 to 2,000 mile-long *nectar corridor*, an aromatic pathway of flowering cacti that blossoms sequentially from south to north. These flowers provide the only food the bats eat during their spring migration—nectar and pollen—and so they must time their travel precisely: to coincide with the pathway's blossoming.

Eventually, the bats arrive in southern Arizona, their summer roost, just as the saguaro is about to bloom.



photo credit: The National Wildlife Federation

At three inches long and less than an ounce in weight, the lesser long-nosed bat hovers like a hummingbird with rapid beats of its membranous wings. Poking its slender muzzle deep into a tubular cactus blossom, it uses its long, brush-tipped tongue to sip the nectar and nibble the pollen within. When the bat emerges, its head is covered with pollen, which it transfers to the next flower it visits.

Like the hummingbird and the domesticated honeybee, like butterflies, bumble bees, geckos, lemurs, and some species of beetles, the lesser long-nosed bat is a pollinator. So are perhaps as many as 200,000 other animal species around the world.

The bat's journey has never been easy (2,000 miles is a long way for any creature to fly relying on the nectar and pollen of just a few plant species to survive), but today it is even more precarious. The nectar trail the bat's migration has followed for millennia is no longer a seamless corridor teeming with life and biodiversity. Over the last half-century, millions of acres have been converted to chemically intensive monocrops, grazing land, and suburban development, creating long stretches of flyways bereft of forage. In Sonora, thousands of pounds of highly toxic insecticides applied each year to crops grown for export to the United States—cilantro, chiles, squash and lettuce—drift onto adjacent wildlands and expose our bat and other non-target animal species. These creatures are exposed to the perils of industrial agriculture north of the border, too, in Arizona where ranchers spray highly toxic herbicides, such as 2,4-D, to make room for exotic pasture grasses imported from Africa for beef cattle. Other threats include the effects of climate change, overgrazing and the overharvesting of agave—a critical food source for the lesser long-nosed bat and other pollinators—for tequila and mescal.

Not only do the bats benefit from the plants they feed on, the plants also benefit from the bats.

Considered a *keystone species*—a plant or animal that has a disproportionately large effect on other species in an ecosystem, the lesser long-nosed bat is the primary pollinator of certain varieties of cactus and agave, making them indispensable to the survival of these plants and to the web of life that depends upon these plants to survive.

All pollinators are considered keystone species. Their fate is inextricably linked to the fate of countless other plants and animals scattered over vast, ostensibly disconnected landscapes.

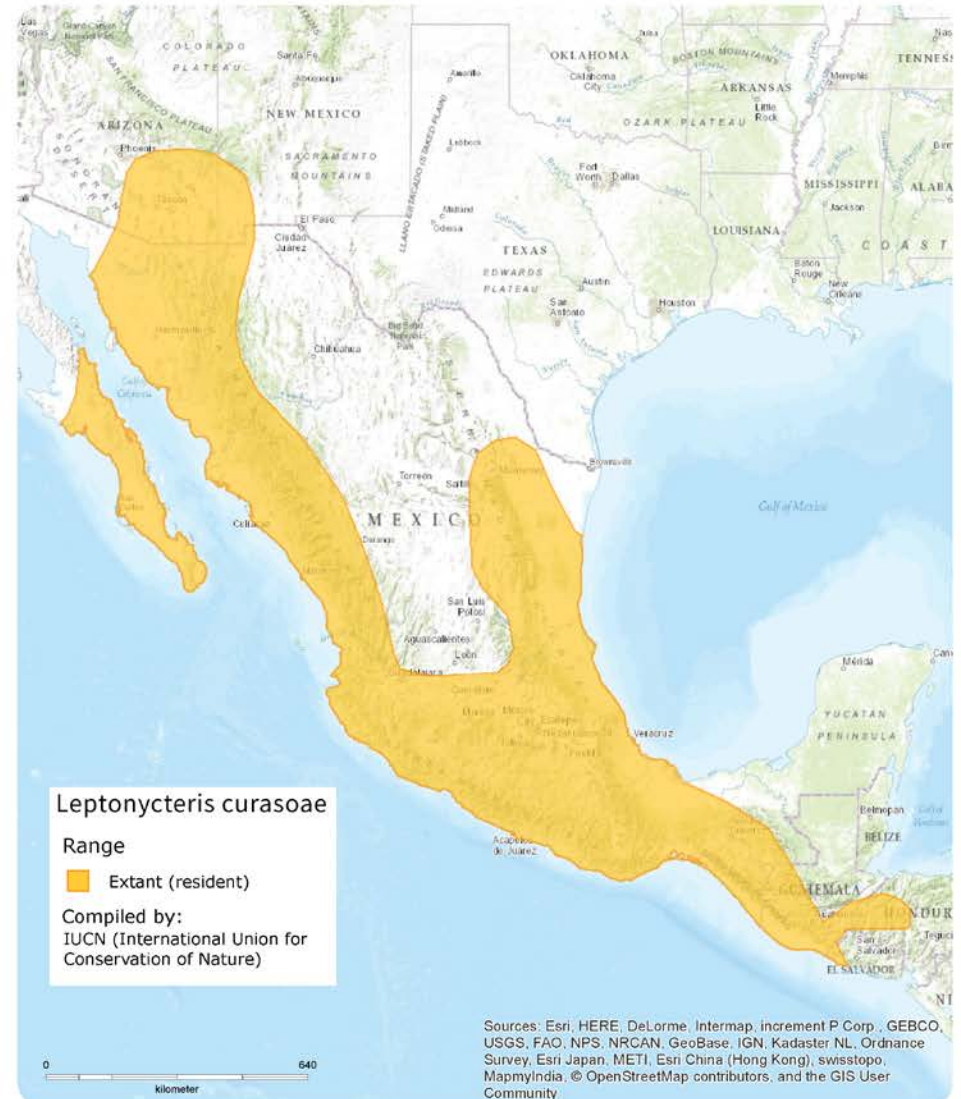
In late February of 2016, an international group of researchers affiliated with the United Nations released the first global assessment of pollinators. According to the report, more than 40 percent of invertebrate pollinator species, particularly bees and butterflies, and some 16 percent of vertebrate pollinators, like birds and bats, face extinction. The decline of these wild species is especially troubling when one considers that wild pollinators are twice as effective as domesticated honeybees in producing seeds and fruit on crops including almonds, coffee, oilseed rape, tomatoes and strawberries, according to a 2013 study in the journal *Science*.

In other words, the decline of wild pollinators may pose an even more alarming threat to crop yields than the loss of honeybees.



photo credit: Azure Skies

Our lesser long-nosed bat is federally listed as an endangered species in both the U.S. and Mexico.



from: The IUCN Red List of Threatened Species

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