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Desert Leaf

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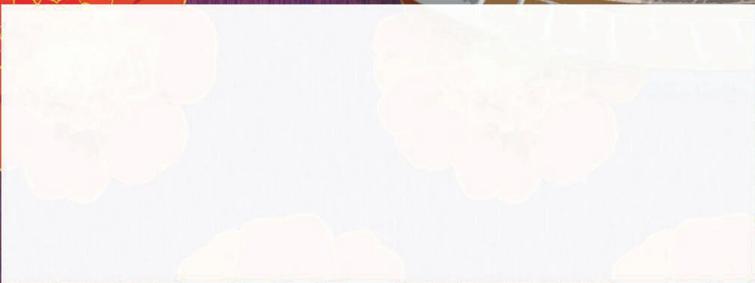


Mata Ortiz:

*Ancient Inspires
Contemporary*

—Plus—

Mysteries of the
Labyrinth





Wildlife know the way: the view west from the wildlife bridge on Oracle Road toward the Big Wash wildlife corridor and distant Tortolita Mountains



Finding Their Way

Story and Photography by Jessica A. Moreno

The Santa Catalina Mountains are part of a unique natural network of pathways that wild animals have used for millennia to cross desert basins among surrounding mountain ranges. Today, these “wildlife corridors,” which animals use to find food, mates, and new homes, are disappearing owing to urban development.

Wildlife corridors around the Santa Catalinas were first identified in 1986 by researchers at the University of Arizona. Their resulting diagram was called the “Bunny Map” because of its rabbit-shaped graphics. The foothills of the Santa Catalinas crown the map’s upper portion, where hand-drawn symbols and folds represent desert washes and wildlife trackways. It was the first map of wildlife habitat in Pima County that, unlike its predecessors, recognized the importance of ecosystems, like mesquite bosques and wetlands, together with species, like nesting hawks, javelinas, and saguaros.



After the Bunny Map was published, the interest of local residents spiked. The City of Tucson used the map as a guide to create special zoning for open space and to protect arroyos. It became the precursor to the Sonoran Desert Conservation Plan and the forging of the Coalition for Sonoran Desert Protection. Ultimately, the map led to the construction of wildlife crossings over roads and the reintroduction of bighorn sheep into the Santa Catalina Mountains.

For many of us who live here, the study and map initiated a new perspective on living in the desert and working together as a community—a challenge to try to balance conservation and growth. For me, it was also the beginning of a journey to understand how and where wildlife move.

I was a teenager when I had my first encounter with a black bear in the Santa Catalina Mountains. It happened 10 years after the Bunny Map brought the concept of local wildlife pathways to the public's attention. My sisters and I woke in our rain-lashed tent after a stormy night to the smell of wet pine needles and something much sharper and nose-wrinkling: bear pee. It coated the inside of our muddy white Toyota Camry—the rear passenger window broken where the bear bent the door frame to gain access to the trunk and our food. The back seat was torn, exposing springs and foam. I remember the deep puncture marks the bear's incisors left on the red lid of our ice chest, which my parents still use to this day.

Bears tend to be introverts, shy and mostly solitary creatures, but they are intelligent. In an ideal world, they eat wild berries, acorns and other nuts, grubs, insects, roots, and cactus fruit. Occasionally, they get extra protein from eating carrion or small rodents. In a less than ideal world, humans expose bears to foods such as hummus and ice cream, and the bears acquire a taste for them.

I never knew the fate of our stormy-night visitor, but it likely was tragic. Fed bears become dangerous and aggressive, and there are few solutions that benefit the bear. The ability of wildlife to find natural food

Left to right, top to bottom: The trail of a tortoise is clearly visible after a recent rain.

Biologists with the Arizona Game and Fish Department place a tracking device on a healthy male tortoise to learn about his travels.

This wildlife fence on the western end of the Santa Catalina Mountains was designed to keep animals safely off the road and to funnel them to nearby wildlife crossings.

Riparian areas and dry desert washes provide perfect movement corridors for animals, like the black bear whose tracks can be seen in this mud.

sources is greatly enhanced by their ability to move freely and thereby expand their “supermarket.” That ability can be their saving grace.

Bears can travel as much as 100 miles. Although bears in Southern Arizona’s Sky Islands (isolated high-altitude mountain ranges) are usually found in higher pine and oak elevations, they regularly use wildlife corridors to travel between Sky Islands to find food and mates, or to flee fire and drought. It is not uncommon for bears to drop into the lower desert foothills to dine on prickly pear fruit. Here, they are most on the move in September and April, foraging before and after hibernation.

Last April, in my professional role as a biologist, I tracked a bear as it traveled south down a dry sandy tributary of Ciénega Creek. Recording data points, I followed its trail, bemusedly crossing my feet as I walked, to leave my own footprints—big toes on the outside, like a black bear’s print. A bear killed nearby on Interstate-10 had spurred my interest in improving bears’ chances at crossing the highway.

A wildlife-corridor project of which I am the lead biologist is spearheaded



The Santa Catalina Mountains are shadowed in rain during the summer monsoon season, a time when animals are generally on the move.

by the Coalition for Sonoran Desert Protection and works with various government, nonprofit, and citizen partners. The project determined that the wildlife corridor that intersects I-10 could be made safer for wildlife and motorists by placing fencing to funnel wildlife toward the underpasses and widening some of the old drainage culverts.

For black bears in the Santa Catalinas, there are only two corridors—lifelines—that connect that Sky Island to other nearby Sky Islands. The first winds south through

the Rincon Mountains and across Interstate-10 to Ciénega Creek, the Whetstones, Santa Rita Mountains, and ultimately Mexico. The second turns southeast through Redington Pass and to the Galiuro Mountains across the Lower San Pedro River Valley, reaching northward to the Gila River and White Mountains. These corridors link two genetically different bear populations found in Arizona: Mexican black bears and those found in the White Mountains. In the Santa Catalinas, Romeo and Juliet romances unfold.

In the western foothills of the Santa Catalinas, another love story takes place. Two Sonoran Desert tortoises rub noses in foreplay, seemingly unaware of the tiny backpacks they carry: small gray tracking devices held on by putty. The trackers are helping Arizona Game and Fish biologists monitor the success of the first wildlife bridge constructed in Southern Arizona, over Oracle Road, north of Oro Valley, near Catalina State Park. The Coalition for Sonoran Desert Protection is assisting with the monitoring by placing wildlife cameras

Photo by: Technicians For Sustainability



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The "backpack" this desert tortoise wears tracks his movements and helps researchers map important wildlife corridors.

throughout the corridor.

The project has recorded many species, from badgers and white-nose coati to bighorn sheep, while engaging residents and local elementary-school students in the effort. The wildlife bridge and a paired wildlife underpass are important investments in connecting the Santa Catalinas with open space on the other/west side of Oracle Road, eventually reaching into the Tortolita Mountains and, potentially, the Tucson Mountains.

Wildlife trails throughout this corridor weave around and through Marana and Oro Valley. Although black bears are only rarely seen here, tortoises reign in this low-desert area, among creosote and globemallow.

Like black bears, tortoises have plant-based eating preferences. They also have few natural predators, can roam with compass-like precision and determination over hundreds of miles, and hibernate in the cold months. Tortoises get most of their

water from the plants they eat, carrying it in canteen-like bladders. (Handling a tortoise can cause it to become anxious, pee, and thereby lose an entire summer's water supply.) Roads and development are perilous hazards for them. But with thoughtful planning and community support, the threats posed by these hazards can be reduced or eliminated. In addition, safe crossings and open spaces benefit more than fuzzy bunnies, tortoises, and bears; they provide a beautiful, thriving, and resilient place for us to live.

Today, the Bunny Map has evolved into more sophisticated maps with new knowledge about the world outside our doors. I grew up in a world that was learning and refining ideas generated by this knowledge. Today, we're a community working together, looking to the far horizon, with the lights of the valley between, and finding the best path forward.

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Jessica A. Moreno is a biologist and the conservation science director for Coalition for Sonoran Desert Protection. Comments for publication should be addressed to letters@desertleaf.com.



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