

**GARDENING WITH WILDLIFE**

# Subterranean Superheroes

How Burrowing Mammals Build Habitat and Boost Resilience

by Nancy Lawson



**Prairie dogs and other tunneling mammals provide a number of benefits from aerating the soil to controlling insects, and much more.**

**T**hey work undercover, their brown and gray camouflage blending with soil, rocks, logs, and leaves. Many come and go in a flash, tiny apparitions dashing from one important task to the next. Some rarely surface at all.

For all their clandestine ways, small mammals have an outsized influence on habitat. While going about their days, chipmunks, voles, mice, and squirrels help regenerate forests, dispersing seeds and spreading mycorrhizal fungi that funnel water and nutrients to plant roots. Their burrows and tunnels also make perfect nesting sites for bumblebees. Shrews race beneath leaves to forage, providing natural insect control. Moles and ground squirrels are skilled tillers, increasing aeration and moisture while drawing nutrients and seeds toward the surface. Some of these “bioturbators,” like prairie dogs, even store carbon by pulling organic matter underground.

The furry tunnelers and diggers in our gardens, meadows, and woodlands are the movers and shakers of the underworld, shifting the sands (and silt and clay and loam) beneath our very feet. Many other animals benefit from these rippling disturbances. Burrows of groundhogs, prairie dogs, and California ground squirrels shelter countless creatures, including toads, salamanders, foxes, and burrowing owls.

Tunneling mammals are also critical first responders; when the eruption of Mount St. Helens in Washington in 1980 left behind a veritable moonscape, thousands of plants quickly sprouted thanks to pocket gophers mixing nutrient-rich soils into the volcanic deposits. Sinking under the footsteps of returning elk, the gophers’ burrows created cool havens for amphibians. More recently, birds, mammals, insects, and lizards found refuge from Australian wildfires in the underground homes of wombats.

## TURF WARS

Nature’s excavators create better habitat than the best wildlife gardener ever could. Scientists have even compared the significance of their seed and spore dispersal to the contributions of pollinators. Yet the subterranean superheroes of our gardens too often remain

underestimated and overlooked. Some are under constant siege, cast collectively as “pests” by hardware stores peddling traps and poisons. Product makers capitalize on confusion about which species live among us and why.

An obsession with turf puts plenty of homeowners at odds with digging mammals, but we should applaud these small lawn disruptors in an age when too much habitat is wastefully mowed down.

Thirteen-lined ground squirrels (*Ictidomys tridecemlineatus*), common in the central U.S., feel safe in low, mowed turf, scattering soil while snacking on insects, seeds, grass, and leaves. Skunks dig through lawns for beetle larvae and other arthropods. Voles create surface runways by nibbling grass as they go.

None of these dynamic activities is harmful, except perhaps to an outdated aesthetic. As long as mowers, chainsaws, and pesticides consume more habitat than anything else in our landscapes, it’s disingenuous to point fingers at wild neighbors for trying to survive on what’s left. The blame game is also impractical, leading to the removal of animals without addressing what attracted them, creating a vacuum for more to fill. Reducing lawn in favor of habitat is a simple, productive way to disperse foraging activities more broadly. Tolerating less-than-perfect turf is another way to peacefully coexist.

## IS IT REALLY A PROBLEM?

Learning about the lives of burrowing mammals—mice who carefully monitor seed caches and cover them with leaves; ground squirrels who chirp in their own languages and fight off rattlesnakes; monogamous prairie voles who cuddle together—can help us appreciate them as individuals whose needs aren’t so different from ours. It can also replace assumptions with helpful inquiry.

What species might be causing the problem?

Is there really a problem at all?

Perceived transgressions are usually unfounded; chipmunk tunnels are too small to interfere with foundations, for example, and poor-quality builds are

far more likely to compromise structures than a groundhog’s carefully crafted burrow.

Even when the issues are real, thoughtful exclusion is humane and effective. Enclosures of vegetable gardens are always an option; fencing with wobbly tops and 12-inch-deep-and-wide L-shaped footers deters climbing and digging by nimble animals like groundhogs.

But plant-based solutions are my favorite of all because they redirect nibblers without sacrificing habitat: If voles are eating roots, plant garlic around bed perimeters as a natural repellent, or try adding gravel or rock to the soil around plants. If ground squirrels treat your open lawn as a good lookout for predators, add tall grasses and shrubs to encourage them to seek other spots.

Humility goes a long way toward cultivating coexistence. Years ago I planted roses, killed the lawn around them with newspaper topped by five inches of mulch, and soon found the root-gnawed bushes lying on the ground. Consulting my favorite book for wildlife conflict resolution, *Wild Neighbors* (by John Haddidian. Humane Society Press, 2007), I discovered my mistake: The thick mulch had offered voles protected pathways, a red carpet for shy nibblers. Removing most of it was a quick, effective solution.

Ultimately, a truly welcoming wildlife sanctuary embraces ever-evolving landscapes. Rather than making mountains out of molehills, we can use that rich excavated soil in container plantings. Or we can leave it in place and count our unexpected blessings—like the beautiful grape ferns that volunteered in our molehills or the mosses that spread along the elevated surfaces and became nesting material for Carolina wrens. Just as we invite butterflies and birds, we should extend our gratitude to nature’s earth-hugging ecosystem engineers, who are laying the groundwork for many generations of plants and animals to come. ■

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*Nancy Lawson is an author, naturalist, and founder of the Humane Gardener initiative (humanegardener.com). She lives in Howard County, Maryland.*