

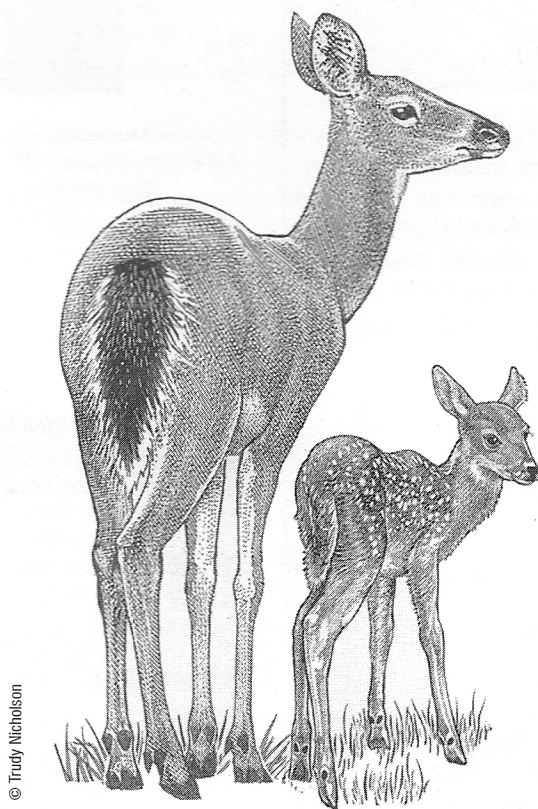


Local Nature

by Eric Dinerstein

Bambi or Godzilla?

Why do we find the babies of wild mammals so cute? Konrad Lorenz and Walt Disney explored this phenomenon even if they never exchanged letters or phone calls about the subject. The former, widely considered the father of ethology—the study of animal behavior—recognized that newborn mammals with their big bright eyes, small dark noses, and large heads mounted on a tiny body made infants so charming to their doting parents, perhaps increasing the chances of extensive care.



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White-Tailed Doe and Fawn.

Disney instinctively knew this deep emotional draw and ramped up the cuteness factor by selecting the delicate, spotted, and irresistible white-tailed deer fawn as the star of his classic film *Bambi* (one must assume that baby muskrats failed in the auditions for the part).

Even *adult* white-tailed deer are lovely animals to behold. At about 100 pounds and with their fluffy cotton-colored tails raised when alarmed, they are

among the most elegant of the 90 or so species in the deer family, the *Cervidae*. But contemporary ecologists, doctors, state troopers, gardeners, Lyme disease sufferers, and others concerned about public health and safety might wish that Uncle Walt's production team had given the muskrat a second look instead of popularizing a species that has become an ecological scourge.


Across the eastern half of the U.S., populations of white-tailed deer are growing almost exponentially in some states and simply increasing at a robust rate in others; the consequences are dramatic for human and non-human species alike. The toll of Lyme Disease is now well known, being the most commonly reported vector-borne illness in the U.S. The disease is concentrated among 14 states of the Eastern seaboard, and Maryland, Virginia, and Washington, DC combined for over 1,000 reported incidences in 2013. Adult deer are the main vector—each can harbor about 10-50 adult female black-legged ticks (also known as deer ticks) per day, the arthropod culprit that spreads the disease to humans. Motor accidents cause millions of dollars of damage a year when automobiles strike deer, and serious injuries to drivers and passengers can ensue. Anyone who speeds along the Clara Barton Parkway at dusk or early evening, when white-tailed deer are most active, is taking a risk. Local gardeners now rely on tall fences to keep deer from tasty plantings. One horticulture expert, when questioned about what deer-resistant plants to grow, responded, "Well, it depends how hungry your local deer are and what else there is for them to eat in the forest."

What else there is for deer to eat in the forests is a topic that is rarely discussed in the popular press but is worth examining more closely. White-tailed deer eat everything from acorns and mushrooms to the leaves of shrubs and herbaceous plants and tree seedlings. They even are known to eat the nestlings of birds (cue the *Godzilla* sound track). But the march of destruction by deer through our local forests is more insidious and indirect and, ecologically speaking, worse than what the giant reptile did to Tokyo. When deer overpopulate an area, reaching a density of more than 10 animals per square kilometer, they strip the forest of critical elements, including the seedlings of the canopy trees and dense understory plants. Biologists have traced a drop in regeneration, or recruitment, of oaks,

birches, hemlock, and eastern cedar to overbrowsing by deer. In fact, Shenandoah National Park biologists describe their heavily visited protected area as supporting a *senescent* or dying forest. A park protected from many things by stalwart rangers but not protected from an overpopulation of a native large herbivore means that the tall oaks and hemlock that used to grow there will never be replaced as long as deer prune tree seedlings, their numbers unregulated by hunting or large predators.

You don't need to drive to Front Royal, Virginia, to witness these effects; you can walk through the forests along the Potomac and see it all in a microcosm. The trees and shrubs that grow in abundance along the river—spicebush and pawpaw in the understory, American beech in the canopy—are species unpalatable to deer as seedlings and saplings. Many native wildflowers have disappeared or their populations greatly reduced, unable to cope with such intense browsing pressure. Even some of our ground-nesting songbirds that need dense cover to hide their grass structures suffer when deer become too plentiful. The delightful Ovenbird, a warbler, with its incessant rising song, "Teacher, TEACHER, TEACHER!" is mostly silent where the deer have stripped clean the understory.

The simple explanation for the explosion of deer is the opening up of so much edge habitat—called the suburban development and yard—that this highly adaptable herbivore can exploit. The controversy over hunting deer so close to human settlements is another. But the most insidious is the absence of predators. Wolves and mountain lions would make short work of our neighborhood deer and bring numbers down to an ecologically sustainable level if we could only tolerate large predators near us. Bears and bobcats also eat young deer, although rarely in urban areas in the eastern U.S.

Rumor has it that a black bear was foraging through Cabin John this past fall; in any case, bears are starting to hibernate in Montgomery County. I'll wager that in ten years we will have wolves and mountain lions reappearing in the Shenandoahs. Then it is a matter of time before some young animals start dispersing down river. If it would make the deer scarce and reset their numbers to an appropriate ecological density of less than two deer per square kilometer, there might be a growing contingent of Lyme disease patients that might string banners across MacArthur Boulevard welcoming them home. Now that would make an interesting scene in the modern-day version of *Bambi*. —

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