

Deer are ravaging Long Island forests

By Taylor Beglane SB Press April 18, 2019

Ellen Wexler drops a heavy cardboard box on her coffee table and starts unpacking. Out come brochures blaring, “Too many deer means too many ticks!” and a blue T-shirt emblazoned, “Long Island is ticked off & sick of being sick!” Last are photographs of the woods on her four-acre Southold property taken in 2001, soon after she and her husband built their home. They show vibrant woodlands with leafy bushes between the trees. But outside her window today, the last Saturday of April 2018, the trees stand alone over a bare, wide-open forest floor.

“When we went to build our art studio, we couldn’t walk through the thickness of the woods,” said Wexler. “And now it’s like this.”

The culprit that caused this transformation? Hordes of white-tailed deer.

Ecologists say most forests can support 10 to 15 deer per square mile. But woodsy Southold exceeds that by 500 percent; as many as 2,500 to 3,000 deer are eating bare Southold’s 54 square miles, stripping forests of tree saplings and bushy habitats that other animal species depend on for food and protection. They also create severe hazards for people, from car crashes to Lyme disease.

The story is similar all across Long Island, which is home to 25,000 to 30,000 deer, according to the New York State Department of Environmental Conservation (NYSDEC). Too many deer ravenously eat native flowers, shrubs and sapling trees, reducing floral biodiversity faster than the plants can recover. They serve as hosts to multiple tick species that produce thousands of disease-ridden nymphs. And they cause millions of dollars worth of damage to Long Island agriculture every year, forcing farmers to erect 8-foot-tall steel fences around orchards and crop fields. Suffolk hunters take over 3,000 deer a year during the October-January archery season and January shotgun season. But hunting has decreased in Suffolk 40 percent since the 1980s; far too few deer are taken to make an impact.

“They’ve completely decimated the understory,” said John Rasweiler, a Southold resident, board member of the North Fork Deer Alliance and member of several educational committees. “There’s just big trees and it looks like a desert underneath them because they’ve eaten absolutely everything, and in the process they’ve destroyed habitats for other species.”

Tom Rawinski, a U.S. Forest Service botanist, said: “We’ve lost not only the ability of trees to regenerate, but we’ve lost certain bird species that depend on the thick cover. The deer themselves become scrawny and subject to ticks and disease. And people are less safe now going into these forests.”

The deer are creating what Rawinski calls an “ecological slum.” Younger saplings that fill in gaps in the canopy and replace the older trees when they fall are gone — eaten by deer. The result is a crumbling forest infrastructure. Were the deer removed, the forest would recover, though “in some cases, it might take 100 years or more for deer-impacted forests to come back,” he said.

Birds and insects, especially pollinators, that rely on the forest understory have suffered or completely disappeared. North Fork Audubon Society board member Patrick Hanly points to the ovenbird and the wood thrush, two passerine songbirds that need the

understory to feed and hide their nests. “You could go to almost any natural area where there’s woods, any kind of preserve on the North Fork, and you would hear ovenbirds,” said Hanly. “I don’t hear them at all anymore.”

Warblers like ovenbirds are insectivores and feed mostly on terrestrial arthropods like ticks. “Ticks are insects, and birds are a natural predator,” said Hanly. “If bird populations are down, then tick populations are going to climb.”

Humans help deer survive and thrive by providing them with “edge” habitats, where woods meet meadows. Long Island suburbs create these same “edges” with gardens and farmland between patches of forest. Deer file into neighborhoods to feast on gardens, especially when forest options run dry.

Southold Superintendent Scott Russell considers the overwhelming deer population one of his top three priorities. The consensus of his constituents, he said over the phone, is that “you can’t get rid of them fast enough.” The roadblock preventing more action, to Russell, is geographic; when hunters prowl one area for too long the deer wise up, moving into residential areas. The law protects them there; hunters are banned from taking a deer within 150 feet of a home with a standard bow unless permission from every homeowner in range is given. Russell’s next goal is bundling permission from residents to allow hunters to pursue deer wherever they may go.

The NYSDEC provides nuisance permits for hunters to continue taking antlerless deer into February and March, but by then many hunters have had enough.

“A lot of people would rather be sitting, watching a football game and enjoying some beer rather than sitting out in a tree stand for hours waiting for deer to come by,” said Rasweiler. “Recreational hunting is not up to the task.” Instead, he said, consistent, organized hunts over an extended period of time, and with less restrictions on where hunters can shoot, would be more effective.

Deer are generalist herbivores, meaning they eat a wide variety of plants. Their favorites are acorns, flowers and soft shrubbery, like berry bushes and maple-leaf viburnum. But absent those, they’ll eat just about anything that make up the understory of Long Island forests. A sure sign that deer are running out of their favorites is when high-preference plants are gone and low-preference plant species show signs of overbrowsing.

That’s what happened to Tall Pines Preserve, the protected land around Wexler’s property that is now overwhelmingly brown and leafless. “People think this is normal. Nobody remembers what real woods look like anymore,” Wexler said. “The whole thing is supposed to be for the good of the public, but frankly I don’t see anybody ever walking there.”

Wexler helped create the North Fork Deer Alliance in 2013, a small group of people dedicated to educating others about deer overpopulation and the need for more hunting. They lobby for meetings and regulation changes, and push for legislative positions to be filled by people who recognize the dangers deer introduce. But many obstacles stand between the NFDA and a path to more hunting.

Rawinski, of the U.S. Forest Service, is pessimistic about where East End forests are headed.

“There’s hardly a forest of any consequence that has any hope for the future,” Rawinski said. “Young trees are no longer growing.” Trees that blew down in storms like Hurricane Sandy leave behind only grassy meadows instead of new tree growth, he

said, and he fears that will happen on a much bigger scale when more hurricanes hit Long Island.

Rawinski visits the East End several weeks each year to analyze the growth of different plants over time. Many plants he sees there are in dire straits, eaten before they are able to reproduce. "Some of those viburnum plants are ankle-high, and they've got to be four feet high to produce flowers," he said.

He said Mashomack Preserve on Shelter Island effectively demonstrates the damage. Park officials fenced several hectare-sized natural plots of forest, protecting them from a dense population of deer on the island — about 115 per square mile, ten times what ecologists say is healthy. The fenced-in areas contain a lush, healthy assortment of deer favorites, while the forest just outside the fence has mostly tall trees and short grass. Rawinski's home in Massachusetts is different from where he surveys forest damage. He leaves his fruit trees and flowers unfenced and has little fear of ticks because his area has bobcats, bears, coyotes and regular hunters, all of which keep deer herds healthy and on the move.

Deer also leave a vegetation void that fills quickly with invasive species, including wild garlic mustard and Japanese barberry, which deer avoid because of their foul taste and prickly leaves. Deer eat the native competition, giving the invasive species plenty of room and nutrients to spread. Other invasives that deer do eat, like the sweet berries of wine raspberry, end up dispersed through feces. Should deer be removed and browsing lessen, the native species would take their home turf back, said Rawinski, in a process called biotic resistance.

Ted Thirlby, a Southold friend of Wexler's who lives a few miles away from her, is fond of English ivy. "A couple of times a year I would have to go out to the west side of the house and chop it away," he said, "otherwise it would grow right over the house." But in the past 15 years, deer have eaten it away to nothing, all the way up to his porch. Deer also contribute to skyrocketing rates of Lyme disease because of their contribution to the tick life cycle. The bloodsucking arachnids need a large host for their third and final blood meal — the meal that will give them the energy to mate and lay thousands of eggs. Deer are their favorite choice. Southampton Regional Tick-Borne Disease speaker Anna-Marie Wellins, in an April 25 tick presentation at South Country Library in Bellport, shared reported sightings of so many bloated ticks on deer fawns that the fawns were anemic and thin. Others have sighted hordes of ticks amassed upon fawn's eyes, blinding them.

Lyme and other tick-borne diseases are endemic to Long Island, but infections have recently surged, partially because of the overwhelming deer population. "Walking from this room here to the car?" Wellins asked the audience, most of whom were currently or previously infected with a disease by ticks. "You're exposed."

The bacteria that causes Lyme disease, *Borrelia burgdorferi*, is stored in the black-legged tick's gut and infects human hosts by way of backwash during feeding.

Symptoms can be flu-like and include rashes, joint pain, fatigue, arthritis, fibromyalgia, memory problems and depression. Patients can also develop post-treatment Lyme disease syndrome (PTLDS), a medically unexplained continuation of symptoms after the bacteria is cleared from the body. Rasweiler had PTLDS, and knows three people who are chronically disabled because of neurological and arthritic Lyme. Ticks spread other illnesses too, such as ehrlichiosis, babesiosis and alpha-gal allergy.

Most people in the audience of about 30 raised their hands and listed the diseases they currently or previously had. One of them was Jeff Masem, an X-ray technician from Brookhaven hamlet, who lives between two forest preserves. He sees deer nearly every day on his property, and his wife Sue once found a tick feeding between her eyelashes. In late March, Masem came down with symptoms he blamed on the flu, until he woke up one day and immediately knew it was more: "I woke up at 5:30 in the morning and I said, 'Honey, you've got to take me to the emergency room, because I feel like I'm going to die.'" After being misdiagnosed with bronchitis, he got blood work back and learned he had Rocky Mountain spotted fever, a potentially deadly disease borne by dog ticks. He's on doxycycline, an antibiotic used for a variety of tick-borne illnesses, and is slowly on the mend, but still experiences aches and night sweats months later. Besides harboring ticks, the Masems have been forced to replace everything in their garden with deer-resistant plants. "No flowers. Can't have flowers. That's impossible," said Masem.

While adults ticks target deer for blood, adolescent ticks, called nymphs, tend to be much more dangerous because of their small, freckle-like size. They're difficult to notice, giving them ample time to transmit disease when feeding. About 20 percent of nymphs are infectious, some carrying more than one disease. And nymphs swarm in groups; groups of Lone star tick nymphs feeding on a patch of skin are commonly mistaken for chiggers, which don't live on Long Island.

Over 300,000 cases of Lyme are diagnosed nationally each year, according to the CDC. Wexler and other home gardeners have to throw their clothes into the dryer for 30 minutes every time they come inside, to kill any possible tick passengers. Washing won't kill ticks, but dehydrating them will.

The NFDA has petitioned the New York State legislature to make deer a nuisance species, which would open the door for bounties. Hunters would receive between \$150-250 per animal, depending on whether the taken deer is a doe or buck. The goal is to encourage them to take more than what would feed their families and donate the excess carcasses to a refrigerated meat truck. The truck has donated over 40,000 pounds of meat since 2008.

In 2016, East Hampton on the South Fork tried sterilization. Town officials hired the deer management group White Buffalo to spay over 100 does. Afterward, residents reported seeing a handful of does die while attempting to give birth. Rasweiler said animal rights groups blamed White Buffalo, though no link was ever found. He thinks they may have been normal miscarriages following a harsh winter. The backlash helped kill a later proposal to bring White Buffalo's services to Southold; the need for consistent hunting instead of doing it for just a weekend was another factor against it.

The NFDA sees sterilization as a dead end because the cost of tracking and spaying enough does to make an impact would be too expensive, at \$500 to \$1,000 per animal. Any does spared the sterilization would continue to breed. And the expensive, labor-intensive work does nothing to reduce the existing deer still devastating forests.

More hunting, said Rawinski, would eliminate those animals altogether. He said culling is the most — and only — humane option. "We want healthy forests, we want healthy deer, we want healthy people," he said. "Those are the three things that we can achieve if we just find the right balance with the deer."