

2023 Deer Management Plan for the Village of Cayuga Heights

The number of deer in the Village of Cayuga Heights has been an issue since the last years of the 20th century. In 1998 a deer committee was established to study this problem and to make recommendations to the Mayor and Board of Trustees. In addition, two surveys were conducted by the Human Dimensions Research Unit in the Department of Natural Resources at Cornell University in 1998 and 2001 to ascertain residents' attitudes toward deer and evaluate acceptance of various deer management options following an extensive education program.

The Deer Committee issued its report to the Board of Trustees in May 2001. They found there was strong support for reducing the deer population, but strong disagreement about the method. Their recommendation was sterilization. Their optimism that this method would be successful without incurring undue opposition was sadly misplaced. A research trial with Cornell using sterilization was employed in 2002-2004. Funding was discontinued in 2005 and a vaccine was employed, which proved faulty and ineffective. Cornell and the DEC counted 147 deer in the Village in 2006; residents continued to complain about damage to plantings and deer droppings in their yards; there were 29 deer/car accidents and 31 deer incidents between 2004 and 2006. An incident is defined as an investigation of some problem involving a deer. For example: an officer is called to the scene of an injured deer.

In August 2008 a new deer committee called the Deer Remediation Advisory Committee (DRAC) was formed. From the Fall of 2008 through the Winter of 2009, they held two public meetings a month to obtain residents' input and to discuss possible options for reducing the deer herd. In March 2009 they mailed information packets to all Cayuga Heights residents outlining the issues and inviting the public to two public forums that Spring to gauge public opinion about the extent of the problems and possible means of ameliorating them. Meanwhile, there was an explosion of the deer herd and 42 deer/car accidents between 2007 and 2009 and 60 incidents involving deer. In the Summer of 2009, the DRAC issued their report to the Board of Trustees. They recommended surgically sterilizing 60 does over a two-year period, followed by culling of the remainder of the herd in the following year with professional sharp shooters. They expected the deer herd would be reduced to approximately 60 deer and could be maintained through further sterilization and culling, as necessary.

The Board of Trustees accepted the DRAC plan in September 2009. A lengthy court battle ensued over the Environmental Impact Statement brought by several Village residents who did not want any lethal means adopted. The Village prevailed in April of 2012. There were 66 deer/car collisions during this period and 93 deer incidents. Letters were sent to residents to try to obtain written permission to use their property for sterilization or culling. It was proposed that the culling would be done by professionals with frangible bullets to prevent ricochet and fire downward to eliminate cross-horizon shots. There were enough responses to do the sterilization, but there were too many homeowners who refused permission to find any sites that satisfied the 500-foot radius requirement.

In December 2012 the Village of Cayuga Heights hired White Buffalo (www.whitebuffaloinc.org), a highly regarded non-profit wildlife management organization. They sterilized 137 does and tagged them and all males caught for a total of 171 deer.

The tagging of deer during December 2012 provided a known, marked population of deer necessary for an abundance estimate using mark-recapture analyses. We contracted with Paul Curtis from the Cornell Department of Natural Resources to conduct a photo survey with infrared triggered cameras soon after the deer tagging and sterilization were completed. They were able to estimate herd size with good confidence in the results. The analysis was run twice; once with all the possible live deer included in the total, and once without deer living near the edge of the community. A reasonable estimate of deer abundance in Cayuga Heights based on these two analyses was 225 deer, or a density of approximately 125 deer per square mile.

In December 2013 twelve does were sterilized and all deer captured were tagged. Paul Curtis repeated his camera survey and analysis. He estimated 160 deer, a density of approximately 89 deer per square mile remained in the Village.

During Fall of 2014 the NYS Legislature passed a law that reduced the discharge setback from occupied structures from 500 feet to 250 feet for crossbows, and 150 feet for archery equipment. We now had ten sites that could be baited with corn and deer taken from tree stands with crossbows. Forty-eight deer were taken in the winter of 2014-2015; the venison was donated to the Venison Donation Coalition Program that year and in subsequent years. We again had Paul Curtis do a camera survey to determine the number of deer in the Village. He estimated 137 deer were left in the Village, a density of 76 deer per square mile. Thirty-nine were culled during the winter of 2015-2016. Curtis estimated 94 deer, or 52 deer per square mile after the cull. While the DEC concentrates on effects to measure culling success, residents and Board members wanted to know numbers of deer.

Only twelve deer were taken in 2016-2017; Curtis estimated 70 deer, or 38.9 deer per square mile. However, since there were fewer tagged deer each year, the confidence interval was 60-82. White Buffalo advised us the deer were becoming wise to the bait sites and becoming much wavier. Residents' complaints about deer damage to landscape plantings increased during the summer of 2017.

In 2018 we were in a quandary. The DEC began to enforce the law which restricts baiting within 300 feet of a road. Since the Village of Cayuga Heights is a residential community with few undeveloped areas, this eliminated all but one of the bait sites. Instead, we applied for a new deer damage permit that would allow us to tranquilize the deer with darts, transport them to the DPW barns and euthanize them. Since they were darted with chemicals, they were not able to be used for human food and were land filled. White Buffalo culled 45 deer over a five-day period in the Spring of 2018 using this protocol. We are no longer doing camera surveys since there are almost no tagged deer in Cayuga Heights. A resident did report seeing a doe with a tag this Spring; that deer must be over 10 years old.

Having professionals cull the deer is expensive. We spend close to \$30,000 a year. Despite early opposition by some Village resident there is now overwhelming support for using their property

tax dollars for this program. A key reason for this support is the fear of deer/car collisions on our roads. Our goal when we started culling was to reduce deer/car accidents to zero; we achieved that goal in 2018 and have had no deer incidents until earlier this year. Early on the mornings of February 16th and March 10th, there were deer collisions on our only limited access highway, State Route 13. The deer were killed but no people were injured. Car damage was over \$1,000.

Residents want to be able to enjoy their yards without worrying about stepping in deer droppings or the frustration of having landscape plantings destroyed by deer browse. There have also been incidents of aggressive deer that stand their ground and refuse to leave.

Lyme disease is a constant worry for anyone who spends time outdoors. There have been 647 cases reported in Tompkins County from 2000 through 2018, but the real number is estimated at ten times that amount (<https://www.tickcheck.com/stats/county/new-york/tompkins-county/lyme>). Since the data is not specific to the municipality, we cannot determine the effects our deer culling has had on the incidence of Lyme disease in Cayuga Heights. Some studies in the peer-reviewed literature support deer reduction as an important way to control the spread of Lyme disease, but other studies dismiss deer as an important vector in the blacklegged tick life cycle. While fewer deer will not eradicate Lyme disease, we think it plays at least a small role in controlling the spread of the disease. And now there is the added worry that these ticks also can transmit anaplasmosis, babesiosis, borrelia miyamotoi and Powassan disease (<https://www.cdc.gov/ticks/diseases/index.html#:~:text=Diseases%20Transmitted%20by%20Ticks%201%20Anaplasmosis%20is%20transmitted,the%20upper%20midwestern%20United%20States.%20More%20items...%20>).

Perhaps even more alarming than the diseases carried by blacklegged ticks is the discovery that deer are a reservoir for SARS-cov-2 (https://www.nature.com/articles/s41586-021-04353-x_reference.pdf). Transmission has been from humans to deer. So far there isn't evidence that deer can pass this virus back to humans, but it is possible. Reducing deer-human interactions by culling deer in suburban environments could be helpful.

While there was considerable opposition to the deer culling program at its inception, residents today compliment us on the lack of deer droppings in their yards and the ability to once again grow plants that are deer favorites. Tulips, Day Lilies, Hosta and Asters are a few perennials that can now be grown without weekly applications of deer repellants or the protection of high fencing.

We do not keep logs of calls made to the Village Clerk, but we do preserve emails. In the past, we have received one complaint that money spent on culling would be better spent on infrastructure. And one compliment:

From: Paul Ginsparg <ginsparg@gmail.com>

Sent: Tuesday, February 20, 2018 12:40 PM

To: Tayo Johnson; Jeff Walker; Joan M. Mangione; Linda Woodard

Subject: deer video

here's the deer video i mentioned (from 2011)

<https://www.youtube.com/watch?v=kNmodjB2UCk>



25 deer 24/7

17 in the rear, another 8 in front, morning of 23 Feb 2011. now stripping bark from all the trees, having eaten everything else,

but happily this never happens any more.

Last year when we didn't cull until early April, there were several residents who voiced their alarm. Since then, the comments have been on how few deer have been observed in the Village. These mostly come to the Clerk when residents pay their water and property tax bills or buy garbage tags.

From an ecological perspective, tree regeneration is an important goal, even if most residents are oblivious. As an ecologist and avid gardener, I am aware of "weeds" in my perennial beds, which now include oak seedlings that persist over winter. While my observations are antidotal, Bernd Blossey, Paul Curtis and others published an article in Ecology and Evolution describing their study of red oak regeneration under various white tail deer management strategies (<https://onlinelibrary.wiley.com/doi/full/10.1002/ece3.5729>). Their study sites included locations in Cayuga Heights. They concluded neither sterilization nor recreational hunting were sufficient to reduce deer populations to allow successful red oak regeneration. They recommended allowing volunteer archers to shoot deer over bait and allowing them to do this at night. They did state this might still not be enough and hunting by professionals or introduction of predators like wolves or mountain lions might be necessary.

In 2019 culling was conducted on April 1st and 2nd; 15 deer were removed from the Village. Sixty percent of the harvest was female and 73% were antlerless (i.e., includes male fawns). We captured every yearling/adult male that we observed (n = 4). This is a similar number of males removed as the previous year (n = 3), reflecting a steady number of resident males in VCH. If culling efforts had not been conducted in 2019, the population would have increased significantly through immigration and fawning in the spring. In contrast, low densities were maintained (i.e., ~9 deer remained in 2018, and ~10 deer were in the Village after culling in 2019).

We were unable to cull in 2020. We had planned to have White Buffalo come in early April, but the pandemic made this impossible. As a result, the deer population exploded as anticipated.

We now have the answer to “what happens if we skip a year?”. Nothing good, except it has made residents realize how much damage deer over-population can do. I fielded many inquiries from residents wondering if and when we are going to “do something about all the deer”.

In 2021 we had White Buffalo take deer in the same manner as 2019. Over the course of three days during the third week of April, 21 deer were removed. Seven males and 14 females were harvested. Most were captured close to the Village boundaries on the northeast and south. It was estimated that approximately nine deer remained in the Village. 2022 was similar. White Buffalo culled 19 deer last year; they removed six males and 13 females.

This year White Buffalo is coming the third week of April. We have had a Winter with almost no snow; temperatures have been erratic, and we will be experiencing summer like weather by the end of the week. Lawns are greening quickly and the tulips are in bud. We are noting residents’ reports of deer sightings and compiling data from our Police officers who are on duty 24/7. We hope to cull the deer before they can do too much damage to our vegetation.

The Village of Lansing, the Town of Ithaca and Cornell have deer culling programs using amateur hunters. These programs are marginally helpful in reducing migration into Cayuga Heights. We hope the City of Ithaca will adopt a similar program, but we are not optimistic. We realize that there will always be migration pressure given the large amount of forest and farm land in the area with few effective predators. We are committed to continue culling deer for the foreseeable future.