

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 Introduction

This is a Draft Environmental Impact Statement ("DEIS") prepared pursuant to the requirements of the New York State Environmental Quality Review Act ("SEQRA") for a action being proposed by the Village of Cayuga Heights ("VCH" or "Village") referred to herein as the Cayuga Heights Deer Management Plan ("CHDMP"). The Village Board of Trustees is the Lead Agency pursuant to SEQRA. In March of 2010 the Village circulated a SEQRA Full Environmental Assessment Form ("EAF") to interested and involved agencies and on March 27, 2010 adopted a positive declaration requiring the preparation of a DEIS.

The EAF and positive declaration are provided in Appendix A of this report.

This DEIS evaluates potential significant environmental impacts associated with the implementation of the CHDMP, discusses applicable mitigation measures (if necessary) and possible alternatives that would achieve the same objectives, and a no action alternative.

2.2 Site Location

The land within the municipal boundaries of the Village of Cayuga Heights is the site of the proposed action. The VCH is an incorporated Village located in the Town of Ithaca, Tompkins County, New York. Figures 2-1 through 2-3 show maps that indicate the location and boundaries of the Village.

The Village lies at the southern end of Cayuga Lake, north of the City of Ithaca and south of the Village of Lansing.

The Village is 1.8 square miles in area and has a population of 3,273 as of the 2000 Census. It is a community dominated by residential housing. Many residents work at Cornell University or locations in the City of Ithaca. There is not a substantial commercial or industrial land use base in the Village.

2.3 Project Background, Public Purpose and Need

Whitetail deer is an indigenous species of New York State that has played a role in the natural ecology of the region as well as provided a resource for people for centuries. However, by the end of the 1800's, hunting had severely impacted the white tail deer populations throughout the northeastern United States. In 1896 the United States Supreme Court declared wild animals to be the property of the states. Thereafter, regulations were enacted at the state level that required hunters to obtain licenses. Additional regulations set forth hunting seasons, bag limits and sex restrictions, to help manage deer populations. As a result of such wildlife management efforts, deer populations rebounded significantly.

There were other factors that added to the expansion of the deer numbers in the Northeast. Wolves and mountain lions were largely eliminated so natural predation became significantly reduced. Agricultural activities in combination with forest management improved and expanded deer habitat. These factors along with suburban type residential development contributed to the "edge" habitats between forested landscapes and open fields and lawns, a highly desirable feeding environment for the white tail deer. And finally, many private land owners prohibited hunting. Where human population densities became higher, hunting was either prohibited or restricted to shotguns and/or bows. The result of all of these conditions allowed the deer population to expand significantly and in certain instances overwhelm some habitats.

Deer are defined by some ecologists as a "keystone species" because in high densities they effect trees, shrubs, herbaceous plants, birds and small mammals. A number of ecological studies carried out in the last 20 to 25 years suggest that high deer density

effects the composition of woody and herbaceous vegetation and indirectly impacts biodiversity. Certain tree species that are foraged by deer no longer regenerate while other species that are not preferred by deer have flourished.

The reduction of herbaceous plants in overpopulated areas has been reported. Orchids and lilies and other plants that were once abundant in woodlands have disappeared or have been substantially reduced.

Keystone species affect the ecosystem at many levels. Studies in Pennsylvania involving enclosed areas have revealed a loss in animal and plant diversity when deer populations exceeded 10 per square mile. The depletion increased in a nearly linear fashion as deer density increased. (http://na.fs.fed.us/fhp/special_interests/white_tailed_deer.pdf and <http://www.nj.gov/dep/dsr/trends2005/pdfs/wildlife-whitetail.pdf>)

A substantial deer density can significantly influence wildlife habitat. Foraging at levels beyond the ability of an ecosystem to recover can basically alter a forest composition and structure. In locations where the understory has been substantially removed by deer, those birds and animals that require a thick understory decline.

Animals that require a more open understory benefit and have a decided advantage in reproduction and population numbers. Thus, a significant deer population can affect the distribution or abundance of other wildlife species. It can affect community structure by modifying patterns, population density among competing species, and the abundance of species at multiple ecosystem levels.

Based on some of the aforementioned studies, in a situation where maximum biodiversity is the management goal, a deer population above 10 deer per square mile has been cited as undesirable. Taking the foregoing factors into account, as further described in the materials produced by the Village's DRAC (See Appendix E), the Village has set a goal of approximately 15 deer per square mile or a herd of 30 or fewer deer.

A major concern affecting biodiversity is the natural process of forest regeneration. Browsing of deer can inhibit the growth of some species of trees. Deer density as it relates to ecosystem health is site-dependent.

Cayuga Heights is not a forest but rather an ecosystem heavily influenced by a pattern of residential development and an associated suburban landscape. Ideal deer population densities are likely different in the suburban setting than an undeveloped forest.

Deer populations are difficult if not impossible to ascertain accurately. Deer move daily and seasonally and do not recognize municipal boundaries. Dr. Paul Curtis at Cornell University did a review of deer in Cayuga Heights in 2006 and estimated a number of approximately 160 deer living in the Village. Dr. Curtis estimates that the population may be as high as 200 in 2010 (See Appendix A).

Given this deer population in the Village the density of deer has and will continue to impact biodiversity and contribute to undesirable deer/ human conflicts such as vehicular damage, potential injuries to animals and people, landscape damage and water contamination (through substantially higher levels of untreated wastes in stormwater runoff). It is the intent of the VCH Deer Management plan to address these concerns.

With the area of Cayuga Heights being 1.8 square miles, to minimize losses in animal and plant diversity and these other impacts, the Village has determined that the deer population would need to be 30 or fewer.

Residential Attitudes, Studies, and Consensus Efforts

In the late 1990's Cornell University conducted a survey of 438 property owners in the Cayuga Heights area to ascertain their view on the deer population. There were mixed views on the white tail deer population in the Village.

- Most survey respondents indicated that deer/car collisions and damage to landscape plants and flower gardens ranked high on the list of problems. Almost 90 percent indicated that they had experienced deer related problems personally and 25 percent indicated that they were personally effected by a deer/- car accident.
- Eleven percent stated that they enjoy the deer and do not worry about the problems the deer may cause. A majority (54%) enjoy the presence of deer but are concerned about problems. One third (34%) indicated that they do not enjoy the presence of deer and regard them as nuisances.
- Over 80 percent surveyed wish the population of deer in Cayuga Heights would decrease. Only 3 percent desire a population increase and 12 percent prefer no change in deer population.
- One third of residents say that they are not at all interested in watching deer near their home or seeing deer in Cayuga Heights. A majority of residents expressed moderate to strong interest in learning more about deer management; 43 percent are interested in participating in decisions about deer management.
- Almost all respondents (98%) indicated that they want some opportunity for local input in deer management decisions.

A copy of the preliminary situation analysis of a survey of residents published in March of 1999 is provided in Appendix B of this report.

A consensus- building process also took place between the summer of 1998 and the fall of 2000. That process is summarized in a paper prepared by William F. Siemer entitled "Empowering Local Communities to Co-Manage Deer", located in Appendix C.

A Cayuga Heights Deer Study Committee was established and met many times from 1999 to 2001. A summary of those findings is provided in Appendix D. After that study, a two year research trial (using surgical sterilization by tubal ligation) was undertaken in the Village and that did reduce the size of the deer herd. That study morphed into a year of contraception, which failed in 2005 due to a faulty vaccine.

The herd repopulated, a revised fencing ordinance was proposed and withdrawn, and a new village government formed a Deer Remediation Advisory Committee in 2008 to review the current situation and recommend a course of action to the Board of Trustees.

2.4 Description of Action

Given the above noted circumstances, the Mayor and the Board of Trustees of the Village of Cayuga Heights established a Deer Remediation Advisory Committee (the "DRAC") and requested that it research options for deer management in the VCH.

A proposal for deer management was developed based on the information gathered by the DRAC from experts in the field of deer management, plus feedback from open committee meetings and two public forums. The DRAC shared this data with the community via the website www.vchdeercommittee.com, and an 8-page information sheet delivered to residents in early March 2009. A copy of this material is provided in Appendix E.

The Proposal:

Acknowledging the need to reduce the number of deer in the Village of Cayuga Heights, the Village Board of Trustees put forth a proposal consistent with the recommendations of the DRAC to implement a Phased Options Approach ("POA") to deer management. The DRAC recommends that the Village begin the POA with the surgical sterilization of approximately 20-60 does (female deer) within a two-year period, followed by culling of the remainder of the herd in the year subsequent to completion of the sterilization program, followed by a program of ongoing maintenance of the herd size as necessary through further sterilization and culling. It is expected that this program will, once implemented, result in a reduced and stable deer herd in approximately three to five years.

Specific Recommendations:

The recommendations of the DRAC are detailed below.

1. The VCH should hire a part-time Deer Management Director (DMD).
2. The VCH should adopt the goal of the cultural carrying capacity of 15 deer/square mile, which would result in a total deer population in the Village of Cayuga Heights of approximately 30 deer for the Village's approximate 1.85 square miles.
3. The VCH should establish guidelines for confirming that the POA is reaching its goal of managing the VCH's deer herd to reduce ecological damage, traffic accidents, incidents of Lyme Disease, and other unwanted deer-human interactions.
4. The VCH should implement the POA as soon as VCH has made its final determination that the community is supportive of the POA.

5. The VCH should recognize that any approach to deer management must be implemented without fail for each of the initial five years of the program, and the VCH Board of Trustees and its constituents must recognize that otherwise the program will fail.

The VCH acknowledges that long term monitoring and management will be likely.

The following additional details expand upon the specific recommendations listed above.

The VCH can begin working toward implementation of the POA by hiring a part time DMD who will report administratively to the Village Board of Trustees, while accomplishing the following:

- apply for grant monies on the basis that the VCH's deer population problem is part of a larger concern for ecosystem health;
- identify the number of properties needed for culling;
- work with the VCH treasurer and attorney to bid out and write contracts for all contractors hired;
- work with Cornell University personnel, especially Paul Curtis, a wildlife biologist familiar with the VCH deer situation, regarding capture and sterilization procedures; staff and facilities; and identifying the number of VCH sites to be used for trapping and sterilization.
- work with contractors to coordinate and implement timing, safety concerns, impact guidelines, etc.
- work with the NYS Department of Environmental Conservation and Cornell University personnel to file permits and other paperwork as required.

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It was recommended that the VCH Board make a long-term commitment to the POA. It will take three to five years to see the results of sterilization and culling of the VCH deer population, but the maintenance phase (periodic culling and/or sterilization) will be ongoing. The Board may also consider the use of additional methods to reduce deer-human conflict, such as roadway reflectors, and a re-examination of the VCH Fencing Ordinance (*see below regarding Lyme Disease and fencing*).

Under the POA, the sterilization will be implemented first, allowing for the capture of the "easy" or less wary does which is more efficient in time and costs. These are the does and families who would continue to live in the community and whose monitoring and maintenance would be ongoing. Paul Curtis' experience both in the VCH and at Cornell indicates that this first phase would take approximately two years at an average cost of approximately \$ 1,200/doe.

Once the core population of does is sterilized and tagged, the DMD would oversee the hiring of professional sharpshooters to shoot unsterilized deer at bait sites. It is estimated that approximately 6 to 10 sites will be required to complete the culling.

The DMD will work with the VCH Police Chief and the NYS Department of Environmental Conservation (the "DEC") officer to develop and oversee the culling protocol and hiring of professional sharpshooters. It is anticipated that the initial culling of the herd will be completed within the year after sterilization has been completed. The cost estimate for a bait and shoot method is approximately \$400 - \$500/deer.

It was estimated that an area of 18 acres will be necessary for each culling site. Permission will be needed from landowners to allow hunting within 500 feet of their businesses and homes to assemble the required area. While some Village residents have expressed their view that safety would be enhanced by publicizing the sites and times, for safety reasons, the DEC and the DRAC recommend against publicizing culling sites and times. The VCH Board may wish to consider enacting a local law making it illegal, and punishable by fine, to interfere in any portion of a culling operation.

A more detailed description of the protocols for sterilization and culling is provided in Chapter 4 of this DEIS.

Interim Action:

Given the length of time that will be required for the POA to effectively reduce the number of deer in the VCH, the DRAC recommends that the VCH Board of Trustees immediately focus attention on two specific matters.

Education Concerning the Transmission of Lyme Disease

Two species of ticks are responsible for transmitting Lyme Disease and conditions such as ehrlichiosis. Their larvae and nymphs pick up the bacteria when they feed on any small rodents whose blood has already been infected, and whose preferred cover is long grasses and shrubs. The white-footed mouse is the most common rodent carrier. Adult ticks move on to feed on a variety of larger mammals including humans and deer which are their preferred hosts.

Studies also show that the number of ticks in a local area is generally linearly correlated with the number of deer present. Recommended mitigation of deer-borne diseases includes fencing, reducing tick habitats (especially where properties are bounded by heavy vegetation), and the possible treatment of white-footed mice. Educating the public includes practicing "due diligence" in clothing for outdoor wear and learning to check for ticks after being outdoors.

Review of VCH Fence Ordinance

Because the results of the POA will take several years to achieve, an interim means to reduce human/deer interaction could result from reviewing and amending the VCH ordinance concerning fence heights. Currently, property owners are allowed to erect a

fence of up to 4' high at the boundary line of their properties, or erect a higher fence the same distance from the property boundary as required for a building, that is, 25' from the front boundary line of the property and 15' from the side or rear property line.

2.5 Approvals Needed

Approvals will be required from the NYSDEC (pursuant to Environmental Conservation Law Section 11-0521) for the sterilization program and the culling program. The NYSDEC is therefore an involved agency under the provisions of SEQRA.

The VCH has been discussing deer management with the NYSDEC and management options and potential permit conditions are set forth in a letter from Gordon Batcheller, NYSDEC Senior Wildlife Biologist, in Appendix H.

The VCH Board of Trustees will need to take action on the final details of the deer management program and fund its activities.

No other agency approvals have been identified.