3.0 EXISTING CONDITIONS

3.1 Land Use and Zoning

There is no formal consolidated comprehensive plan for the Village. Land use planning is largely a function of the Village's Zoning Ordinance and map which indicates existing and potential patterns of development in the community.

A copy of the Village's zoning map is shown on Figure 3-1. As indicated, the majority of the Village is zoned for single-family homes, and the Village built out in that fashion.

There are only three zoning districts in the Village of Cayuga Heights:

- Residence District
- Multiple Housing District
- Commercial District

The minimum lot size in all districts is slightly under ½ acre at 125 by 150 feet. Based on a review of the Village's zoning map, and aerial photographs of the Village, the community is mature and largely developed as a residential community. Actual lot sizes appear to be larger, generally, than the minimum requirement set forth in the Zoning Ordinance.

A multi-family zone exists in the southeastern area of the Village. A portion of that area has been built out and a portion is open space.

A small commercial zone exists where multiple roads converge at the so-called Community Corners intersection.

The population of the Village at the time of the 2000 census was approximately 3273 persons. There were 1,561 housing units in the Village, the majority of which were single family homes.

Land Use Implications of Existing Deer Population

A summary report of the Cayuga Heights Deer Study Committee that was prepared around 2001 is provided in Appendix D. It discusses the background of this situation, describes some of the historic surveys, and summarizes the existing impacts of deer in Cayuga Heights. As early as 1999, people attending public meetings expressed that they would accept the use of lethal means to kill deer if reproduction control was not found to be a feasible management option. (See Appendix C).

The existing population of deer in the VCH exceeds what is viewed as a desired density. The existing population is estimated to be between 160 and 200 deer in the Village, whereas a desired population would be 30 deer or less.

The VCH deer population at this density results in a variety of impacts which could be tied to land use activities such as the use of local roads, aesthetics, and the use and enjoyment of residential yards and gardens. These existing issues are discussed further below.

Deer/Vehicle Accidents

When deer density increase in urban and suburban areas, deer vehicle accidents also increase. Deer mortality (not total accidents) in New York State rises and falls from year to year, but represents a substantial number given the estimated population of deer in the State only 30 years ago.

In 1980 the estimated population of deer in New York State was 500,000. In 2006, the estimated population was 1 million. According to a 1995 Syracuse University research

project, the average costs of human injury and property damage was $2000 per incident. It would not be unexpected if those numbers are higher in 2010 given rising medical costs and vehicular costs.

Statistics from the New York State Department of Transportation support these points. In the five year period from 2002 to 2006, approximately 130,000 deer carcasses were removed from State Roads at a cost of $1.9 million. This does not account for deer fatalities on local roads not under NYSDOT jurisdiction.

From 2006 to 2008, a three year period, there were an estimated 70,000 animal/vehicular crashes with some 5,000 human injuries and 12 deaths. Roughly 7 percent of all crashes on State roads during that three year period were deer-related. (see http://www.nysenate.gov/files/pdfs/Task%20Force%20NYS%20DOT%20Report.pdf).

In the late 1990's the number of deer-car collisions over a six year period were reported to be about 10 per year according to the 2001 report of the Cayuga Heights Study Committee. A study conducted by Cornell University in 2000 indicated a somewhat higher number of annual deer-car collisions, most occurring on Route 13.

Accidents (between a vehicle and a deer) are accompanied by an investigated report. Incidents are when an officer is called to the scene of an injured deer and has to shoot the animal (and a vehicle is not present). According to the Cayuga Heights Deer Remediation Advisory Committee, between 2003 and 2008 there were some 50 reported deer/vehicle accidents and 70 deer/vehicle incidents.

Habitat/Landscape and Biodiversity Conditions

As can be seen from the aerial photograph in Section 2 of this report, the VCH is a relatively mature residential community that consists primarily of single family homes amidst mature trees, landscaped areas, play fields and lawns.

According to a 2010 report prepared by the Department of City and Regional Planning at Cornell University, the Village has three unique natural areas (UNAs) as shown in Figure 3-2. UNA 101 is known as the Newman tract and is 7.63 acres. UNA 102, the Renwick Slope, is 73.8 acres and Palmer Woods, UNA 104, is 43.6 acres. These areas are important aesthetically in the Village, contain old growth forest and hold other valuable ecological characteristics. They provide habitat to the local deer herd. The impact of browsing on these natural areas is not known.

A mature whitetail deer consumes approximately 3 to 6 pounds of vegetation each day. If there are 160 to 200 deer in the VCH, daily vegetation consumption is on the order of 500 to 1,200 pounds per day. This level of vegetative consumption will have a noticeable impact on both a forest and a suburban landscape.

In forests, this rate of consumption has an impact on biodiversity, as noted in Chapter 2 of this DEIS. A forest cannot regenerate its vegetation fast enough to support this kind of density of deer. The herbaceous and shrub understories are permanently eliminated, certain trees are unable to regenerate and biodiversity is adversely impacted.

A suburban landscape such as the VCH appears able to support higher densities because the landscape has already been altered from a forested conditions and contains plantings rich in food for deer.

When foilage drops and the herbacious understory declines in the fall and winter, deer become aggressive feeders on landscape materials, as food supply is much more scarce.

In addition to the heavy consumption of vegetation, deer feces are deposited daily in the local watershed and the majority of it is washed into local watercourses and storm sewers, contributing to higher biological oxygen demand in local water systems and increased levels of organic nutrients that come from mammal wastes.

Deer Ticks and Lyme Disease

The Connecticut Department of Public Health and the Connecticut Agriculture Experiment Station's National Tick Experts have determined the following:

- Lyme incidence parallels deer population growth
- Reducing deer numbers reduces tick numbers
- Reducing deer to below 8 to 10 per sq mile breaks the tick life cycle and prevents the spread of Lyme disease

The Tick Management Handbook, prepared by the Connecticut Agriculture Experiment Station (http://www.ct.gov/caes/lib/caes/documents/publications/bulletins/b1010.pdf) reports as follows:

"Some communities have explored the reduction of white-tailed deer through regulated hunting or controlled hunts to reduce problems associated with deer overabundance, particularly related to Lyme disease. A major question has been how far deer densities must be lowered to reduce tick exposure and human disease. The incremental removal, reduction or elimination of deer has clearly been shown to substantially reduce tick abundance in many studies. Observational studies and computer models suggest that a reduction of deer densities to less than twenty deer per square mile may significantly reduce tick bite risk, while lower levels (~8 deer/mi2) would interrupt the enzootic cycle of Lyme disease and transmission of B. burgdorferi to wildlife and humans. Fewer ticks have been reported at deer densities less than 18 animals/mi2 in one study. Because of issues related to locations where most deer reduction studies have been conducted and limited human case reports,data on the impact on human disease are more limited. However, reductions in human tick-associated disease with the lowering of deer densities have been reported."

Residents in Mohegan Island, Maine were suffering from a high rate of Lyme disease in the 1990's. At that time the deer population had reached 100 per sq mile, similar to densities estimated in the VCH. By 1996, 13 percent of residents had Lyme disease. They initially attempted to reduce ticks through chemical treatment, however, when that did not prove effective, they removed all deer from the island. Within five years of this action, the number of new cases of Lyme disease had fallen to zero. (see Rand P.W., C. Lubelczyk, M.S. Holman, E.H. Lacombe, and R.P. Smith: Abundance of *Ixodes scapularis* (Acari:Ixodidae) after the complete removal of deer from an isolated offshore island, endemic for Lyme disease. J. Med. Entomol. 41(4):779-784, 2004.)

In summary, the implications of the density of the existing deer herd in the VCH include the following:

- Higher likelihood of deer / vehicle incidents
- Higher likelihood of injured deer within the local population
- Loss of native and imported landscape and garden plants resulting in impacts on local aesthetic values
- Reduction in biodiversity and ecological damage
- Higher likelihood for larger tick population and potential increased incidents of tick-borne disease
-

3.2 Policies and Laws Relating to Deer Management

Discussions, meetings and proposals to address what is viewed as an unhealthy overpopulation of deer in the VCH have been ongoing since approximately 1998. A report of a 2001 study (Summary Report of Cayuga Heights Deer Study Committee) is provided in Appendix D of this report.

That study did not result in any long term policies or new laws. However, the Committee's recommendations lead to a two-year research trial, which according to a subsequent report, helped reduce the local deer populations. Funding constraints became an issue. In 2005 an attempt at using contraceptives was undertaken. That failed due to a faulty vaccine.

The herd subsequently repopulated and a revised fencing ordinance was proposed but never enacted.

In 2008 a Deer Remediation Advisory Committee ("DRAC") was formed. The DRAC held two public forums. The recommendations of the DRAC (see Appendix E), which have not yet become policy or law, were summarized in Chapter 2 of this document.

At the present time, it is unlawful to discharge a firearm or a bow within the municipal boundaries of the VCH, except by police. No deer hunting is thus allowed by any means in the Village.

Deer management involving sterilization or culling can only occur at the present time if the New York State DEC issues a suburban deer permit.

As indicated in Chapter 2, the recommendation of the DRAC is 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 within a two-year period, followed by culling of the remainder of the herd within 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 over a period of five or more years.

3.3 Community Perspectives

In the VCH, there are two general viewpoints regarding the deer population. One perspective is that the herd is too dense and needs to be managed. The primary means of doing that are culling and sterilization.

The other viewpoint is that culling and sterilization are not desirable and that the deer population is either acceptable or that other means of management would be less objectionable.

Numerous individual specific perspectives have been presented at public forums and in writing to the Village Board and considered by the Board in developing management proposals.

Controversy over animal treatment and programs to manage wildlife has occurred for many years in the United States and Cayuga Heights is no exception. Ample reading material can be found at the web site www.cayugadeer.org, which is a site that promotes alternatives to the plan presently under consideration by the Village Trustees.

It is not known how many people support the plan of the Village versus how many people oppose it. However, the Trustees that presently sit on the Village Board are entertaining the proposed action, and those individuals have been elected by an overwhelming majority of those voting in the largest election turnout in the history of the Village.

Controversy begins when people disagree and opposition can then be expressed in many ways and forums. When someone opposes a specific action (the killing or sterilization of deer, for example), the topics that are pulled into the fray are wide and many points and counter-points are presented during the airing of the matter. If agreements cannot be reached, those that oppose the action may pursue many avenues of objection and protest.

Cayugadeer.org states that the Village's plan is expensive, dangerous, and bizarre. This represents one perspective and differs from the perspective of those who wish to implement the plan set forth in this DEIS.

Taking no action can be expensive (see Socioeconomic Conditions below) and dangerous (increased car/deer accidents). With respect to danger, there is substantial experience in culling of deer using sharpshooters. Injuries to human have been historically minimal in connection with the use of sharpshooters culling deer herds. Therefore, the danger to humans associated with the proposed action is not clear.

Clearly there are multiple points of view on the matter.

Under the laws of the State of New York, the Village has the right to take action to reduce the impacts of a high density deer population.

An organization referred to as the Cayuga Coalition for Humane Deer Solutions (currently identified as Cayugadeer.org) prepared a memo entitled “Points of Understanding Regarding Cayuga Height Deer Situation”. That memo, dated October, 2008, is provided in Appendix F to this DEIS.

In that memo, alternative approaches to deer management are offered, in particular the creation of a position of Deer Ranger, a full time person, who would take responsibility for a variety of actions directed toward addressing deer/car accidents, landscape loss, and tick borne disease, and act as a coordinator or mediator.

The Village Trustees have taken all these matters into consideration during their review and development of the current proposal. Further input will be received during a public hearing on this Draft Environmental Impact Statement. Based on all information available, the Village Trustees will make a determination as to the course of action after compliance with the New York State Environmental Quality Review Act.

3.4 Socio-economics

The VCH has an annual budget of approximately $3.3 million.

At the present time, deer management is not an expense item in the VCH annual budget. Minor municipal expenditures may occur and are limited to accident reporting, clean up and disposal of deer hit by cars and potential replacement of landscaping destroyed by deer.

Based on studies carried out in the State of Connecticut, there are financial implications to a high density deer population. They include traffic accidents, destruction of vegetation and landscaping, and tick borne disease prevention and care. A report

prepared by the Department of Health Policy and Management School of Health Science and Practice at the New York Medical College was prepared in May of 2010. It is entitled “Economic Impacts of Deer Overpopulation”. A copy is provided in Appendix G.

That study reviewed the economic impact of deer in Fairfield County, Connecticut. A total of 23 towns were reviewed. The annual costs per capita were lower in the more densely populated urban areas like Bridgeport and Stamford. They ranged from $37 per capita (Bridgeport) to $524 per capita (Sherman). Average costs per capita based on a population of 883,557 in the study area was $203. Average costs per single family residence was $894.

Using the per capita costs from this study of Connecticut towns and applying it to the population of the VCH, annual costs associated with a high deer population would be on the order of $665,000. Using on the number of single family homes in the Village (920 based on the 2000 census), the number would be even higher at $822,000.

While the exact correlation between the VCH and the towns that were reviewed in the Connecticut study cannot be determined, the community costs of a high deer population is likely substantial based on known studies. Most of these costs do not come out of a municipal budget, but rather represent all the expenses that would be associated with deer-related incidents and are therefore expended by individuals, insurance companies or others.