

Introduction

The objective of the Deer Management and Education Plan (DMEP or Plan) as created by the Town of Camillus Deer Management Committee (Deer Management Committee) is to safely and effectively reduce the deer population, revitalize native plants, decrease property damage and decrease the tick population within the Plan designated areas. The reduction will address the following issues:

- Landscaping damage & economic impact
- Frequent deer-vehicular incidents
- Impacts on forest vegetation and native plants, including erosion and storm water runoff
- Increased deer/human/pet interaction
- High tick population
- Increased exposure to Lyme disease in both residents and pets

The plan will focus on reduction of these impacts by reducing the deer population within the designated project areas.

The DMEP will serve as a document officials, residents, and program participants can turn to for general guidance, rationales for management decisions, and answers to procedural questions.

The goal of this program will be to reduce the impacts of deer through population control. Decreased landscape plant damage, deer-vehicle incidents, property damage and a resurgence of native plants will be determining factors in measuring the success of the program. Additionally, the program hopes to reduce tick density and exposure to Lyme disease and other tick-borne illnesses.

The Town Deer Management Committee recognizes that the process of managing the deer population and associated impacts within the designated boundaries is a long-term project that will utilize adaptive management and sound science to accommodate changing conditions and lessons learned.

Background

Over the course of the past few years, Camillus Town Councilors representing the 3rd, 4th, 5th and 6th Wards along with the Camillus Town Supervisor have been receiving complaints about the number of deer in their neighborhoods. Complaints have generally been focused on three areas: the growing number of cases of Lyme disease, the dangerous traffic accidents that the deer have been causing and the damage done to people's property by the deer. The Camillus Town Supervisor asked for councilors from these wards to find citizens who would be willing to serve on the Camillus Deer Management Committee. The committee has been working diligently to put a deer management plan in place and see it implemented.

July 5, 2017 – Deer Management Kickoff Meeting at Camillus Town Hall

This "Kickoff Meeting" of the Camillus Deer Management Committee was held at Camillus town Hall. Committee Members representing 4 Wards in Camillus along with their respective Town

councilors were there. Presenting at this kickoff meeting were Courtney LaMere, Region 7 Big Game Biologist, NYS DEC and Kristina Ferrare, Forestry Program Specialist, Cornell Cooperative Extension. After a brief introduction of all of the deer committee members, the committee was educated on the 6 phases of The Community-Based Deer Management Process. Courtney LaMere presented a Suburban Deer Management synopsis to further educate the committee members. Ms. LaMere educated the committee on the reason there are conflicts with deer and residents, the biology of white-tailed deer, deer behavior and deer management options. Also presented at this meeting was A Citizen's Guide to the Management of White-tailed Deer in Urban and Suburban New York.

August 7, 2017 – Informational Presentation at the Onondaga Free Library

This meeting was held with residents from the City of Syracuse, the Town of Onondaga and the Town of Geddes. Dr. Brian Underwood from SUNY ESF then educated the committee members on the quality of life issues deer create for humans, both viable and non-viable options for deer management along with expectations and options for deer management. The Deer Survey: Summary and Analysis from Assemblymember Pamela Hunter's 128th District was also shared and discussed.

September 12, 2017 – Camillus Deer Management Committee Meeting at Camillus Town Hall
Kristina Ferrare from Cornell Cooperative Extension presented information on what comprises a deer management plan, what a "tick-drag" is and what else is needed to be completed by the committee to move forward. A large map of the town of Camillus was presented with possible locations for a deer cull. Several committee members began to work on a draft management plan.

October 12, 2017 – the Committee hosted Justin Gansowski, the District Supervisor for USDA Wildlife Services, who talked about the logistics of a bait-and-cull operation in a suburban environment. The Committee requested the town Board schedule a public hearing for the management plan.

October 21, 2017 – CCE educators train volunteers to conduct the first tick drag in Camillus.

October 24, 2017 – Committee presents the Plan to the town board and the public in a public hearing. The board accepted public comment and voted to support and implement the Plan.

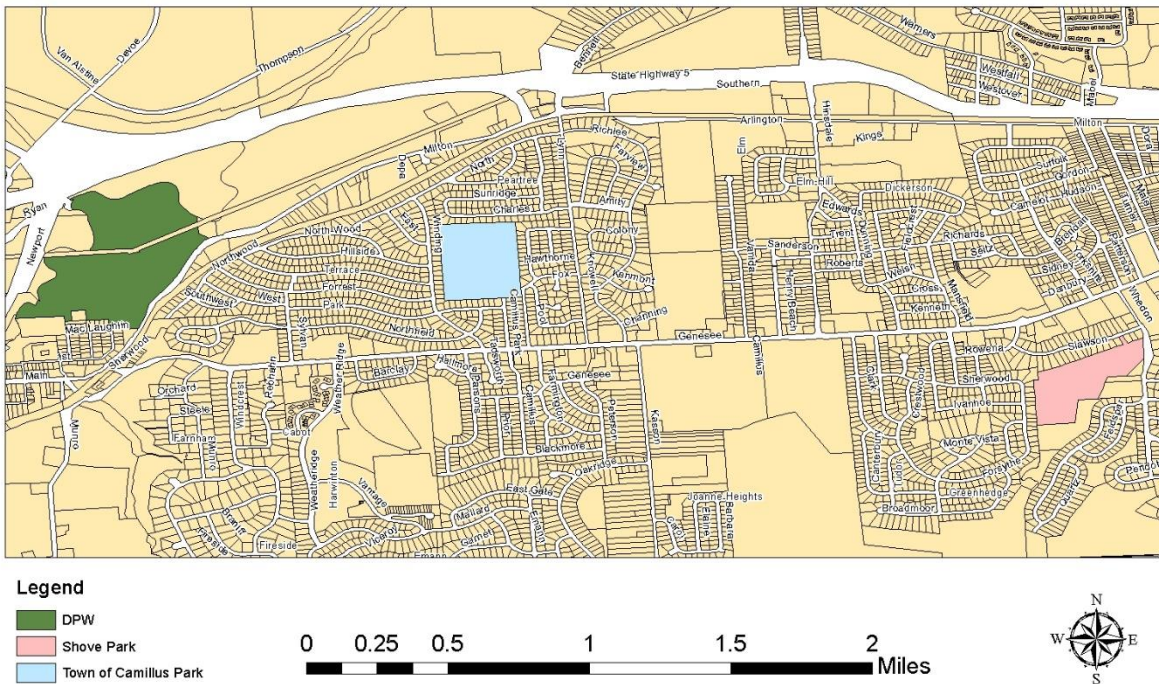
November 2017 – the Committee plans to invite CCE Educator Clare Carney to speak about ticks and Lyme disease to their monthly meeting.

Description of Deer Management Areas

Deer Management area (DMAs) are defined by the following map. Currently, three properties owned by the Town of Camillus are offered for management activities: Shove Park, Town of Camillus Park, and the DPW and Parks property. Additional properties may be added to the map as conversations with landowners are ongoing.

Map 1: The project are will be three Town of Camillus owned properties: DPW and Parks, Town of Camillus Park and Shove Park. A larger map is attached.

Camillus Project Areas



Identification of Methods for Assessing Impacts on Forest Vegetation

Assessing Vegetation Impacts from Deer (AVID) is a protocol developed at Cornell University's Department of Natural Resources. This easy to conduct annual protocol can be implemented on larger natural areas by volunteers trained by CCE staff to collect field data to track tree, shrub, and wildflower response to deer browsing over time. This knowledge will help guide deer management on the local and even the state level. Natural area parcels are likely to be located in or around the defined project areas, but not in residential neighborhoods. This method would be added in a future management plan when capacity allows. For more information on AVID, please visit <http://wildlifecontrol.info/research/deer-forest-impacts-project/> and <http://wildlifecontrol.info/wp-content/uploads/2016/11/AVID.Regeneration.Protocol-10-18-2016.pdf>

Identification of Methods for Tick Management

While reducing exposure to ticks and tick-borne illnesses is a major interest of the committee, the neighbors realize that managing the deer population is only one piece of the puzzle where tick population numbers are concerned. Deer play an important role in spreading ticks to new areas, but small mammals are the reservoir for Lyme disease. These methods are meant to help

measure tick population and pathology in the area, demonstrate the impact deer management has on the tick population, and most importantly, teach homeowners how to limit their exposure and reduce the chances of contracting disease.

o **Tick Drags**

- Tick drags will be performed bi-annually with CCE and trained local residents to determine population numbers. A tick drag involves capture of ticks by dragging a white sheet across an area susceptible to ticks. Captured ticks may be tested for Lyme disease and other tick borne illness. Drags will be performed in areas with landowner's permission and will take place on one day in the fall and one day in the spring. Successful drags are conducted on days without rain and temperatures above 45 degrees. Including tick drags in the DMEP will allow monitoring of population numbers.
 - The Committee conducted its first tick drag on Saturday, October 21, 2017. CCE Educators trained two resident volunteers to help conduct the operation.

o **Landscaping**

- Recognize "tick zones" – areas with forest and brush where deer, rodents and ticks are common. Utilize landscaping methods such as 3 ft. barriers of wood chip or rock to separate the "tick zone" from the lawn. Maintain a 9 ft. barrier of lawn between the wood chips and areas such as patios, gardens and play sets. Move children's play area away from wooded areas and place on wood chips or sand. Mow lawns often and remove brush. Avoid creating conditions that ticks favor such as ground cover, leaf litter, and dark and humid spaces. Creation of "tick safe zones" will help reduce resident's exposure. This is a viable solution and we encourage residents to practice preventative landscaping wherever possible.

o **Personal Protection**

- When outdoors, wear light colored clothes, long pants, long sleeves and socks. Tuck in shirts and tuck pant legs into boots or socks. Use repellent containing 20-30% concentration of DEET on clothes and bare skin. Apply repellents to children by applying to your hands first and then applying to children's skin. Apply repellents containing Permethrin to clothing only, not bare skin. This is a viable solution and residents should learn personal protection.
- Learn to properly check for ticks and how to properly remove ticks.

o **Public Education**

- Cornell Cooperative Extension of Onondaga County can present public education workshops on measures to reduce exposure to ticks and tick bites through personal protective approaches and landscaping methods. Additionally, residents will be trained as volunteers to participate in "Tick Drags".

o **Damminix© Tick Tubes**

- Damminix© Tick Tubes are biodegradable, cardboard tubes filled with permethrin treated cotton balls. Mice collect the cotton to build their nests. Deer ticks that feed on mice in the spring and the fall are exposed to permethrin and killed. These tubes are available locally and provide an environmentally friendly, easy to use option. This is a viable supplement and may be a part of the DMEP.

The Town Deer Committee will continue to support education of neighbors and explore practical ways to reduce exposure to ticks and tick-borne illness in the neighborhood.

Consideration of Non-Lethal and Lethal Methods for Deer Management

Non-Lethal Methods

o Fencing

- Fencing prohibits deer movement via physical barrier. To be effective, fencing must be a minimum of 10 feet in height and not possess any openings. This option is not feasible due to the large geographic area of the designated DMEP area and installation and maintenance costs.

o Habitat Alteration

- The practice of habitat alteration as a method of white-tailed deer population control would involve altering the vegetative landscape within the DMEP designated area to reduce or eliminate species that deer use for forage and/or shelter. Although residents are encouraged to practice preventative landscaping, this method is not feasible due to the size of the designated DMEP area and the extensive habitat alteration that this would entail.

o Capture and Relocate

- The practice of capture and relocate as a method of white-tailed deer population reduction would involve reducing the deer herd within the DMEP designated area by capturing deer and moving them elsewhere. This option is not viable as the NYSDEC prohibits the trapping of deer except under special permit for scientific purposes. Additionally, survival of relocated deer has proven to be poor; up to three-quarters of relocated deer don't survive the first year after release.

o Fertility Control

- Immunocontraception and sterilization techniques have been employed by some municipalities in an effort to reduce white-tailed deer populations. These techniques have not proven effective in controlling wild free-ranging populations of deer nor tick populations. A research permit is required from DEC in order to conduct a fertility control program, and research permits are not granted without an accompanying lethal management program.
- Communities that have engaged in fertility control only programs have found it inadequate for reducing deer numbers and associated impacts. Although deer reproduction is reduced, deer remain on the landscape until they die from other causes (deer-vehicle collision) or old age. Several of these communities have added lethal methods to management plans in successive years. Additionally, fertility control programs are costly and require handling and tagging of all animals in the program.

Fertility control methods also do not address herbivory or the spread of ticks and tick borne diseases.

Lethal Methods

o Predator Control

- The introduction of large mammalian predators would generate safety concerns from residents. And furthermore, the town does not contain suitable habitat.

- o **Parasite or Disease Introduction**
 - The risks and uncertainties associated with parasite or disease introduction make it an impractical option for deer population control.
- o **Poison**
 - Currently there are no toxins, poisons, or lethal baits registered for deer control.
- o **Traditional Hunting**
 - Traditional hunting utilizes firearms and archery methods to shoot and kill the white-tailed deer. Sportsmen and women must adhere to hunting regulations and seasons as set by the NYS DEC and pass an education course prior to purchasing hunting license(s). Traditional hunting is a viable option in areas where it can be performed legally and safely. Approximately $\frac{3}{4}$ of Camillus may be suitable for hunting, however the majority of these areas are not part of the impacted districts and would not address resident concerns.
- o **Controlled Hunt**
 - Controlled hunting involves tailoring hunts to meet a variety of local conditions. Controlled hunts are limited to the open hunting season using individual's carcass tags and do not call for the use of bait. Local municipalities that have conducted deer management activities report greater success culling deer post hunting season over bait, when deer group and have fewer food resources. Controlled hunts may be a viable option in situations where it can be performed legally and safely.
- o **NYSDEC DMAP Program**
 - Under the deer management assistance program (DMAP) the NYSDEC issues a special permit and determined number of deer tags to a landowner or resource manager, or a group of landowners or resource managers whose property is in need of site specific deer management efforts. DMAP is for use during the hunting season and would be used in conjunction with a controlled hunt or traditional hunting. This is a viable option and could be a supplement to our plan.
- o **Managed Bait and Shoot (Culling)**
 - The bait and shoot technique involves baiting deer to strategic locations where a shooter could then kill the deer. This option is useful within the DMEP designated area where there is not enough land available for traditional hunting methods to be employed. Local municipalities that have performed deer management activities report greater success culling deer post hunting season over bait, when deer have fewer food resources. Controlling the selection of sites through a managed bait and shoot culling process will provide a measure of safety to our residents and their property. Adhering to a managed bait and shoot culling process as outlined in the DMEP, as well as NYS and Town rules ensures the quick and humane cull of deer and allows for the best outcome of the plan and the best chance for success.

The Town will continue to search and explore any practical deer management supplement that will help work towards this program's success.

Managed Bait and Shoot (Culling) Procedures

This is the preferred method. USDA Wildlife Services will be used for initial bait and shoot procedures. Professionals will use rifles with sound suppressors for culling. NYS DEC will issue all tags directly to USDA Wildlife Services.

Dates and Times

- USDA Wildlife Services will operate 24 hour shooting. Exact times cannot be predicted in advance as it is dependent on wind direction, participation schedules, and weather. Bait stations will be established 1-3 weeks prior to shooting.

Safety Considerations

- Protecting the safety of property owners, property, pets, other wildlife, bystanders, and participants is of the highest priority of all culling activities.

Establishment of Bait Stations and Stand Locations

- Bait Stations and Stand Locations will be determined by the USDA Wildlife Services
- It is the right of each landowner to restrict the number of individuals on their property, the times and dates participants are allowed on properties, stand locations, baiting locations and access routes. The agreement to use properties can be terminated by landowners at any time.

Tracking, Field Dressing and Processing of Deer

- It is understood that despite all precautions and skill, deer may be wounded, may not expire immediately, may expire on neighboring properties, or may not be found. Every effort possible will be made, including the possible use of trained dogs, to recover all animals or assure that they suffered only a superficial wound that will quickly heal.
- When possible, participants will have pre-authorization to retrieve deer from adjoining properties. All participants will have the names and phone numbers of neighbors should they need to be contacted regarding deer retrieval. In most instances landowners/neighbors will not notice activities or deer harvest because it happens quickly and quietly.
- Participants may use flashlights to track deer after they are shot or when traveling to/from trees stands; therefore, property owners may notice slow moving lights. In very rare circumstances, tracking operations may continue the following morning with better light. In the event a deer is wounded and mobile, or has expired on a property that the participant does not have pre-approved access into, the Onondaga County Sheriff's Department or the Town of Camillus's police department will be contacted to assist in locating and/or collecting the deer.
- Once a deer is recovered, it is to be removed discretely and field dressed and processed at the Marsh Mill Ranch facility in Kirkville, NY.
- All harvested deer will be consumed by landowners or participants or donated to local food banks and pantries.

Program Review Activities

- The Town Deer Committee will meet regularly during the program to review activities and determine if the program should continue or be terminated. Town Deer Committee will provide regular updates to the New York State Department of Environmental Conservation.

Public Notification and Citizen Input

The view of citizens, businesses, and interest groups are valuable and will continue to help shape the DMEP. The development, implementation and review of this program are to be transparent and will involve citizen input at every step. The public is encouraged to attend and participate at deer management committee meetings and public information meetings.

Success Measurement Procedures

In order to measure the success of tick and deer population control several methods will be implemented.

- Annual surveys of neighbors will be implemented to determine impact on deer-vehicle incidents, property damage, and native plant damage.
- Tick drags will be performed bi-annually in areas with landowner's permission and will take place on one day in the fall and one day in the spring.
- AVID Protocol performed annually on appropriate forested areas to assess impacts on forest vegetation.
- Captured ticks will continue to be tested for Lyme disease and other tick borne illness.

The DMEP will be reviewed and amended annually to adjust for these findings and add or subject management areas.