Town of Southampton

Deer Protection and Management Plan

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Final Report

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Town of Southampton
Department of Land Management

In Coordination With:
The Longview Wildlife Partnership

ACKNOWLEDGEMENTS

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Introduction

Public inquiries about white-tailed deer have prompted the development of a Town Deer Protection and Management Plan in order to respond to questions and concerns regarding the apparent increase in deer populations throughout the East End. Recent events, including heated debates among those with divergent views, further underscores the need to provide the community with the knowledge needed to have informed discussions with policy makers, natural resource managers, and other stakeholders on the best approach to managing deer.

While there are some who argue that deer are a nuisance that need to be promptly controlled, others see white-tails as a precious natural resource representing the elegance, intrigue, and wild places of Southampton Town. No less important are the views of local sportsmen, who value deer as a vital resource for those who enjoy the art and recreation of hunting, and who find solace in our local woods. There are also those who see opportunities to work with local nonprofit charitable organizations, to provide donated venison from harvested deer to food pantries for distribution of deer meat to those in need.

Recognizing these often divergent interests, the Town seeks to find a unified approach to sustaining deer populations while balancing human needs. Creating a Deer Protection and Management plan presents a host of challenges, from educating the public on deer conservation, to options available to landowners seeking to limit the damage that deer can have on landscaping and agricultural lands. Public safety issues related to the frequency of deer-vehicle collisions likewise need to be addressed.

There is a wide gap between what is theoretically possible and what is actually achievable. In that regard, the Town's Deer Protection and Management Plan is not intended to be an end-all answer or solution to every deer question or concern, but rather a way to address everyday problems that people experience due to human-deer interactions.

Important to the development of this plan are the contribution of local hunters, farmers, wildlife enthusiasts, protectionists, and landowners as well as the recently created not-for-profit Longview Wildlife Partnership. This consortium has spearheaded an effort to find commonalities between groups which historically have been diametrically opposed on issues of deer protection and management. It is the intent of this plan to both reflect the dedication and collective wisdom of these contributors, while providing the residents of Southampton and the general public, with a reliable and useful source of information on deer and current management needs. It is our hope that the plan will serve the best interests of white-tailed deer and the countless people who, in different ways, appreciate and benefit from this magnificent animal, both today and for future generations to come.

Town of Southampton Deer Protection and Management Plan Goals

Notwithstanding deer nuisance issues, the Town is keenly aware that maintaining deer populations is beneficial to sustaining area ecology and biodiversity, as well as for tourism, wildlife watching, photography, artist inspiration, nature study, hiking, hunting, and other recreational pursuits. Moreover, that such activities contribute significant money to local businesses and the economy, and that the presence of deer, therefore, enhance Southampton's quality of life. Thus, continued protection of white-tailed deer as a valuable natural resource needs to be the Town's overall deer protection and management goal.

Achieving all goals, including landowner satisfaction, deer hunter satisfaction, deer protectionist and/or advocate satisfaction, and reduced deer nuisance impacts and vehicle collisions simultaneously can be difficult but not impracticable. Currently, significant progress is being made with the recent formation of the not-for-profit Longview Wildlife Partnership. An important step, which led to the formation of this group, has been recognition by both local hunters and animal protectionists that they share many common goals. Foremost is an objection to a Federal cull of local deer populations (the United States Department of Agriculture trains sharpshooters to reduce, or "cull" local deer populations by setting baited traps for deer to facilitate harvest).

The Town has considered the views of various involved groups in developing Deer Protection and Management Plan program goals. Common interests and goals include:

1) The need to provide landowners and the public with available options to reduce the impact of deer vehicle collisions and damage to landscaping and agricultural crops;

2) The desire to utilize local hunters rather than hired sharpshooters or other outside parties, to provide management guidance to landowners, as well as to harvest nuisance animals;

3) The exploration of opportunities for using other non-lethal methods, such as immunocontraceptives in areas of high residential density experiencing deer damage;

4) The creation of a Deer Protection and Management Advisory Committee; and

5) An increased effort to educate the public about program goals.

The deer protection and management committee would: 1) review available scientific data; 2) identify locations or areas of the Town, having the highest incidence of deer nuisance impacts, and therefore the greatest need, in terms of deer management; 3) evaluate available deer protection and management options and techniques, including the likelihood of success in achieving the desired management goals; 4) decide upon which management techniques are practical and acceptable to the general public; 5) identify potential sources of funding for various management techniques; and 6) provide public education, in order to address current misunderstandings and information gaps, as well as to advise residents and stakeholders, as to the status of deer protection and management efforts. Goals will be to seek stakeholder support and community consensus, with regards to a range of deer protection and management options which could be applied, as well as to resolve conflicts, as much as is reasonably possible. Cost benefit and legality of various deer management options would likewise need to be addressed.

Characteristics of the White-tailed Deer

Historically, white-tailed deer *(Odocoileus virginianus)* have flourished in Southampton and on the East End for thousands of years. Deer occupy virtually every type of available habitat within Southampton, including woodlands, farms, residential areas, tidal marshlands, freshwater wetlands, and dunes. Deer are typically considered browsers, rather than grazers, because they eat woody vegetation. However, feeding habits are quite varied and change seasonally.

Diet includes sedges, grasses, fruit, nuts, shoots, and leaves and twigs of a wide range of tree, shrubs and vines, as well as herbaceous plants and mushrooms. From early spring until the first killing frosts of autumn, white-tails feed on a variety of plant species that include grasses, herbs, agricultural crops, and ornamental plants. While deer do compete with a large number of wildlife species, including wild turkeys, raccoons, and squirrels for certain foods, such as acorns in fall, there is no evidence of their inability to co-exist with other local fauna. Rather, their success within Southampton is a tribute to their adaptability to habitat modifications, as well as to their ability to subsist on a wide variety of foods.

Frequent reports of deer damage to landscaping and other vegetation does not necessarily mean that deer have exceeded the "biological carrying capacity" (BCC) of their habitat[1]. Perhaps ironically, deer have likely expanded in range and population in Southampton because of the prevalence of lawns and landscaping, and the abundance of farms and nurseries.

White-tailed deer tend to use the same habitats year after year, with their home range typically elongated rather than circular and generally not exceeding a mile in coverage. Seasonal changes in deer movements also occur. For instance, male deer or bucks tend to have larger home ranges than female deer (does) and tend to travel over a greater area in their fall rut, while does tend to stay in the same general areas during spring, summer and fall. Females are also more likely to travel in family groups during late autumn and winter, comprised, oftentimes of an adult doe, a yearling doe and fawns of the current year. In spring and early summer yearlings are driven out of family groups. In woodlands, groups of male and female yearlings, as well as groups of two or three males may travel together, except during the rut.

Once home ranges are established, deer typically stay in their range for life unless forced out and unable to return. Does tend to stay within their mother's home range or generally within the area of birth, whereas males typically leave their natal areas and establish new ranges. Evidence exists that selection of home range by deer may be passed down through family units over generations. Finally, deer tend to travel along established trails and routes within their range, thus, the reason why deer predictably cross roads at the same locations day after day.

Characteristics of the Deer Population

Adult male deer, which are known for their seasonal deciduous antlers, are usually larger than females and average about 150 lbs. Antler size and time of shedding varies based upon an animal's age, health and

[1] The number of deer that a given parcel can support in good physical condition over an extended period of time is referred to as "biological carrying capacity". "Cultural carrying capacity" or CCC can be defined as the maximum number of deer that can coexist compatibly with local human populations. CCC can be considerably lower than BCC. (New York State Department of Environmental Conservation. 2011. Management plan for white-tailed deer in New York State 2012-2016-NYSDEC Division of Fish, Wildlife and Marine Resources Bureau of Wildlife).

diet. In contrast, adult does weigh about 100 lbs. and typically live longer than males, even in lightly hunted or non-hunting areas.

Doe fawns can breed during their first year, though breeding rates can also be suppressed in the event of early onset of severe cold. Gestation lasts five to eight months, with deer typically giving birth to one or two fawns in May or June. Yearlings tend to give birth to one fawn, whereas healthy adult does commonly have twins and sometimes triplets. Deer reproductive rates are directly related to the quantity and quality of food. Thus, malnutrition in does during pregnancy can result in loss of fawns.

At present, there are no reliable data to calculate white-tailed deer populations within Southampton Town. Field observations and hunter reports, including average deer body weights, antler development, reproductive rates, disease rates, starvation and winter kills, suggest deer populations in Southampton are healthy and not in excess of the carrying capacity of the land. While severe winter can affect deer numbers, weather is likely not a major factor locally due to the quantity and quality of food.

Despite residential development and significant loss of habitat, deer have persisted and appear to be thriving in virtually every part of Southampton Town. Nonetheless, loss of contiguous habitat and alteration of their movement corridors, through the installation of barriers, such as deer fencing, continues to increasingly affect deer distribution patterns region wide.

Deer are not distributed uniformly across the Town, as the quality of deer habitat varies. Some of the best deer habitat is within fragmented woodlands or developed areas, where hunting is less of an option, due to public safety concerns and required hunting setbacks from residences. Healthy deer can live 8-12 years, in the absence of hunting. Where hunted, deer generally live 4-5 years. Mortality rates are higher for males than females due to greater hunting pressure, as well as the nutritional needs and stress of antler production and the rut. Accordingly, deer management requires different approaches based on local conditions.

Most hunters prefer taking bucks rather than does or fawns, thereby negating much of the impact of harvest on deer populations. Limitations on hunter access also lessen harvest pressure on deer, as deer tend to avoid areas of intense hunting, by moving out of larger blocks of woodland and farms, into fragmented developed areas, where they often remain, until hunting pressures have ceased. Additionally, many hunters tend to stay close to roads and trails, thereby lessening hunting impacts on deer numbers in interior woods.

Deer populations shift and change continuously, thereby limiting the usefulness of deer counts. Deer numbers are affected by mortality, reproduction and movement, as well as by sex ratio and age distribution. For these reasons, trying to get a direct count of deer numbers or of the entire deer population within Southampton Town would prove cost prohibitive, as well as difficult. In turn, trying to estimate deer population numbers based upon hunter harvest data is imprecise, as such methods do not account for unrecorded deaths, since non-hunting and non-road kill deer mortality, including natural deaths, winterkill, disease, parasites, and poaching, goes largely unreported. As such, when harvest and road kill data are used for population modeling a margin of error must be assumed.

Although there has been some improvement in deer census methodology and technology, the current methods still require further refinement. Infrared photography, while preferred by many, is expensive and somewhat prone to error, due to the effects of dense tree canopy and the inability to distinguish deer from horses, cows, dogs, etc. Accuracy can also be diminished as a consequence of thermal interference from

rocks, glacial boulder erratics, water, understory vegetative cover and tree density. The timing of aerial flyovers also needs to factor in natural seasonal fluctuations in deer populations.

Even if methods were refined to provide a fairly good estimate of deer population numbers, its usefulness for the purposes of addressing deer management questions and issues in Southampton are limited. Consequently, it is more important to try to assess local relative abundance of deer, whether or not their numbers are increasing locally, and whether the deer population is above, below, or nearly in balance with the carrying capacity of the land, in various regions of the Town.

While getting an exact count of deer numbers in Southampton is unrealistic, deer population conditions and relative population levels could potentially be qualitatively assessed by compiling a wide assortment of data. This data includes:

- harvest numbers taken both during the state hunting seasons and through nuisance/deer management permits (DMP) and deer damage permits (DDP);
- buck/doe ratios and fawn/doe ratios;
- information on antler conditions, if obtainable, from deer tags, check stations and other sources;
- police vehicle deer collision reports;
- body weight, age, and sex of deer harvested or killed;
- quality and quantity of existing preferred deer browse, in wild, agricultural and residentially landscaped areas; and
- frequency of deer disease and parasites, as well as with respect to level of predation by dogs, poaching, and winterkill.

In this regard, some indicators of deer activity, such as observed damage to vegetation, can provide some useful information, as to whether deer numbers are locally exceeding the carrying capacity of the environment. Examples include the cropped eastern red cedars evident along the road shoulders of the Sunrise Highway in Westhampton, and residential landscape damage as a consequence of deer browse and antler rubs prevalent within certain portions of the town. In assessing cultural vs. biological carrying capacity, it is important to distinguish between occasional deer impacts on residential ornamental landscapes within heavy deer movement corridors and widespread cropping and defoliation of vegetation in both natural and manmade habitats, at a level that can't be sustained.

As previously indicated, deer in Southampton tend to be healthy and exhibit greater weight than deer taken in other areas on the East End, thereby generally dismissing the notion that a deer overpopulation crisis currently exists within the Town.

Deer Management Strategies

Recent approaches to deer management on the East End have included a cull, carried out by Federal agents trained as sharpshooters. The Federal cull has been overseen by the US Department of Agriculture's (USDA) Wildlife Services division, pursuant to a contract with the Long Island Farm Bureau, and in cooperation with the New York State Department of Environmental Conservation (NYSDEC). In the summer of 2013, the USDA released a plan for killing up to 3,000 deer by sharpshooters; a program that was controversial and ultimately unsuccessful on the East End. Communication and coordination with local governments with regards to the cull has been somewhat lacking, even though wildlife, inclusive of deer, are considered a public trust.

The NYSDEC *"Management Plan for White-Tailed Deer in New York State 2012 – 2016"* notes that New York State Environmental Conservation Law (NYS ECL) Section 11-0105 states that *"The State of New York owns all fish, game, wildlife, shellfish, crustacean, and protected insects in the state, except those legally acquired and held in private ownership."* At the same time, the plan indicates that public acceptance and support for the state management plan are crucial to effective deer management in the public interest. Furthermore, the plan states that *"successful implementation of many aspects of this plan will require greater levels of cooperation and partnership between the DEC and other organizations and agencies and a sustained commitment to support deer management efforts in New York."*

Gaps in interagency coordination and communication at the local level could be addressed by creating a Town sponsored community based deer protection and management advisory committee and/or other local administrative structure, through which deer policy and management programs can be developed, based upon public trust and cooperation. This strategy is recommended, as the success of any deer management program is contingent upon the understanding and cooperation of the general public, especially landowners, since most deer are found on private lands.

While private landowner cooperation is essential in managing deer, landowners have no legal obligation to open up their lands to hunting or other government sponsored management initiatives. However, they are protected from liability under the state General Obligations Law, in the event that hunters are permitted access to their lands.

Hunting

Traditionally, white-tailed deer are hunted within Southampton Town, by bow/archery or shotgun. Hunting seasons and hunting methods are governed by the New York State Department of Environmental Conservation (NYSDEC/DEC). Deer hunters must have a valid New York State big game hunting license and big game tag. Valid tags include the regular season deer tag, deer management permits (DMP), deer damage permits (DDP), archery tags and bonus DMPs.

In recognition of this traditional recreational use and the contributions hunters make to the local economy, the Town is seeking to advance a management plan, wherein local hunter satisfaction is addressed. In that regard, the town is working with local hunters, through the Longview Wildlife Partnership, to effectively establish new deer management units or additional hunting opportunities on town owned lands, in concert with the County of Suffolk, NYSDEC and other managers of protected lands, as well as on private property. Traditionally, deer have been harvested by local hunters and farmers, both during regulated seasons, or through deer management permits (DMP) and deer damage permits (DDP), rather than by hired sharpshooters from outside the town.

The NYSDEC's Environmental Conservation Law §§11-09097 regulates the issuance and use of deer hunting tags under §1.18:

> *(b) Applicability.* This section defines the available deer hunting tags and the conditions for their use. Persons eligible to hunt deer may do so during a regular big game season and one or more special seasons, or both. Depending upon the number and types of deer hunting licenses purchased by a big game hunter, the bag limit, the sex of the deer that may be taken, and the seasons of use may vary.
>
> *(c) Types of Deer Hunting Tags.* (1) A deer hunting tag includes the following types of tags: regular season deer tag, bow season either sex tag, or bow season antlerless tag.

(2) A regular season deer tag will be issued to any hunter authorized to hunt big game.

(3) A bow season either sex tag will be issued to a hunter holding a license authorizing the hunting of big game and holding additional licenses or stamps authorizing big game hunting in a special archery season.

(4) A bow season antlerless tag will be issued to a hunter holding a license authorizing the hunting of big game and holding additional licenses or stamps authorizing hunting in special archery seasons.

(d) Use of Deer Hunting Tags (1) A regular season deer tag is valid for use only during the regular big game seasons and is valid for the taking of an antlered deer only, except:

(i) During the regular seasons in Westchester and Suffolk Counties or in areas restricted to bow only hunting, regular season deer tags may be used for a deer of either sex.

The length of the bow hunting seasons, which typically runs from October to December in Southampton, has been extended this year via new legislation. The legislation, Assembly Bill A8822B, amends subdivision 7 of Section 11-0903 of the Environmental Conservation law. The bill provides for the following:

- Allows hunting on Saturdays and Sundays during the regular hunting season,
- Permits bow hunting during the shotgun season,
- Waives the requirement for hunters to obtain additional local permits to take deer during big game hunting season,[2]
- Commences the newly combined bow hunting and shotgun season no earlier than during the first full week in January nor shall it continue later than January 31 in any year.

All firearms hunting during the special January shotgun season currently requires 10 or more acres, written landowners permission, and a Southampton Town permit (a landowner can authorize no more than one hunter per 10 acres or five hunters per 100 acres. However, NYSDEC may elect to authorize a greater number of hunters with landowner consent). It is illegal to discharge a firearm within 500 feet, a crossbow within 250 feet, and a bow within 150 feet of any school, playground, occupied factory, church, house or structure in use or occupation unless it is owned by the person in question.

Deer management permits (DMPs), otherwise known as deer management assistance permits (DMAPs), are issued by NYSDEC in order to allow for larger deer harvests during regular hunting seasons, whereas deer damage permits (DDPs) allow for taking of nuisance deer outside the season. DDPs are valid from February 1 – September 15. DMP's are used to manage deer populations, primarily through the harvest of does. Professional culls are typically costly, as seen in the Long Island Farm Bureau East End Deer Project 2014. Based upon information provided by the NYSDEC in March 2013, approximately 800-900 deer were being harvested annually island wide through deer management permits.

Deer numbers can be managed by varying the length of hunting seasons, season opening dates and times, numbers of hunters, by modifying weapons restrictions, and setbacks and by regulating the age and sex of deer to be harvested from hunting management units. Deer populations can typically be increased by restricting hunting to bucks only. In contrast, deer numbers can be decreased by increasing the numbers of does taken. Sharp reductions in deer numbers, as accomplished by culls, baiting, or other means, can actually result in a rebound of deer population numbers due to the increased availability of

[2] Previously deer could only be taken by holders of a license authorizing the taking of big game who have also obtained a special permit provided by the NYSDEC and issued by the Town Clerk.

food for deer. Even though deer hunting has been stringently regulated on Long Island for many years, there is rarely sufficient information to determine the exact level of deer hunting or harvest needed in order to maintain deer populations at a level that doesn't exceed the carrying capacity of the land.

Rather than take a strong position for or against hunting, the Town's deer management plan seeks to legitimize the role that local hunters can play, especially where nuisance deer pose an issue. While neither the Town nor any agency can control all of the factors related to hunter satisfaction, there are several, that the Town, in cooperation with the NYSDEC, the County of Suffolk, and not-for-profits, may be in a good position to address. These include 1) availability of hunting opportunities and hunter density, 2) control of the size of deer harvest by length of hunting seasons, bag limits, and designation of sex and age of deer to be taken, and (3) issuance of deer management permits. Higher hunter densities may be acceptable in areas of heavier natural vegetation that conceal deer and hunters, so long as all required firearm or archery setbacks, as well as other safety measures are strictly adhered to.

Traditionally, there has been significant hunter resistance to antlerless seasons or taking of does, as well as fawns, which are essential, if deer numbers are to be regulated by harvest. Contrary to perhaps the beliefs of some, all deer populations do not need to be hunted nor does there appear to be any hard science to show that deer populations, within Southampton Town, have exceeded capacity of the land.

While locally, there may be areas where deer overpopulation is severely impacting vegetation, it doesn't follow that deer numbers are excessive throughout the Town. Some argue that hunters are filling a niche or void left vacant due to the absence of natural predators; however the effects of hunters vs. natural predators on deer populations can be radically different. Predators tend to take vulnerable or sick deer, thereby theoretically improving the health and genetic strain of the deer population, while hunters oftentimes select for the fitter large antlered bucks.

Agriculture

The Town recognizes that deer damage to agriculture, especially tree nurseries and cropland remains a significant issue on the East End. This is particularly true along farm woodland edges and on smaller farm plots. Local crops, which attract deer and suffer some of the highest rates of damage, include brussel sprouts, cauliflower, fruit trees, potatoes, cabbage, hay and tomatoes. Extended droughts, heavy snows, and lack of alternative groundcover and understory vegetation, within proximate woodlands, only further increases the likelihood of damage.

However, the extent of deer damage is not necessarily indicative of excessive deer numbers, as impacts can often be attributed to the same handful of deer, which have become habituated to feeding on select nursery plants and crops. The effects of deer browse on orchards and nurseries are also compounded by deer antler rubbing, which damages trees by breaking smaller branches and by stripping the vertical bark and cambium, of young trees, oftentimes killing the tree. Antler rubbing typically occurs in late autumn and early winter, while browsing damage tends to be greatest in late winter and early spring, before the late spring and early summer re-emergence and green-up of more palatable grasses and herbaceous plants.

Deer proof fencing can prevent heavy damage to nurseries and croplands, even though the costs of installation, maintenance and upkeep are generally high. Fences need to be at least 8 feet in height in order to deter deer damage. In some cases, fences around farms and nurseries can also reduce the frequency of deer vehicle collisions. However, more often than not, extensive fence lines actually have the opposite effect of increasing deer hazards on roadways, by restricting or interfering with traditional deer movement and dispersal corridors, thereby channeling or trapping deer along roads.

Regulated hunter/landowner harvest, can likewise be effective, particularly through the issuance of deer management and damage permits. East End farmers seeking to reduce deer damage have also sought assistance from local hunter groups. These types of groups often provide free nuisance deer control services to farmers and other landowners by harvesting deer through bow hunting, using NYSDEC issued deer management permit (DMP) and deer damage permit (DDP) tags, both within and outside the traditional deer hunting seasons.

Residential Landscapes

In recent years, there has been much discussion regarding impacts that deer are having on residential ornamental landscapes and gardens, both due to excessive browse, as well as by antler rubbing and stripping of bark on young trees. Much of these effects can be countered by changes in stewardship and landscaping. Deer food selection is based upon a number of factors, including: taste, nutritional value, availability, moisture levels, avoidance of toxins, previous experience, season, weather, and appetite. Deer can also be attracted to salt blocks, especially in late spring and in summer, when essential elements for doe milk production are deficient in many habitats.

Native plants have evolved with greater tolerance for deer browse and tend to fare better than non-native plants. Use of “deer resistant” natives and non-natives is therefore highly recommended in order to limit deer damage to residential yards and gardens, so long as it’s recognized that virtually every plant is at some risk of being eaten by deer during severe winter weather and/or periods of prolonged drought.

Deer repellents can be applied to landscaping, however, they typically need to be repeatedly reapplied at least every two weeks or after heavy rain in order to be effective at deterring deer. Wire basket or tubes can be utilized on tree trunks, in order to guard against antler rubbing damage. Perimeter meshing is likewise useful in providing temporary protection for ornamental shrubs and vegetable gardens.

Residential deer fencing, i.e. installation of fence lines greater than six (6) feet in height, whether they are mesh, wire, wood, chain link, etc., is not permitted, pursuant to the Town Building and Zoning Code. Variances may be sought from the Zoning Board of Appeals, but are unlikely to be approved. Notwithstanding this prohibition, unauthorized deer fences are prevalent in many areas of the Town, especially in wooded and open farmland areas. These fences are not only in violation of local law, but are adversely affecting the rural character, aesthetic and overall quality of life in the town.

Amending the town code, to allow for “deer fences”, i.e. fences in excess of six (6) feet high on residential properties, is not advised, as such practices will only channel and confine deer to smaller areas and force more deer out onto public roads. Such interference with deer biology, movement and dispersal can increase risks to public safety, as a consequence of deer-car collisions, and spread of tick borne diseases, as well as increase the potential for property and natural habitat damage, due to overbrowse.

Private landowners, who are concerned about deer impacts, can seek deer management and nuisance control guidance from local hunters, as well as from the NYSDEC and Town of Southampton Department of Land Management.

Woodlands and Ecosystems

Deer play an essential role in natural ecosystems. As browsers, they modify habitat, creating openings in woodlands that may be essential for other wildlife. They recycle the nutrients and energy contained in plants and are an integral part of wild ecosystems, in that they provide food for predators higher up in the food chain. Being large mammals, deer are also ecological indicators, with regards to the health, integrity, and recovery of forests, as their presence or absence provides essential information, with regards to the ability of the habitat, to support other wildlife species. Shed antlers are important to the ecology, as they provide calcium for voles, white-footed mice, chipmunks, squirrels, cottontails, raccoons, opossums, and other wildlife, even deer, who chew on the antlers.

Notwithstanding the ecological benefits of deer, repeated deer browse of small trees, understory shrubs, and groundcovers can adversely impact the biodiversity of woodlands and other habitats, including regeneration of native plants, especially perennials and tree seedlings. Habitat for ground nesting birds, insects, songbirds, reptiles, amphibians and small mammals may also be affected, particularly, if deer numbers are locally excessive and exceed the carrying capacity of the land. Overbrowse of native understory and groundcovers can also, under certain conditions, encourage the spread of less desirable invasive non-native plants.

Deer/Vehicle Collisions

Deer vehicle collisions put both motorists and wildlife at risk. Consequently, considerable effort is currently being made to reduce the incidence of crashes, including public education with respect to deer biology, daily and seasonal movement patterns, traditional and/or frequent road crossing locations, and potential impacts of hedges and fences, with respect to forcing deer out into the roads, as well as with regard to evaluation of more effective deer crossing signs.

Recommended strategies for reducing deer vehicle collisions include enhancement of existing crossing signs, by road striping and/or painting of deer graphics on roads using reflective paint. Solar powered LED blinking road signs could also be utilized, set to blink during periods of intense deer activity along roads, including dawn and dusk.

Additionally, deer vehicle collision data needs to be better documented and recorded, by possible improvements in police accident report forms. Changes in traditional deer movements need to be monitored, in order to make appropriate adjustments in sign locations, as well as to better educate the public via brochures, the town web site, and public service announcements.

New technologies may also need to be explored, which could better alert drivers to deer along local roads. These include deer detection and warning systems, such as area motion sensors and solar powered warning lights, that distinguish deer from other wildlife and flash a warning beam for motorists to slow down.

These wireless communication systems are likely to be more effective, than the current standardized deer crossing signs, which most drivers tend to ignore. They also minimize power consumption by using solar panels.

Deer-vehicle collision data could be used to identify priority sites for installing new deer detection and warning devices. The installation location should have a high history of deer-vehicle collisions, and should be within an area, where deer are frequently observed crossing the road. As this technology may not be sufficiently time tested, deer detection and warning systems should be undertaken initially as a pilot research project, in order to monitor their effectiveness, before a decision is made to employ these devices throughout the town.

Road right-of-way management may also warrant attention. Removal or maintenance trimming of brush alongside the pavement can be beneficial as such practice can enhance the ability of motorists to see deer close to the road. Conversely, mowing can favor the growth of grasses and other herbaceous vegetation, which can inadvertently attract deer. Thus, deer activity and movement may need to be monitored at various locations, along roadway corridors, using wildlife camera sampling stations, or other means, before conclusions can be reached, as to which roadway management practices are most effective in reducing public safety risks.

As indicated, reduced speed limits, improved roadway lighting, wider road striping, and improved public education are some of the other measures that could potentially be taken currently to reduce crashes. For instance, motorists need to be alerted with regards to times of peak deer movement along and across roads, including dawn and dusk, as well as during April through June and October through December. Increased public awareness is also needed, with respect to the tendency of deer to cross roads in groups.

The locations of deer/motor vehicle crashes, as well as potential locations for mitigation measures, are shown on the maps on pages 24 and 25).

Public Health Concerns

Deer act as hosts for deer ticks (also known as blacklegged ticks) (*Ixodes scapularis*) and lone star ticks (*Amblyomma americanum*), raising public concern that deer numbers need to be managed to control the spread of Lyme disease and other tick-borne diseases. In an effort to reduce public health risks, the USDA Agricultural Research Service (ARS) Office of Technology Transfer (OTT) has licensed the use of "4-Poster Deer Treatment Bait Stations" to the American Lyme Disease Foundation Inc (ALDF). Corn is put in bins or feed stations, equipped with rolling posts, which apply pesticides or tickicides to deer, when they come to feed. The tickicide is rubbed on the head, ears, neck and shoulders, as these are the areas, where ticks tend to attach.

While 4 Poster Deer Treatment Baits stations have apparently been used successfully on Shelter Island, it is still unclear, as to whether such device is effective in significantly reducing deer and lone star tick populations, as well as the prevalence of Lyme disease and other tick borne diseases, especially in areas, which are not geographically isolated and which are characterized by free ranging deer. Additional research is therefore needed, before this deer management strategy can be fully endorsed. Other available options for landowners include spraying and use of commercially available tubes, with tickicide laden cotton balls, which kill ticks on mice, when the cotton is used for nest material.

Sterilization

In some areas, deer populations can only be managed using methods other than hunting. As such, consideration has been given to surgical sterilization of deer in localized areas. However, use of this technique is not only extremely expensive, with the cost estimated at about $1000 per deer, but also

generally impractical, as a high percent of deer would need to be captured and sterilized in order to reduce population numbers. Surgically sterilized deer are typically monitored by ear tagging. Public health safety issues related to the human consumption of deer meat likewise needs to be addressed. Sterilization can also be accomplished by ovariectomy of female deer; however, this method is costly as well. Sterilization can be helpful in maintaining deer level populations, but is generally not effective in reducing deer numbers.

Immunocontraception

The option of immunocontraception vaccines could be explored. Immunocontraception is accomplished, utilizing trained dart shooters. The darted deer are also marked with a dye, in order to identify and track vaccinated animals; however the process must be repeated, when deer shed their coats. Bait stations are typically employed, in order to make deer accessible for darting. Pre- and post fawn per doe counts are essential, in order to gage success.

The use of immunocontraceptive vaccines has proved to be a successful means of reducing deer populations, deer vehicle collisions and general public deer related complaints on Fire Island. Since 1993, the porcine zona pellucida (PZP) vaccine has been used on Fire Island and in other locations. This immunocontraceptive vaccine can reduce deer pregnancy rates by 80-90%. A single injection of PZP blocks egg fertilization and thereby pregnancy for about 2 years.

Fire Island proved to be ideal for this type of treatment due to its geographic separation and isolation from other areas inhabited by deer, thereby lessening diminishment of effectiveness, due to immigration of new deer into the affected area. Deer are treated yearly by dart. The treatment cost has been estimated at only about $79.00 per deer. Notwithstanding this success, the need to collect further scientific data, with regards to potential viability of this option, within Southampton Town, cannot be overemphasized. Budgetary considerations warrant attention, along with public health and safety risks.

Recently, a gonadotropin-releasing hormone (GnRh) immunocontraception vaccine, trademarked as GonaCon ^{TM} has been developed by the US Department of Agriculture (USDA) and registered by the US Environmental Protection Agency (USEPA) for use in female deer one year or older. The product is a single shot multi-year vaccine, which stimulates the production of antibodies, which bind to hormones and decrease reproduction in deer. Based upon available information, GonaCon ^{TM} appears to present no human health risks, if vaccinated animals are harvested and deer meat is eaten.

Notwithstanding its availability, the product does have its limitations, as currently the vaccine needs to be injected into captured animals. Nonetheless, research is underway, to produce an oral GnRh vaccine, which could be administered to deer by using bait stations. However, prevention of ingestion of the oral vaccine by other wildlife needs to be addressed, perhaps by using baits that are preferred by deer, but avoided by non-target animals. A second option would be to use non-target wildlife exclusion devices at deer bait stations.

While the cost of the currently available GonaCon vaccine is minimal, there are significantly higher costs related to the needed capture of deer for injection purposes, both related to the biological expertise required for capture of animals and risks of injury and mortality to deer. Moreover, GonaCon is only sold, through its manufacturer, to federal, state and local wildlife management agencies and is currently not commercially available to the public. GonaCon has not yet been registered for use in New York State, by the NYSDEC Bureau of Pesticides, which would need to occur, before the necessary state license permitting immunocontraception can be issued. Additionally, further research is needed by the Wildlife

Services branch of the USDA, through the National Wildlife Research Center, before use of GonaCon ™ becomes a practical solution to deer management.

Future use of immunocontraceptives show the most promise for small relatively isolated areas, where immigration of new deer into the treated area is likely to be small and/or a slow process. Notwithstanding these factors, immunocontraception may be the only socially acceptable option in densely residentially developed areas and, therefore, may have some effectiveness as at least a short term solution in Southampton Town. Consequently, there may be significant benefit to undertaking a scientifically based pilot project, in the town, to better gage the effectiveness of immunocontraception, as a deer management tool.

Any deer fertility control program requires DEC approval, specifically, a License to Collect and Possess for scientific purposes, pursuant to NYS ECL 11-0515 and 6 NYCRR Part 175. In seeking such authorization, demonstration must be made that the deer management goals cannot be achieved, by lethal means, and that the fertility control initiative, whether it be sterilization or immunocontraception, will be carried out as a scientific research project.

Other Alternatives

With respect to other alternatives for managing deer, possible options also include hiring sharpshooters, which has already proved to be unacceptable, and thus dismissed; prohibition of deer feeding; use of deer frightening devices; electric fences; roadside reflectors; vehicle warning whistles; speed limits within traditional deer movement corridors; trapping and relocation; and euthanasia, none of which are likely to be effective, or, in the case of lethal initiatives, widely supported in our Town. Moreover, many of these methods are likewise very costly, yet still won't produce the desired end if significant reduction in deer numbers is the Town's intended goal.

Not-for-Profit Food Pantries and/or Food Distribution Centers Coordination

It may be appropriate to establish a town or regionally sponsored program, whereby hunters can donate harvested deer to community food banks and other food distribution centers serving those in need. Through such a program, hunters, farmers and/or other landowners who legally harvest deer, would have the option of giving the deer to locally qualified licensed butchers and/or inspectors who would process, package, and freeze the donated deer. The processed deer meat is then provided to food banks, food distribution centers, houses of worship and not-for-profit organizations, for distribution to those less fortunate.

Funding may be needed to help cover the cost of processing, and also for the purposes of temporary refrigeration of donated deer. This may require renting or purchase of a refrigeration truck, or retrofitting of a town truck with a refrigeration compressor, (if the program is sponsored by the Town) at an estimated cost of approximately $4200.00. Deer meat would be stored in the refrigeration truck upon donation, and then taken to a butcher, for processing and distribution.

Numerous local not-for-profit organizations are involved in the processing and distribution of donated deer meat. The recent federal deer cull on eastern Long Island, sponsored by the USDA, the Long Island Farm Bureau, Town of Southold and others, is claimed to have provided 4500 pounds of venison to Island Harvest, for distribution to the public.

Establishing Local Deer Management Units

Local deer management units need to be established, in a scientifically responsible manner, based upon the preferred goals and methods of deer management. Deer management units are typically areas of similar habitat conditions, bounded by major roads, wherein separate strategies would be developed, in order to maintain deer populations at numbers, compatible, with residential development, agriculture, and habitat preservation, as well as to reduce potential vehicle deer collisions. These strategies could include allowance for hunting by archery only, hunting by both archery and shotgun, setting of harvest quotas, regulation of hunter distribution and density, issuance of deer management permits, use of deer fencing to reduce agricultural damage, use of immunocontraception, and prohibition of hunting, particularly in areas, where there are significant public safety risks. Management units can also be used to prioritize areas where public education needs are greatest, especially in reducing vehicle deer collisions, and in persuading residential landowners to change their landscaping practices, in the interest of reducing damage. Attached are maps showing recommended Town Deer Management Units, inclusive of deer motor vehicle collision data.

Public Education

Increased education is needed in order to enhance public awareness of deer protection and management issues. In this regard, a Town web page needs to be created as part of the Town web site, to provide deer management information in a timely manner to property owners and the public. Education needs include providing the public with a better understanding of the challenges and benefits of various deer management strategies, and to foster better land stewardship, in the interest of minimizing deer nuisance impacts and damage. As part of community outreach, the Town needs to partner and build relationships with wildlife management agencies, private landowners, local universities, hunters, animal advocate groups, environmental groups, representatives of agricultural interests, and civic organizations.

RECOMMENDED DEER PROTECTION AND MANAGEMENT ACTION PLAN

The recommended action plan identifies steps that the Town could potentially undertake to enhance deer protection and management. These strategies and action items were developed based upon the input of local hunters and wildlife enthusiasts which have banded together to form the Longview Wildlife Partnership. The overall goals as expressed in the management plan are: public education, nuisance deer control, hunter satisfaction, reduced deer vehicle collisions, and ensuring the long term sustainability of deer populations within Southampton Town.

While the action plan provides a framework for moving ahead, it is not intended to immediately resolve every deer issue confronting the Town. Rather, the Town recognizes the integral role that it can play both in correcting misunderstandings about deer and in garnering public support for a locally based deer protection and management plan. Such plan needs to recognize the vital role that deer play in Southampton's ecology and community character, while offering a range of options that landowners can choose from in addressing the issue of nuisance deer.

1. Establish Deer Protection and Management Priorities

- *Identify areas of the Town, where human-deer conflicts are most prevalent, based upon input from local hunters, residents, scientists, wildlife rescue groups, and the general public.*

- *Use deer information for purposes of establishing and mapping deer management areas or units based upon prioritized needs, with respect to reducing deer human conflicts. (Maps showing the recommended Town Deer Management Units, inclusive of deer motor vehicle collision data, can be found on pages 24 and 25.)*

- *Establish a Town sponsored deer protection and management advisory committee charged with overseeing local deer management; educating and collaborating with stakeholder groups and the general public; collecting and reviewing scientific data; fostering deer management research projects; evaluating and recommending practicable socially acceptable science based deer protection and management techniques; providing landowner and community deer management assistance; expanding local hunting opportunities; identifying and recommending new technologies and/or methods for reducing deer vehicle collisions; facilitating venison donation to food pantries; and exploring potential funding sources for management options.*

- *The Town Deer Protection and Management Advisory Committee shall consist of the following representatives:*
    - *Southampton Town Supervisor*
    - *Town of Southampton Department of Land Management*
    - *NYSDEC Bureau of Wildlife*
    - *Longview Wildlife Partnership*
    - *Representative from local hunters*
    - *Agricultural Advisory Committee*
    - *Group For the East End*
    - *Suffolk County Parks*

- *Town of Southampton Community Preservation Fund Director*
- *Wildlife Rescue of the Hamptons*

- *Provide direct assistance to neighborhoods, landowners, civic organizations and other parties seeking to mitigate deer nuisance impacts through the services of a volunteer deer management team, consisting of local hunters, Longview Wildlife Partnership representatives, scientists and wildlife rescuers, selected by the Town Deer Protection and Management Advisory Committee.*

- *Monitor and manage local deer populations, including recording deer numbers and providing landowner education and guidance on deer biology and carrying capacity, as well as with respect to providing guidance with respect to property management, deer deterrents, landscaping, removal of nuisance deer, deer damage and mitigation permits, and other possible options, such as immunocontraception.*

- *Review and update action plan bi-yearly, (once every two years), as strategies and action items are achieved, as well as to identify new action items.*

- *Prioritize deer protection and management actions on information gathered by each Town Deer Management Unit.*

2. <u>Increase Public Education and Outreach</u>

- *Educate the public with regards to the importance of deer conservation and having a reverence for wildlife.*

- *Continue the efforts of local hunters, deer advocates and the Longview Wildlife Partnership, to promote sound deer management practices and public awareness of available options to address nuisance deer and deer damage impacts.*

- *Collaborate with natural resource agencies, private land partners and other stakeholders to weigh all options and periodically revise or expand upon the plan action items, based upon public input and feedback.*

- *Continue to build relationships with hunters, animal advocate groups, local environmental organizations, research centers and extension offices, representatives from state and county wildlife management agencies, the general public and other partners and decision makers.*

- *Utilize the town website to create a deer management informational web page, which would enable the public to electronically submit specific questions, concerns, and comments, as well as to request assistance regarding deer nuisance problems.*

- *Develop public service announcements regarding deer ecology and management.*

- *Include all stakeholders in all deer management efforts, through the establishment of a town sponsored community based deer management advisory committee.*

- *Maximize web-based communications with regards to responding to nuisance deer damage control inquiries.*

3. ***Upgrade and Expand Deer Road Crossing Signage in Cooperation with State, County and Town Highway Departments to Reduce Deer Vehicle Collisions***

- *Further efforts to increase and improve road deer crossing signage.*
- *Continue to record and evaluate data from the Town Police Department and other law enforcement and highway agencies on documented deer vehicle collision within Southampton Town including locations and frequency of incidents.*
- *Work with local police departments to improve accident reporting forms in the interest of collecting more accurate data regarding deer vehicle collisions and deer road crossing locations.*
- *Continue to track, report and map deer vehicle collision data using Town GIS technology, in order to identify locations where deer signage needs to be installed or enhanced.*
- *Continue to record and monitor both daily and seasonal deer movement patterns along local roads, including changes in traditional deer movement and dispersal corridors, as a result of habitat alteration, road shoulder management practices, fencing, construction and other interference.*
- *Evaluate the cost benefits of enhancing existing deer signage, by incorporating road striping, blinking lights, and painting of deer graphics on roads at crossing locations.*
- *Investigate solar powered, LED or other energy efficient night friendly lighting at crossings.*
- *Explore and implement, as a pilot project, alternative technologies, which would better alert motorists to the presence of deer, including deer detection and warning systems, inclusive of motion sensors and solar powered warning lights.*
- *Identify funding sources for deer signage improvements.*
- *Increase public education efforts, including increasing awareness with respect to deer movement patterns, using the town web site, brochures, public service announcements (psa) and other means.*
- *Seek grant opportunities for funding science based pilot research projects to monitor the effectiveness and appropriateness of alternative deer detection and monitoring systems.*

4. ***Increase Local Deer Hunting Opportunities***

- *Remain supportive of hunters while integrating any public concerns into deer management initiatives.*
- *Optimize local hunting opportunities by opening up additional Town Community Preservation Fund (CPF) lands.*

- *Coordinate with NYSDEC and County of Suffolk Parks and Recreation to establish joint cooperative hunting areas or deer management units where Town CPF lands juxtapose or abut county open space. Such efforts could potentially open up hundreds of additional acres for deer hunting.*

- *Optimize use of local hunters to respond to private landowner nuisance deer complaints and management needs.*

- *Task town sponsored deer protection and management advisory committee with reviewing current hunting regulations and evaluating needed changes in the interest of enhanced deer management within Southampton Town.*

- *Identify any gaps in the NYSDEC 2012-2016 deer management plan and/or ways to build upon the plan, to better address local needs and interests.*

- *Educate landowners with regards to nuisance deer damage control guidance and services provided by local hunters.*

- *Make landowners aware that under the state general obligations law they are protected from liability in the event of accidents or incidents when hunters are granted access to their lands.*

5. ***Evaluate the Practicality of Using Immunocontraception in a Scientifically Responsible Manner, as a Means of Managing Deer Populations in Residential Neighborhoods and/or Other Areas Inaccessible to Local Hunters***

    - *Refer to scientific studies, including the research of Tufts University, Cornell University, USDA Wildlife Services' (WS) National Wildlife Research Center (NWRC), and the National Park Service (NPS), for guidelines in developing methodology and techniques for utilizing immunocontraception as a deer management tool, within Southampton Town.*

    - *Utilize the services of SUNY at Stony Brook/Southampton and/or other local universities or research centers, including potentially SUNY at Stony Brook/Southampton, Tufts University and Cornell Cooperative Extension Services of Suffolk County, in order to plan and implement a scientifically-based pilot project, in order to evaluate the potential for using immunocontraception, as a deer management tool.*

    - *Authorize needed contracts or Memorandums of Understanding with universities to undertake pilot projects.*

    - *Identify potential candidate sites for a pilot project within Southampton Town for use of immunocontraception, including possibly geographically isolated areas, where there is less deer immigration, such as Dune Road, in Hampton Bays and East Quogue, and/or within densely residential areas, where there are large blocks of public land, and where hunting options are limited, due to public safety concerns, such as Stokes Poges Marsh in Remsenburg. Coordination and communication with private landowners would be essential in both areas.*

    - *Research grant opportunities for undertaking a pilot immunocontraception project.*

- *Educate the public with regards to the potential benefits of immunocontraception.*

6. <u>Reduce Public Health Risks Related to Tick Borne Diseases</u>

- *Increase public awareness with respect to current public health and safety guidelines for preventing and/or reducing risks of tick borne diseases.*

- *Identify priority sites for use of tick repellents and deterrents as well as for interpretive signage regarding tick borne diseases, such as town recreational parks, CPF lands, and designated hiking trails in the interest of reducing public health risks.*

- *Investigate the possibility of undertaking a science based pilot project to gauge the effectiveness of 4 poster deer treatment bait stations.*

- *Identify possible funding sources and grant opportunities for enhanced public education and pilot projects.*

7. <u>Encourage and Facilitate Distribution of Harvested Deer Meat to Food Pantries and Other Local Not-For-Profit Charitable Organizations</u>

- *Support existing programs which allow for donation of harvested deer to food pantries.*

- *Assist with the coordination of local hunters, state inspected and insured venison processors, and food banks, to facilitate donations and distribution of deer meat to the hungry.*

- *Encourage local recreational hunters to donate legally tagged and properly field-dressed deer to participating processors.*

- *Consider town purchase and installation of a refrigerator truck and storage coolers in designated locations to facilitate venison donations.*

- *Discourage waste of harvested deer meat, as venison offers a highly nutritious low fat, high protein meat for the hungry and those in need.*

- *Evaluate the feasibility, as well as cost benefit, of establishing a town sponsored venison donation program.*

- *Identify possible grant opportunities, to help with the cost of venison storage, processing and distribution.*

8. <u>Deer Resistant Landscaping</u>

- *Promote the use of deer resistant landscaping to reduce deer nuisance impacts on residential properties.*
- *Encourage residential landscaping practices, which can significantly reduce deer browse and antler rubbing damage on young trees. For example, protecting newly planted ornamental trees with tape, tubes, or wire enclosures.*

- *Discourage artificial feeding of deer by residents, as such practice tends to concentrate deer into small areas, thereby increasing nuisance impacts and putting local deer populations at significant risk of disease.*

- *Create a website or page with deer resistant landscaping guidelines*

Conclusion

The Town of Southampton has the unique opportunity to serve as a model for addressing the challenges of current deer populations on the East End. This report summarizes those actions and initiatives that the Town can undertake, in the interest of sound deer protection and management.

In order to be successful, these efforts must be a collaborative effort on part of all who have a stake in deer issues within the Town. Moreover, selected management initiatives need to recognize the intrinsic value of deer, as a precious part of our ecology and natural resources, and thereby, ensure the sustainability of deer populations for generations to come.

TOWN OF SOUTHAMPTON (WEST)

DEER PROTECTION & MANAGEMENT PLAN

Recommended Town Deer Management Units

Map Symbols

- Deer Warning Signs
- Deer Management Area: Increased Education, Deer Resistant Landscaping and Limited Hunting
- Agricultural Lands - State Deer Management and Damage Permits, Fencing

Increased Local Hunting Opportunities

- Open For Hunting - State, County, and Private Lands Mostly Unposted
- Maintain Existing Joint Cooperative Hunting Areas
- Establish New Joint Cooperative Hunting Units
- Bow Hunting
- Shotgun Hunting

Project and Research Areas

- Enhanced Deer Road Crossing Signage
- Potential Deer Detection and Warning System Pilot Projects
- Potential Candidate Sites for Immunocontraception Pilot Research Projects
- Potential Candidate Sites for 4 Poster Deer Treatment Bait Stations Pilot Research Project

Motor Vehicle vs Deer Hits (2012 - 2013)
Reported Event Count
1 - 3
4 - 5
6 - 7
Source: Southampton Town Police

Prepared By:
The Town of Southampton Division of Geographic Information Systems and Department of Land Management in Conjunction with: The Longview Wildlife Partnership.
Date: Wednesday, November 05, 2014 - MAP ID:2468

SOUTHOLD
RIVERHEAD
RIVERSIDE
NORTHAMPTON
FLANDERS
EASTPORT
WESTHAMPTON
SPEONK-REMSENBURG
EAST QUOGUE
HAMPTON BAYS
SHINNECOCK HILLS
QUIOGUE
VILLAGE OF WESTHAMPTON BEACH
VILLAGE OF QUOGUE
VILLAGE OF WESTHAMPTON DUNES
Reeves Bay
Flanders Bay
The Cow Yard
Great Peconic Bay
Tiana Bay
Shinnecock Bay West
Shinnecock Bay East
Moriches Bay
Quantuck Bay
Moneybogue Bay
Atlantic Ocean
NUGENT DR CR 94
MAIN ST CR 80
SPEONK - RIVERHEAD RD
OLD COUNTRY RD
S COUNTRY RD
DUNE RD
0 0.5 1 2 3 Miles

Map 1: Western half of the Town of Southampton

TOWN OF SOUTHAMPTON (EAST)

DEER PROTECTION & MANAGEMENT PLAN

Recommended Town Deer Management Units

Map Symbols

- Deer Warning Signs
- Deer Management Area: Increased Education, Deer Resistant Landscaping and Limited Hunting
- Agricutural Lands - State Deer Management and Damage Permits, Fencing

Increased Local Hunting Opportunities

- Open For Hunting - State, County, and Private Lands Mostly Unposted
- Maintain Existing Joint Cooperative Hunting Areas
- Establish New Joint Cooperative Hunting Units
- Bow Hunting
- Shotgun Hunting

Project and Research Areas

- Enhanced Deer Road Crossing Signage
- Potential Deer Detection and Warning System Pilot Projects
- Potential Candidate Sites for Immunocontraception Pilot Research Projects
- 4P Potential Candidate Sites for 4 Poster Deer Treatment Bait Stations Pilot Research Project

Motor Vehicle vs Deer Hits (2012 - 2013)

Reported Event Count

- 1 - 3
- 4 - 5
- 6 - 7

Source: Southampton Town Police

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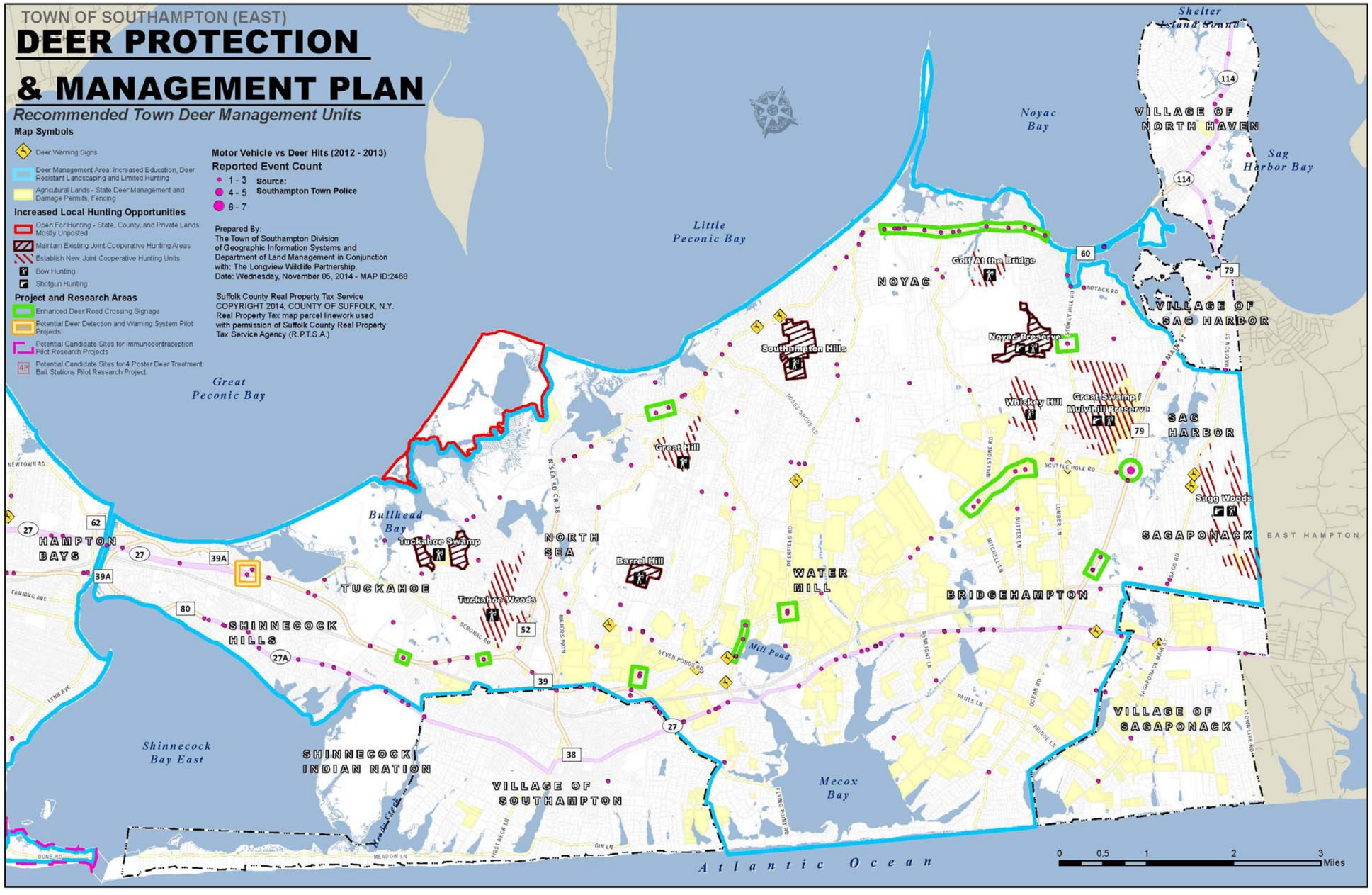

Map 2: Eastern half of the Town of Southampton

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Deer Tolerant/Resistant Native Perennials

Common Name	Botanical Name	Height	Bloom Season	Bloom Color
Aster, aromatic	Symphyotrichum oblongifolium	1-3'	fall	blue, purple
Black cohosh	Actaea racemosa	3-5'	summer	white
Blazing star	Liatris spicata	3-4'	summer	purple
Blue false indigo	Baptisia australis	3-4'	spring	blue
Blue flag iris	Iris versicolor	2-3'	summer	purple
Butterfly-weed	Asclepias tuberosa	1-2'	summer	orange
Dutchman's-breeches	Dicentra cucullaria	1'	spring	white
Eastern columbine	Aquilegia canadensis	1-2'	spring	red
Eastern prickly-pear cactus	Opuntia humifusa	6'-1'	summer	yellow
Foxglove beard-tongue	Penstemon digitalis	2-4'	summer	white
Fringed bleeding heart	Dicentra eximia	1'-18"	spring	pink
Golden ragwort	Packera aurea	1'	spring	yellow
Jack-in-the-pulpit	Arisaema triphyllum	1'-18"	spring	green
Little bluestem	Schizachyrium scoparium	3-5'	summer-fall	wheat
Mayapple	Podophyllum peltatum	1'	spring	white
Milkweed, swamp	Asclepias incarnata	2-4'	summer	pink, purple
Monkshood	Aconitum uncinatum	3-5'	spring	blue, purple
Mountain-mint, hoary	Pycnanthemum incanum	2-3'	summer	purple, white
Mountain-mint, short-toothed	Pycnanthemum muticum	2-3'	summer	purple, white
Pennsylvania sedge	Carex pensylvanica	6-18'	spring	wheat
Sneezeweed	Helenium autumnale	3-4'	summer	yellow
Swamp rose-mallow	Hibiscus muscheutos	4-5'	summer	pink, white
Switch grass	Panicum virgatum	3-6'	summer-fall	pink
Tall tickseed	Coreopsis tripteris	3-6'	summer	yellow
Virginia bluebells	Mertensia virginica	1'	spring	blue
Wild bergamot	Monarda fistulosa	3-4'	summer	pink, purple
Wild ginger	Asarum canadensis	6"	spring	maroon
Wood geranium	Geranium maculatum	1-2'	spring-summer	pink, purple

Deer Tolerant/Resistant Native Perennials

Common Name	Botanical Name	Height	Leaf Retention	Light
Christmas fern	Polystichum acrostichoides	1-2'	evergreen	pt.-full shade
Cinnamon fern	Osmunda cinnamomea	2-4'	deciduous	pt.-full shade
Ostrich fern	Matteuccia struthiopteris	3-4'	deciduous	pt.-full shade
Royal fern	Osmunda regalis	3-4'	deciduous	pt.-full shade
Sensitive fern	Onoclea sensibilis	1-3'	deciduous	pt.-full shade