THE HUMANE SOCIETY
OF THE UNITED STATES

May 3, 2016

The Honorable Mayor Albert J. Kurpis and Council
Borough of Saddle River
Municipal Building
100 E. Allendale Road
Saddle River, NJ 07458

Re: Assessment – Deer Fertility Control Pilot Project

Dear Mayor Kurpis and Council:

I am writing today to thank you again for the opportunity to meet with Councilmember Schulstad and other members of the Saddle River community on March 8 to learn more about the issues related to deer management in the community and to tour the area to determine the potential feasibility of conducting a deer fertility control project. I enjoyed meeting with the Chief of Police and Director of Public Works and I hope everyone I met with came away with a better understanding of the various alternatives available for managing deer in communities today.

As requested, I am also providing you with information on the potential feasibility of conducting a future deer fertility control project in the Saddle River area. The following is a written assessment based on observations made during our recent site visit and information provided by city officials and residents.

Project Site Description

Saddle River is a borough in Bergen County, New Jersey located approximately 30 miles northwest of New York City with an estimated population of 3,400 and a total area of ~ 5 square miles. The borough is situated on the Saddle River and, with the exception of a small business district, the borough center and adjacent recreational park, its landscape consists almost exclusively of large, privately-owned houses and estates on vast tracts of land as the minimum zoning requirement for homes is two acres. The borough is surrounded by eight municipalities in Bergen County: the boroughs of Allendale, Hillsdale, Ho-Ho-Kus, Ramsey, Upper Saddle River, Waldwick, and Woodcliff Lake and a section of Washington Township.

Currently, deer hunting is not permitted within borough limits, but there may be a modest level of lethal deer management conducted on properties of

adjacent private landowners that may have obtained and use depredation permits from the New Jersey Department of Environmental Protection (DEP) in an effort to address crop damage attributed to deer. It is unknown whether or not deer poaching is an issue in Saddle River. According to data obtained by Saddle River residents, there are, on average, 20-30 deer vehicle collisions reported in Saddle River annually. In 2015, collisions were reported on W. Saddle River Road, East Saddle River Road, Oak Road, Woodcliff Lake Road and Chestnut Ridge Road, but a high number of reported collisions appear to occur on East Allendale Road and Route 17.

Deer Approachability and Accessibility

The HSUS is currently working to identify projects sites where we can work in partnership with municipalities to test two different fertility control options for managing deer populations: immunocontraception using the vaccine porcine zona pellucida (PZP) and surgical sterilization via ovariectomies.

Both options require field researchers to access deer at close range in order to anesthetize the animals with chemical immobilization drugs to mark them with ear-tags (for individual identification) and to conduct surgical sterilization procedures or administer immunocontraception vaccines. Capturing deer can be completed using many methods (traps, nets, etc.), but the most humane method is via chemical immobilization (CI) drugs delivered with darts. Such captures are typically conducted from October to April due to restrictions on drug use and factors pertaining to the health and welfare of the deer. For these reasons, the two most important factors that determine whether or not a deer fertility control project can be conducted in a safe, humane manner in a given community are deer approachability and accessibility. If our trained wildlife field researchers are unable to approach (within 10-40 yards) a high proportion of the existing doe population, then we would be unable to treat enough animals (i.e. 65-85% of the existing female population) to have an impact on the population growth rate and/or the existing population over time.

During my observations on the evening of March 8 and the morning of March 9, I was able to walk within 10-40 yards of the 20-30 deer that I observed in the areas between East Saddle River Road, Chestnut Ridge Road (specifically, Fox Hedge Road, Babylon Drive, and Red Rock Trail) during the site evaluation, and since city officials and residents we have communicated with in the past confirmed that these findings were consistent with their own observations, we believe that deer living in the residential neighborhoods in Saddle River are approachable enough to dart with either chemical immobilization drugs and/or immunocontraception vaccines.

Also, while touring the area, we identified many areas where captures could be conducted in an efficient and safe manner – either for the purposes of administering immunocontraception vaccines and/or anesthetizing deer in order to conduct surgical sterilization procedures. The attached map of Saddle River shows dozens of cul-de-sacs located off, but away from some of Saddle River's major thoroughfares (i.e. East Saddle River Road, West Saddle River Road, Chestnut Ridge Road, East Allendale, and Highway 17) which would make many of these locations ideal for the establishment of bait stations for the purposes of darting deer safely.

Should that prove necessary, Saddle River could couple deer fertility control efforts with the installation and maintenance of 4-Posters, devices that use deer to kill ticks associated with Lyme disease.[1] Reducing deer populations has not been directly correlated with reductions in the transmission of Lyme disease to humans, but reducing tick populations may have an impact on disease transmission rates. 4-Poster devices have been tested by the United States Department of Agriculture (USDA) in a five-state, seven-year research program and have proven extremely effective in reducing tick numbers.[2] The devices contain a corn bait, which attracts deer, and when they eat the corn, a chemical (10% permethrin) is applied to their necks and shoulders, which kills 95%-98% of the adult ticks. A study conducted at the Goddard Flight Center found that by using the 4-Poster system, adult ticks were completely eliminated by the second year of the study; all stages were reduced 91-100% by year three.[3] Results of more field trials in various states were written up in the *Journal Vector Borne and Zoonotic Diseases* (Vol. 9)

In general, The HSUS does not support providing supplemental food for wildlife, but given its proven effectiveness and the real public health concerns associated with Lyme disease, Saddle River may want consider incorporating 4-Posters into any future deer management program. Not only would 4-Posters devices reduce tick populations and potentially reduce the incidence of Lyme disease in humans in Saddle River, as stated previously, the devices could be used in concert with deer monitoring and fertility control efforts. Field cameras could be installed near the 4-Posters devices to track the number, sex and age of deer and the devices would serve as bait stations to aid in efforts to dart deer with fertility control agents and/or to dart and surgically sterilize deer. The benefits of using these devices far outweigh any negative impacts on the deer or the environment due to supplemental feeding if coupled with fertility control efforts to suppress and reduce the deer population over time.

Deer Census

Since data on deer populations in these communities are currently unknown, at this time, we cannot estimate how many female deer would need to be inoculated and/or sterilized in order to have an impact on the population growth rate and the existing population over time. As stated previously, to implement an effective deer fertility control project, between 65-85% of the female deer population would need to be treated with fertility control vaccines and/or surgically sterilized via ovariectomies. Without a deer census of the potential project areas, we would have no way of knowing how many does to treat and would not be able to prepare an estimated budget for the project because the number of animals that would need to be treated would have a significant impact on the associated costs.

This does not apply only to fertility control projects. To be effective, a deer census should be conducted to plan and execute an effective lethal control program as well. Some wildlife

[1] Pound, J.M., J.A. Miller, J.E. George and C.A. LeMeilleur. 2000. The "4-Poster" passive topical treatment device to apply acaricide for controlling ticks (Acari: Ixodidae) feeding on white-tailed deer. J. Med. Entomol. 37: 588-594.

[2] Mcgraw, L and J Mcbride. 1991. Tick Control Devices Reduce Lyme Disease. Agricultural Research, May 2001. pp 5-7

[3] Solberg, V.B., J.A. Miller, T. Hadfield, R. Burge, J.M. Schech and J.M. Pound. 2003. Control of *Ixodes scapularis* (Acari: Ixodidae) with topical self-application of permethrin by white-tailed deer inhabiting NASA, Beltsville, Maryland. J. Vector. Ecol. 28: 117-134.

managers may claim that a deer census does not need to be conducted prior to the implementation of a lethal management program because the effectiveness of the program will be measured by calculating impacts rather than deer densities. We agree that efficacy over time should be measured by the reduction of impacts and not by deer densities. However, when planning a deer management program, including a lethal deer management program, it is imperative to know how many deer there are in order to know how many you need to remove to reduce the population enough to ensure that the community's management goals can be achieved in a reasonable amount of time.

For example, for the sake of argument, we will assume that wildlife managers of a hypothetical ecologically sensitive area agree the deer population needs to be reduced. They do not know how many deer there actually are, but have the funds to hire a contractor to remove up to 100 of them, which they assume should be a sufficient number of animals to remove in order to begin addressing the impacts associated with deer. However, deer populations can double in three to four years and it has been shown that the reproductive rate of white-tailed deer is greatly reduced at high population densities while deer in areas subjected to periodic lethal removal have enhanced fertility rates resulting in increased population growth to compensate for removed animals. Unbeknownst to wildlife managers, the ecologically sensitive area's deer population was 500 before the cull, and consequently, after removing 100 deer in the winter, that spring, the surviving does gave birth to more than 100 new fawns, which replaced the 100 animals they removed that winter. Had the managers known they had 500 animals, they would have known that they would need to remove more than 100 animals that first year in order to have any impact on deer population's growth rate, but because they did not know, the deer population (and associated impacts) remained stable and actually may have increased as a result.

Although this is a hypothetical analogy, the science is not hypothetical. It is a fact that if you do not remove a significant proportion of the deer population quickly and continue to remove animals every year in order to maintain the population at that level, the population will rebound and you cannot know how many animals you need to remove initially to keep the population from rebounding quickly if you do not know how many animals there are in the first place.

Whether Saddle River decides to manage deer populations using lethal methods, nonlethal methods, or a combination of the two, we strongly recommend that the City first invest in a robust, science-based census of the deer populations in the proposed management areas. An accurate census is an investment that will pay for itself because, for the reasons stated above, it will help the community implement a more efficient, effective and targeted deer management strategy which will, in turn, save taxpayer dollars.

Community Cooperation

As discussed during my visit, two major factors that make the Saddle River community a unique and potentially challenging deer fertility control project site are: 1) the majority of property

within in the Borough is privately owned, and; 2) the average lot size is greater than 2.5 acres. For those reasons, any potential deer fertility control project would require an extremely high level of public and private community cooperation, participation and support in order to be successful.

For instance, the safest and most efficacious time to conduct deer management activities in densely populated urban and suburban areas is at night. Deer are crepuscular animals and are most active at dusk and dawn, and for human health and safety reasons, it is best to dart deer when there is little-to-no pedestrian and vehicular traffic. Therefore, we would need permission from the community to conduct darting activities between 4 p.m. and 6:00 a.m. for a period of two-to-four weeks every year for three-to-five years (the average duration of a deer fertility control study) – usually between the months of October and April.

In order to be as safe and efficient as possible, it would be optimal for darting teams to have unlimited access to areas of Saddle River that our team and the community have identified and designated as high priority deer management areas. Prior to initiating a project, we would need to work with the community leaders to initiate a public education campaign about the project which would include, but not be limited to, soliciting permissions from residents to allow us to establish bait stations and/or access to their properties. We could also set up a deer "hotline" which would give residents a way to provide our teams with real-time information on where deer are active or congregating in an area of the community.

Next Steps

The important take-away message with respect to the potential feasibility of a deer fertility control program in Saddle River is that any such effort will require a tremendous amount of cooperation by individual residents given the vast amount of private, undeveloped land that exists in this community. If, after reviewing this assessment, Saddle River would like to move forward with meeting with the Department of Environmental Protection Department to determine if the agency would be receptive to reviewing a proposal for any potential deer fertility control pilot project in New Jersey, we would be happy to facilitate such a meeting. Thank you for your time and consideration.

Respectfully,

Stephanie L. Boyles Griffin, Senior Director
Innovative Wildlife Management & Services
The Humane Society of the United States