Deer in Weston

Conservation Commission Report

May 2012

At the request of the Board of Selectmen, the Weston Conservation Commission has conducted an inquiry into deer in Weston. The purpose of this inquiry was to determine whether or not Weston has a deer problem, and whether or not to recommend a program of deer management on town-owned land.

To this end the commission has conducted exhaustive research into the literature on deer and their ecological and cultural impacts, consulted many experts, and looked at what other municipalities have been doing. Beginning last fall we have held three public hearings with presentations by a range of experts and taken public comments. We also held a public walk to look at deer browse on conservation land and begin a program of monitoring that browse. Finally, we conducted a well-publicized survey of deer sightings and public attitudes toward deer on the Town's web site.[1]

Our findings (summarized below) are first, that Weston does have a problem with too many deer; and second, that the only practical means available at present to address this problem is to initiate a program of bow hunting on selected portions of town lands. On May 17, 2012, the Commission voted 6-0 to recommend that the Selectmen authorize such a program, and delegate the Conservation Commission to carry it out.

Does Weston have a deer problem?

Yes. All the evidence we have received from long-time residents indicates that twenty years ago there were few deer in Weston, whereas today there are many. We do not know the exact deer population of Weston or whether it continues to increase, however the evidence we have gathered is consistent with Massachusetts Department of Fish and Wildlife estimates for our region of about 25 deer/square mile.

While most residents enjoy having some deer in Weston, 72% of those who responded to our on-line survey felt that the deer population has reached a level that needs to be controlled. These impacts include:

Damage to yards and crops. 72% of respondents reported yard damage, and farms such as Land's Sake have been at great expense to fence crops against deer for the past 15 years, with mixed success and significant crop losses.

Damage to forest ecosystems. Our preliminary surveys of Weston's forests have discovered excessive deer browse in many areas, resulting in declines in several species of wildflowers and shrubs, and declining regeneration of some trees, particularly maple

and oak. Studies of the experience of other towns in our region lead us to believe that these ecological impacts will become acute if the deer population continues to rise.

Vehicle collisions. On average, 31 deer/car collisions are reported annually to the Weston police dept. Such collisions cause damage to vehicles and are usually fatal to deer, and can also cause injuries and (rarely) fatalities for drivers and passengers.

Lyme disease. There have been increasing cases of Lyme disease (along with other tick-borne illnesses) in Weston, as well as in towns around us, among both people and pets. Over 40% of survey respondents reported that they or someone in their family had contracted Lyme disease. The Center for Disease Control reports that on average 46 cases of Lyme Disease are confirmed annually in Weston, and this number is grossly underreported. Lyme disease cases throughout Massachusetts, in particular Middlesex County, are dramatically increasing annually with over 4,000 and 630 new cases of Lyme disease reported in 2009 respectively.[2] Lyme disease is part of a complex relationship involving the life cycle of ticks and several different animal hosts. Deer do not carry the disease (the major reservoir of the disease is field mice); however, deer play a critical role in supporting large populations of adult ticks and spreading them throughout the landscape. While there is scientific debate about how low the deer population must be driven to have a beneficial effect, several studies have indicated that if it can be reduced below 10 deer/square mile, tick population and Lyme disease rates decline.[3]

Deer are a species with a high reproductive rate. They have evolved with the selective pressure of a correspondingly high rate of predation. Human beings have been a major predator of deer in this region for at least 10,000 years. After the arrival of Europeans, deer were hunted so heavily that they were almost extirpated from New England. For the past century or so, by contrast, the deer herd has been managed to build it back up, primarily by hunting mainly bucks and few or no does. Since this policy has succeeded only too well, in recent years wildlife managers have turned their attention to controlling or reducing the size of the herd by taking more does.

Today, because we have eliminated or greatly reduced all other natural predators, the level of deer population is overwhelmingly determined by our own actions. The agricultural and suburban landscapes we have created are attractive to deer and capable of supporting very high populations. We can have only a small effect at the margins by such expedients as fencing and other deterrents, or trying to reduce the food supply. While these can be important measures for protecting individual properties, they will not reduce the population. Large numbers of deer have become a suburban reality that we must address.

We conclude that Weston is beginning to experience serious problems from a high population of deer. While we do not (and probably cannot) know *exactly* how high that population is or how it will change in coming years, we have every reason to believe that if uncontrolled it is likely to go much higher, and the impacts listed above are likely to become more severe.

Can the deer population be controlled?

Yes—but it will be a long, difficult process. The Commission has considered four possible methods of controlling and reducing the population from about 25/square mile to something like 6-8/square mile, which is the goal of the Department of Fish and Wildlife for our region: moving deer, contraception, mass sharpshooting, and hunting.[4] Only hunting is currently a practical option, in our opinion.

Capturing and moving deer is difficult and expensive, highly stressful to the animals, and there is no place to take them. Furthermore, it is illegal. This is not a serious option.

Contraception has been tried experimentally on small, isolated herds of deer, mostly on islands or in urban parks. Contraceptives are not presently commercially available, and the cost for capturing the does and administering the drug has run over $1,000/deer. It would be prohibitively expensive, if not simply impossible, to administer contraception or sterilization to a sufficiently large portion of our deer herd, for an indefinite period of time.[5] In semi-rural suburbs like Weston the deer are not confined, but free to move about over a wide area. Although we know it will be repeatedly suggested by those who oppose hunting, we do not consider contraception to be a serious option for Weston. Should practical, effective methods of contraception emerge, we would certainly consider them as alternatives.

(Similarly, we found no safe, practical method for administering insecticides broadly enough to significantly reduce the number of ticks across the town as a whole. Again, we will continue to monitor the field to see if such methods emerge. Furthermore, although reducing ticks might have a beneficial impact on tick-borne diseases, it would not address the other problems associated with a high deer population.)

Mass slaughter by professional sharpshooters is the most effective way to dramatically reduce the deer herd—it does work, at least temporarily. It can also be done safely by using bait in a controlled area. However it is expensive, sure to be highly controversial, and hunting over bait is currently not legal in Massachusetts. Our aim is to avoid getting into a situation where such a drastic response seems necessary, as has happened elsewhere around the country.

Hunting by private citizens, within normal state regulations combined with our own safeguards, seems to us to be the only practical way to gain some measure of control of Weston's deer population. There is a small amount of deer hunting taking place on private land in Weston—over the past decade between 9 and 19 deer have been harvested in Weston each year, according to state records. (We have found evidence of illegal hunting on conservation land as well—in fact, a legal hunting program would provide an effective means to control illegal hunting, because legitimate hunters can be counted upon to discover illegitimate hunting on a property.) It would be possible, under state setback laws, to open parts of up to nine public parcels in town to legal hunting—a dramatic increase in access to the deer.

Hunting with firearms (shotgun and black powder) has generally proven safe in Massachusetts, but accidents do happen (witness the unfortunate incident in Norton last fall). We believe hunting with firearms would not be acceptable on public land in Weston, given the high degree of recreational use of our land and the public perception of safety concerns surrounding firearms.

Bow hunting from tree stands is rapidly rising in popularity, and is well-suited to suburban areas. It is extremely safe; first because the effective range of a bow is very short (generally not more than 25 yards) and hence the hunter must have a clear view of the deer at close range to attempt a shot; second because when hunting from a stand the trajectory of the arrow is downwards. Bow hunting is taking place successfully on public lands in neighboring towns including Sudbury, Framingham, Medfield, and Dover, without mishap or conflict with other users. The key is careful control of who is allowed to hunt, and where and how they are allowed to hunt.[6]

We acknowledge that bow hunting will inevitably cause some deer to suffer—although that is also true of hunting with firearms. This problem can be mitigated, but not eliminated, by strict proficiency testing for those allowed to hunt on our land. Skilled bow hunters achieve a recovery rate of over 90% of the deer they target.[7] Furthermore, if we take no action and the deer population continues to grow, there will be increased suffering for deer in any case: more will be struck by vehicles, and ultimately (as experience in other regions has proven) the population will rise to a level where many more deer are malnourished and starve to death during hard winters. So, while the idea of killing a deer by means of hunting may be unsettling to some, we conclude that deer are bound to suffer in some way no matter what we do, and that the cruelty involved in hunting is outweighed by the benefits (for both us *and the deer*) of reducing the population by using the only safe and practical means available.

We also acknowledge that a program of hunting on town land is bound to make recreational use of that land less enjoyable for some residents, who are either fearful of injury, or disapprove of hunting in principle, or find it distasteful to encounter in practice. This can be mitigated by careful control of the areas where we allow hunting, how hunters gain access to their stands, public notification, and posting of all trails in the vicinity of hunting stands. Hunting would take place during the normal state archery hunting season, which runs from mid-October to the end of December. No hunting is allowed on Sundays. Again, surrounding towns have reported no conflicts with other users from their bow hunting programs.[8]

It is unlikely that a program of limited bow hunting on town land can kill enough deer to control the population right away, let alone reduce it to the level of 6-8 deer/square mile recommended by state wildlife biologists. We do not expect instantaneous results. Our hope is that an initial hunting program can slow the rate of growth in the deer population, and buy time (and build public acceptance) to develop a more robust hunting program. Such a program would include cooperation among private and public landowners to allow more access, coordination with surrounding towns, and perhaps ultimately changes in state game laws that would make it easier to take more deer in regions of over-

abundance. Realistically, this is the beginning of a long journey that will require commitment and perseverance.

Recommendations

Section 4 of Article XV of the Town of Weston By-Laws states “Discharging firearms in any portion of the [town forest]… except with the written permission of the town committee or commission charged with the care, custody and control of the applicable lands, is prohibited.” Section V then states “The town committee or commission charged with the care, custody and control of such lands (town forest), with the advice and consent of the Selectmen, may make reasonable regulations implementing Sections 1,2, 3, and 4...”.

Therefore, we recommend that the Board of Selectmen authorize a bow hunting program on selected portions of town-owned lands, and that the Conservation Commission be authorized to organize and carry out this program.

Endnotes

[1] From November 2011 – January 2012, the Weston Conservation Commission conducted an online survey which gathered information on deer impacts in Weston on human health and property, including the spread of Lyme disease, deer-vehicle collisions, and damage to landscape plantings. 231 residents responded to the survey. Survey summary can be found at: www.tinyurl.com/deer-survey-summary.

[2] Reported Cases of Lyme Disease in Massachusetts

House Committee on Post Audit and Oversight "Lyme Disease in Massachusetts: A Public Health Crisis", Commonwealth of Massachusetts, 2011.

Massachusetts Department of Public Health Bureau of Infectious Disease Prevention, Response and Services, Office of Integrated Surveillance and Informatics Services.

[3] Correlation between Deer population and deer ticks

Deblinger RD, Wilson ML, Rimmer DW, and Spielman A, "Reduced abundance of immature *Ixodes dammini* (Acari: Ixodidae) following incremental removal of deer", *J. Med. Entomol. 30: 144-150*, 1993.

Ostfield, RS, and Keesing F, "Controlling Ticks and Tick-Borne Zoonoses with Biological and Chemical Agents", *Bioscience 56 (5): 385-394*, 2006.

Rand P, Smith R, "2004 Monhegan Island Study". *J. Med. Entomology 41:779-784*, 2005.

Stafford K III, "Tick Management Handbook - An integrated guide for homeowners, pest control operators, and public health officials for the prevention of tick-associated disease", Connecticut Agricultural Experiment Station, New Haven, CT, 2007.

Wilson ML, Telford SR III, "Reduced abundance of immature *Ixodes dammini* ticks following elimination of deer", *J. Med. Entomology* 25:224-8, 1988.

[4] DeNicola AJ, VerCauteren KC, Curtis PD, and Hygnstrom SE, "Managing White-tailed Deer in Suburban Environments: A Technical Guide", Cornell Cooperative Extension, the Wildlife Society, and Northeast Wildlife Damage Research and Outreach Cooperative, 2000.

[5] Contraception: Vaccine

Gionfriddo, JP, Denicola, A J, Miller, LA, Fagerstone, KA, "Efficacy of GnRH Immunocontraception of Wild White Tailed Deer in New Jersey", *Wildlife Society Bulletin 35(3); 142-148*, 2011.

Rutberg A, "Fact Sheet: Deer Immunocontraception" Tufts Veterinary School, 2010.

Sterilization

Murray B, "Deer Contraceptive Fails in Jersey Test" by, *New Jersey Ledger*, September 18, 2007.

"Managing Urban Deer in Connecticut A Guide for Residents and Communities," Department of Environmental Protection, 2007.

"Update on Maryland's first Non-Lethal Deer Sterilization Program", www.wildliferescue inc.org.

"The State of Deer Contraception", Fairfield County Deer Management Alliance, January 2010.

[6] Personal Communication - Guertin D, Conservation Administrator, Town of Framingham; Roth-Schechter B, member, Dover Board of Health; Sklenak J, Chair, Sudbury Conservation Commission.

[7] Personal Communication - Kelley M, MassWildlife Control; Perry F, Medfield Volunteer Hunter Coordinator; Wolf D, Mass Deer Service, Inc.

[8] Personal Communication - Perry F, Medfield Volunteer Hunter Coordinator; Roth-Schechter B, member, Dover Board of Health; Sklenak J, Chair, Sudbury Conservation Commission; Smith G, Framingham Conservation Commission – Archery Proficiency Test Administrator.