



ANIMAL
RESCUE
LEAGUE
of BOSTON



Helping animals since 1899.



THE HUMANE SOCIETY
OF THE UNITED STATES

October 5, 2015

Dear Commissioner Sanchez,

The MSPCA, the Animal Rescue League of Boston, and the Humane Society of the United States oppose the proposal to cull deer populations in the Blue Hills Reservation.

Culling deer, whether with shotguns or bows and arrows, is not only controversial but does not present a real solution for addressing either the deer population in the Blue Hills or the conflicts they purportedly cause.

Public processes to vet deer hunts or culls, especially in urban forests like the Blue Hills that are fully surrounded by densely populated areas, should be thorough and transparent to fully assess and consider public concerns and alternatives. The lack of public input has resulted in a short-sighted, ineffective proposal that is inhumane for deer and potentially dangerous for people.

Wildlife culls are not a long-lasting or acceptable solution to address deer population concerns.

Contrary to popular belief, culling is not a viable solution for reducing deer numbers. Deer can quickly compensate for population declines if the food source is good, as it is in Blue Hills. After a cull, deer may respond by having twins or triplets, breeding at an earlier age, and having higher fawn survival. The result may be a sharp increase in deer numbers – a rebound – in the spring. Thus, culling merely re-creates and even exacerbates the very problem it purports to solve as deer numbers keep bouncing back.

No major health authority recommends deer culls to address human Lyme disease control.

Effective and economical strategies to reduce the risk of Lyme disease require both consideration and an understanding of the current scientific knowledge, even if the facts challenge long-held and entrenched beliefs about the relationship between deer populations and Lyme disease.

Deer hunting is ineffective at controlling Lyme disease because hunting does not significantly reduce the *tick* population. Deer are only one of nearly 200 different species that serve as hosts for ticks, including birds, reptiles, opossums, raccoons, mice, dogs, and squirrels.ⁱ Human risk of exposure to Lyme disease is correlated with the abundance of immature (rodent) hosts and their food resources, not deer numbers.ⁱⁱ Studies finding this correlation are additionally confirmed by a scientific study – and entire book on Lyme disease – by leading Lyme disease expert Richard Ostfeld. Deer are among the most ineffective pathogen transmitters of Lyme while rodents appear to be more effective.ⁱⁱⁱ A critical, but often-ignored, factor in the incidence of Lyme disease is the effectiveness of host transmission *to the tick*. Ticks must contract the pathogen from an effective host (such as a mouse) before they can transmit it to their next host (such as a human).

In the September 24th public hearing, the Division of Fisheries and Wildlife (DFW) pointed to a 2014 study by Howard Kilpatrick to justify the use of deer hunts to address Lyme disease.^{iv} However, this study has critical flaws. . First, the Kilpatrick study clearly shows that cases of Lyme disease were significantly declining *prior to* the deer hunt analyzed (*see* Figure 5 in study). Thus, the extent to which hunting actually contributed to any decline is wholly unknown. This is further exacerbated because no control group (ie a similar but un-hunted site) was used to compare results of the studied area. Any true scientific study must have both a treatment and control group. The study is also flawed because researchers used neither medical nor health department records to validate Lyme disease occurrence. Instead, subjects reported disease incidence based on self-reporting and their own memory over a twelve-year period. In contrast, a 2007 Journal of Medical Entomology study in Bernard Township, New Jersey showed that fewer deer did not result in less human disease. Tick abundance and Lyme disease incidence were monitored for

three seasons after incremental deer removal and the findings showed “Lyme disease incidence in humans did not vary with deer decline.”^v

No major health organization has identified hunting as an effective means to address Lyme disease. In fact, the CDC states that prevention—such as checking oneself for ticks, keeping lawns mowed, and wearing tick repellent—is the best defense. Studies have also indicated that some of the most effective solutions use living wildlife hosts themselves to kill ticks. For example, bait attractants for deer and mice that apply chemicals to their bodies (similar to topical treatments for pets) as they retrieve food baits have reduced tick populations anywhere from 67%–98%.^{vi} In contrast, multiple studies have documented the ineffectiveness of deer hunting in reducing the risk of Lyme disease.^{vii} Simply put, killing deer does not equal killing ticks. As stated by Dr. Tamara Awerbuch of the Harvard School of Public Health: As deer are killed, “you would simply have more ticks per deer because the surface area of each is enough to support many ticks. Just killing deer won’t do the job”^{viii} And by the time hunting season occurs, most adult ticks have already dropped off the deer to lay eggs anyway, so the tick’s reproductive cycle is not even interrupted.^{ix}

Bow hunting does not offer a humane solution – for people or animals.

Dozens of studies show that bow-struck deer incur an unacceptably high “crippling rate,” (when a deer is crippled but not killed) of close to 50%.^x When deer are struck by an arrow, they tend to flee, often leaving the area where they were hunted. Part of the “sport” of bow and arrow hunting involves following the “blood trail” to track the wounded animal. Because deer do not understand property lines, there is potential that they will flee into private property abutting the Blue Hills, causing hunters to trespass to put the animal out of its misery or to abandon the effort at a property line, leaving the animal to linger and die slowly from the wounds caused by arrow penetration. Bow hunting not only results in deer being wounded but not killed, but also means that passersby, hikers, and others simply trying to recreate outdoors are subject to the trauma of seeing a mortally wounded deer or viewing her remains when she finally succumbs to her injuries.

Ecological impacts – deer make an easy target.

Issues concerning biodiversity and the lack of regeneration of secondary growth forests are not new. Research scientists, forest managers, timber companies and others have been grappling with a range of forest growth issues for decades, and entire conferences and scholarly journals have been devoted to the topic.

The Blue Hills, like much of the northeastern forested landscape, are subject to any number of direct and indirect influences that together have created the conditions that we see today. These influences run the gamut from acid rain, insect damage, disease, development, pollution, loss of soil fertility, herbivory, invasive and other competing plant species, parasitic organisms, and landscape fragmentation, among other factors. New research is even showing the potentially huge but largely invisible impact of introduced, non-native earthworms as significant influences on forest ecology. It is vital in addressing the issue of deer-human conflicts that we not use deer as scapegoats for larger and more systemic problems.

Deer are among the largest wild animals tolerant of living in suburban and even urban environments. We can see deer and attribute ecological impacts to them easily. We cannot see earthworms as conveniently, and it is only quite recently that we have recognized that earthworms may play as great or even a greater role in influencing forest ecology and biodiversity. Furthermore, deer are a highly desired, hunt-able species. These two factors combine to make it both easy and convenient to focus on deer as objects of control when arguments about “restoring” biodiversity in forests are being made.

While it is easy to point the finger at deer and blame them for our forest regeneration woes, the reality is that our ecosystem issues are fraught with complexity, and also subject to human aesthetic preferences which may or may not be grounded in any sort of biological reality. For example, we may want to see more biodiversity in certain areas because we are used to having seen it there in the past. Yet nature is not static. A condition in which a forest floor was carpeted with wild flowers can rapidly transition into another state as a result of many different processes. As forest succession proceeds, “natural” plant and wildlife species abundance and diversity changes. Certain plant species are shaded out as trees mature and the forest canopy closes. Later successional stages are, by their very nature, less diverse.

While we may want to see a certain flower grow somewhere doesn’t mean it “should” be there. Take the case of certain trillium, which are often used as an indicator of high deer abundance. Some research

shows that soil acidity is a much stronger determinant of where purple trillium and many important timber species (red oak, sugar maple, quaking aspen, etc) will grow, rather than deer density levels.^{xi}

More humane (and longer lasting) means exist to control the deer population.

A two-part study by the Animal Welfare Institute [compares the effectiveness of different contraception vaccines](#) and the [political controversy surrounding them](#).^{xii} The Boston Globe has claimed that contraception options cost \$1,300 per doe because it requires capturing the doe. However, the Animal Welfare Institute examined vaccines that can be applied utilizing a tranquilizer gun dart delivery system, significantly reducing those costs. Further, Tufts' Cummings School of Veterinary Medicine and the Humane Society of the United States are currently working with several federal and state agencies, as well as communities and municipalities, to develop and implement wildlife fertility control projects. The HSUS has indicated a strong interest in supporting a Massachusetts site.

The Department of Conservation & Recreation's draft *Blue Hills Reservation Deer Management Plan* (Draft Management Plan) dismisses out of hand the use of contraception as a non-lethal alternative, indicating that contraceptive options have not been shown effective in open systems of free-ranging possibilities. This research application may be new but it is showing promising results, and why shouldn't Blue Hills show some leadership and initiate a fertility control project? Already, HSUS and Tufts have a multi-year project occurring in Hastings-On-Hudson, NY, while other contractors have done deer fertility control projects in Cayuga Heights, New York; San Jose, California; Fairfax City, Virginia; and Baltimore County and Montgomery County, Maryland – to name a few other sites that are not operating in completely closed systems.^{xiii}

The MSPCA, the Animal Rescue League of Boston, and the HSUS strongly encourage the Department of Conservation and Recreation (DCR) to contact the HSUS^{xiv} to invite them to assess whether the Blue Hills may be an option for technical or direct assistance with a contraceptive program. A fair consideration and a genuine effort to explore the use of non-lethal alternatives must be a key part of the Blue Hills Draft Management Plan

A public process without public input.

The public process offered by the Department of Conservation and Recreation has also been alarmingly truncated and rushed. In their presentation at the September 24th public meeting, DCR, DFW, and other stakeholders repeatedly referenced the collaborative work that has occurred between DCR, DFW, the Friends of the Blue Hills, the State Police, and the Environmental Police in creating the draft management plan. The speakers boasted about how the draft management plan is a product of a collaborative process, modified based upon feedback received at meetings between these organizations. Yet, a review of DCR's public meetings website for 2014 and 2015 shows that none of these meetings were listed on the site or made available for public participation.

Further, the tone and timing of both the September 24th and September 29th meetings belied the idea that the Draft Management Plan dated September 8th was anything but a foregone conclusion. A number of citizens attending the meetings raised concerns about safety; the open access of the Blue Hills while a hunt occurs; the inefficacy of comparing a hunt in the rural Quabbin Reservoir to the urban Blue Hills with a densely populated perimeter; the failure of DCR and DFW to adequately consider alternatives such as sterilization; and the failure of DCR and DFW to adequately consider scientific studies demonstrating the inadequacy of a strategy relying on deer hunts to reduce the incidence of Lyme disease. Agency staff responded to public comment not by encouraging a discourse regarding the points of disagreement, but by simply defending the proposed plan and reiterating arguments made therein. In addition, while the public meetings were scheduled for 1.5 hours, 1.25 hours of that time was allocated to prepared remarks by agency staff and Friends of Blue Hills representatives –*leaving merely 15 minutes of scheduled meeting time available for public comment*. Comparatively, two Friends of Blue Hills representatives –who support DCR's proposed plan– were allocated a collective 20-25 minutes to address the audience, almost double the amount of time allocated for public comment.

Finally, the speed with which the Draft Management Plan was introduced and the public process scheduled for completion provides a clear indication that the public process serves as little more than “check box” that DCR need cross off a list. The proposed plan draft is dated September 8th with the first public meeting occurring just over two weeks later. The final meeting on October 1st was only one day before final written comments were due to DCR (until the deadline was extended by three business days to October 7th). Not even four weeks were made available for the public to review the plan and to consider DCR and other public feedback prior to the commenting deadline. The rush to conduct a public process so quickly with a

proposed hunt scheduled for less than two months after the close of public input gives the impression that the “Draft” Deer Management Plan is nothing short of a final document.

We urge DCR to revisit the Deer Management Plan and to refrain from moving forward with the plan this year in order to provide meaningful consideration to the public’s input.

Thank you for your consideration,

Mary Nee, President, Animal Rescue League of Boston

Laura Simon, Wildlife Ecologist, and Stephanie Harris, Massachusetts State Director, Humane Society of the United States

Laura Hagen, Deputy Director of Advocacy, Massachusetts Society for the Prevention of Cruelty to Animals

ⁱ Ostfeld, R. 2011. *Lyme Disease: The Ecology of a Complex System*. Oxford University Press: Oxford, UK.

ⁱⁱ Ostfeld RS, Canham, CD, Oggenfuss, K, Winchcombe, RJ, Keesing, F. 2006. “Climate, deer, rodents, and acorns as determinants of variation in Lyme-disease risk.” *PLoS Biology* 4:1058–1068; Ostfeld, R, 2011.

ⁱⁱⁱ Ostfeld, R. 2011.

^{iv} Kilpatrick H, Labonte A, and Stafford III KC. 2014. “The Relationship Between Deer Density, Tick Abundance, and Human Cases of Lyme Disease in a Residential Community.” *Pop. and Comm. Ecol.*, 54: 778-784.

^v Jordan R., Schulze T., Jahn M. 2007. “Effects of Reduced Deer Density on the Abundance of *Ixodes scapularis* (Acari: Ixodidae) and Lyme Disease Incidence in a Northern New Jersey Endemic Area.” *J Med Entomol* 44(5): 752-757.

^{vi} Dolan M, Maupin G, Schneider BS, Denatale C, Hamon N, Cole N, Ziedner NS, and KC Stafford III. 2004. “Control of immature *Ixodes scapularis* (Acari: Ixodidae) on rodent reservoirs of *Borrelia burgdorferi* in a residential community of Southeastern Connecticut.” *J Med Entomol*, 41(6):1043–54; Solberg, VB, Miller, JA, Hadfield, T, Burge, R, Schech, JM and Pound, JM. 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; McGraw, L and McBride, J. 2001. “Tick Control Device Reduces Lyme Disease.” *Agricultural Research, May*: 5–7.

^{vii} Boston.com. *The deer-Lyme disconnect*. May 8, 2011. Available at:

http://www.boston.com/lifestyle/health/articles/2011/05/08/why_new_hunting_programs_arent_going_to_check_the_spread_of_lyme_disease/?page=3 (accessed Sept. 23, 2015).

^{viii} Harvard School of Public Health. *Killing deer not the answer to reducing Lyme disease, says HSPH scientist*. Nov. 23, 2010. Available at <http://www.hsph.harvard.edu/news/features/killing-deer-not-answer-reducing-lyme-disease-html/> (accessed Oct. 1, 2015)

^{ix} McShea, W.J. H.B. Underwood, and J.H. Rappole, 1997. *The science of overabundance: Deer ecology and population management*. Washington D.C.: Smithsonian Institution Press.

^x Gregory 2005, Nixon et al 2001, Moen 1989, Cada 1988, Boydston and Gore 1987, Langenau 1986, Gladfelter 1983, Stormer et al 1979, Downing 1971.

^{xi} Penn State College of Agricultural Sciences News Release, May 17, 2002

^{xii} Animal Welfare Institute. 2011. *Immunocontraception: Ounce of Prevention Proves Better Cure*. Available at: <https://awionline.org/awi-quarterly/2011-fall/immunocontraception-ounce-prevention-proves-better-cure> (accessed Sept. 24, 2015); Animal Welfare Institute. 2012. *Caught in the Crosshairs: Effective Immunocontraception Faces Political Fire*. Available at: <https://awionline.org/awi-quarterly/2012-winter/caught-crosshairs-effective-immunocontraception-faces-political-fire> (accessed Sept. 24, 2015).

^{xiii} Humane Society to assess potential for deer fertility control in Ann Arbor. May, 2015. Available at: http://www.mlive.com/news/ann-arbor/index.ssf/2015/05/deer_fertility_control.html (accessed Sept. 21, 2015).

^{xiv} Stephanie Boyles Griffin, Senior Director Innovative Wildlife Management & Services, SBoyles@humanesociety.org