

# **Town of Boxborough Trail & Hunting Safety Study**

**Conservation Commission  
Actions and Recommendations**

# ***Why is the ConsCom Making a Presentation?***

***The Conservation Commission was compelled to review the town's trail safety due to an incident involving a hiker and a hunter that came to our attention on one of the Conservation Parcels.***

***Due to excellent trail blazing efforts by the ConsCom's Land Stewardship Committee, the trails on many of the parcels in the town have experienced unprecedented foot traffic.***

***It is the ConsCom position that anyone hiking on town trails should be afforded the opportunity to do so in a safe manner and we decided that it was necessary to create a Trail Safety Committee to provide well researched recommendations and actions to realize this goal.***

***As with any research project, the beginning doesn't always lead to the ending you thought that it would, and this project is no different.***



# Resources of Our Study

- **Private Landowners of 10+ Acres in Boxborough**
- **Division of Research and Epidemiology, MA Dept. Public Health**
- **National Audubon Society**
- **Division of Fisheries and Wildlife**
- **Massachusetts Environmental Police**
- **Massachusetts State Police**
- **National Sporting Goods Association**
- **MassWildlife, Deer Biologist**
- **Boxborough Dept. Public Works**
- **American Lyme Disease Foundation**
- **Numerous ConsCom/Land Stewardship members of towns surrounding Boxborough (Acton, Stow, Sudbury, Carlisle, etc.)**
- **Boxborough Police**
- **U.S. Consumer Product Safety Commission**
- **Agriculture Landowners in Boxborough**
- **MassAudubon**

# Research Parameters

## Information Gathering and Study Points:

- ✓ State and local hunting accident history
- ✓ Boxborough private open tracts that abut Conservation Parcels
- ✓ Private open tracts of 10+ acres or more in Boxborough
- ✓ Deer population density of Boxborough
- ✓ Boxborough historical deer harvest (bow, primitive, shotgun)
- ✓ Lyme disease cases in Northwest Boston Suburbs
- ✓ Historical deer related auto collisions in Boxborough
- ✓ State and local hunting regulations
- ✓ Current general public hunting awareness
- ✓ How is hunting season currently publicized
- ✓ Best bird hunting areas in Boxborough
- ✓ Existing basic hunter education evaluation
- ✓ Boxborough percentage of hunt-able forested open tracts
- ✓ Nearby town policies for trail safety and hunting activity

# ***We heard from many different points of view in our Survey***

**“I couldn’t imagine hurting any of God’s creatures – especially something as beautiful and graceful as deer.”**

**“I have been hunting in Boxborough since I was a boy – my Dad used to take me into Wolf Swamp and we would usually get a couple. Now most of the best hunting sites are in conservation lands, but I got one last year.”**

**“Every time we see one along the road we pull over and watch until they disappear into the woods. We want to make sure our kids get a chance to see them before they are all gone”**

**“...yes we hunt on our land, we allow some friends by permission only – we’ve known them for years...they use a tree stand out in the middle of our property and mostly use shot guns...we had five deer taken last year – there’s never been any problems and we get some great venison steaks.”**

**“We have five deer that live in the back of our house. We feed them every morning and every night. We’ve given them names...I don’t know what we would do if we lost one – don’t even ask me about hunting.”**

# Anthropomorphism

*Attributing human characteristics to non human things  
...like animals...like deer*



**Yo Dude, How bout some shades for me?**

***“We would never allow anyone to hunt on our lands. We own and ride horses and it would be too dangerous. Besides I hardly ever see any deer when I ride so there wouldn’t be anything for them to hunt...a few years ago while out riding I came around a bend and there was a hunter with a bow and arrow aiming toward me. It was no big deal though he wasn’t going to shoot a horse, but it was a little unnerving at first. I definitely don’t think that there is a deer overpopulation or a health problem at all...deer are beautiful animals and I think that we can all live here together...”***

***A 10+ Acre Boxborough Landowner***





John Stehn  
U.S. Fish & Wildlife Service

**The initial purpose of our committee was to look into trail safety issues. During our trail safety, deer and hunting exploration, the committee encountered information relating to deer that we weren't expecting...**

***Our early research efforts kept pointing to the issue of deer population.***

***We needed to discover how many deer were in Boxborough.***

# Deer Density Formula\*

Deer density is formulated using many factors:

- Percentage of hunt-able open forested land
- Vehicular deer accidents
- Hunting season deer harvest
- Average density in Deer Management Zone

*\* MassWildlife*

# Boxborough's Deer Density Facts

- There is less than 20% hunt-able forested land in Boxborough and shrinking. (Survey of 10+ acre landowners)
- There were 21 deer related vehicular accidents reported in 2004. (State Police, Town Police, Town DPW)
- There were 28 deer harvested in 2004. (*MassWildlife*)
- There is extensive agricultural crop damage. (Agriculture landowner survey)
- There is residential landscape destruction annually. (Survey of 10+ acre landowners)
- Deer are extremely adaptable animals whose growth will not be effected by continued development. (*MassWildlife*)

# Boxborough Estimated Deer Density

- Using the deer density formula there are **30 deer per square mile** in Boxborough \*
- This means we have over **310 deer residing** in Boxborough's 10.39 square miles ( $30 \times 10.39 = 312$ )
- This is **four times** the **MassWildlife** density goal for healthy deer habitat of 6-8 deer per square mile (62-83 total deer for the town is the goal)
- Deer typically live within 2-3 miles of where they were born \*\*
- Deer born and raised in Boxborough will stay and live in Boxborough

\*\* Audubon Society

\* **MassWildlife**

# Deer Management Issues

## Acute Deer Over Population Problems

- *Lyme Disease*
- *Vehicular Deer Kills & Accidents*
- *Residential Landscape Damage*
- *Overall Habitat Degradation*
- *Agricultural Crop Damage*

# ***Lyme Disease***



# ***Ticks, Ticks, Ticks...***

**To these I must add the wood lice (ticks) with which the forest are so pestered that it is impossible to pass through a bush or to sit down, though the place be ever so pleasant, without having a whole swarm of them on your clothes.**

**Pehr Kalm, 18 May 1749**

*I saw an article in the Beacon and it said that your committee was considering a ban on hunting in Boxborough. Well, I'm an avid conservationist and animal lover, and I'm calling because I want to tell you about my family.*

*You see, a few years ago the pain in my joints began aching. I thought I had arthritis until I went to the Doctor and found out that I had Lyme Disease.*

*On top of that, at the end of last year my wife had a real scare when she had a car accident, hitting a deer right in town. Thankfully she was O.K., but it could have been worse than just damaging our car.*

*I know it's a difficult balance, but I hope you will consider the consequences of a hunting ban, I wouldn't wish my situation on anyone.*

***A phone call received from a Boxborough Resident***

# **Lyme Disease is increasing due to a number of factors:**

- Increased tick abundance\*
- Overabundant deer population\*
- Increased recognition of the disease\*
- Establishment of more residences in wooded areas increased the potential for contact with ticks\*

\* American Lyme Disease Foundation



**Deer With Tick Infestation**

# Lyme Disease

## Number of Cases by Year\*

	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>
Middlesex County	127	155	261	257

**202%**

**FOUR YEAR INCREASE**

\*MA Department of Public Health

## Take Precautions, Be Safe – but Don't Panic

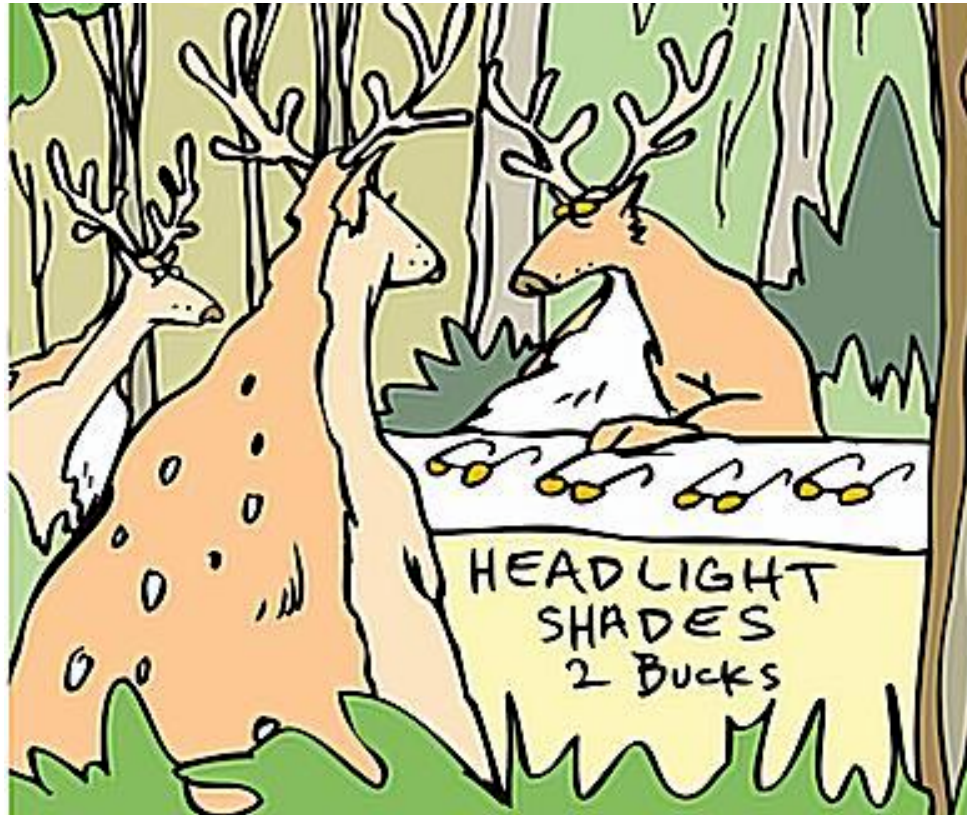
Studies of infected deer ticks have shown that they begin transmitting Lyme disease an average of 36 to 48 hours after attachment.

Your chances of contracting Lyme Disease are greatly reduced if you remove a tick within the first 24 hours.



# ***Vehicular Deer Mishaps***

# Increase of Vehicular Deer Accidents



**Hottest Selling Deer Safety Item**



It is estimated that there are as many non-reported deer related vehicular accidents as those that are reported\*

There is a higher propensity for animal suffering with deer related vehicular accidents\*\*

There is a 1,000% greater chance that one will have a vehicular accident with a deer than have a hunting accident\*\*

***In 2004 there were 21 reported deer related vehicular accidents in the town of Boxborough\****

\* State Police, Boxborough Police, DPW

\*\* *MassWildlife*

# ***Agricultural Crop Damage***

# Increased Agricultural Crop Damage

*“...this past year we didn’t harvest one head of lettuce from our forty acre farm...then there were the green beans – they love green beans even more than the lettuce, we didn’t even bother to pick the bean field since the amount of beans we would have harvested wouldn’t have been worth the trouble.*

*Ten years ago we used to stop picking or whatever when a doe or buck would gallop across the field, we’d all stop to watch; they’re so graceful – now we see so many that it doesn’t phase anyone anymore.*

*The damage they cause is becoming so great we’re beginning to wonder if its worth the trouble to farm our land at all.”*

**Boxborough Farm Owner**

***“...back in the 70’s we didn’t see many deer...***

***...in the 80’s we began to see quite a few deer, but they had plenty to eat and hadn’t discovered our crops...***

***...beginning in 1995 we started noticing a significant loss of the un-ri***

***pened green fruit, we had near drought conditions back then felt the deer were trying to get moisture. We had to start trying to deal with them...***

***...now its pretty much unbelievable - at night we can shine a high powered light out into our fields in the summer and easily count up to 20 deer at a time...***

***...for awhile we thought that the increased presence of coyotes would help, but they don’t go after deer - their howling though is pretty darn eerie late in the evening!***

***..we’ve spent a ton of time, money and energy on electric fences, Deer Off sprays and the like –”***

***Comments of a Boxborough Farmer***

# ***Overall Habitat Degradation***

# Habitat Degradation\*

- Deer population density of 20/square mile or greater begins to degrade the overall habitat.\*
- Over-browsing by deer effects composition and health of a woodland for generations - perhaps even permanently\*\*
- In hard hit areas, the shrub layer and intermediate canopy can almost disappear, replaced by a carpet of ferns, which deer avoid eating\*\*\*
- As shrub and lower canopy layers disappear due to browsing, so do songbirds that nest in this habitat\*\*\*

# ***Landscape Damage***

***“I have replanted the shrubs in my backyard probably five times in the last several years, my kids joke with me each spring about what I’m planting for the deer this year!”***

***“...we’ve spent about \$4-5,000 on plants and shrubs around the house from the deer eating them.”***

***“We tried covering our shrubs with burlap and salt marsh hay, but the deer ate right through the burlap and they ate the plants covered with hay - and the hay to boot! They especially liked the hay...”***

***“The deer are wonderful to watch – until they start munching on my ornamentals.”***

***Actual Townspeople Comments  
(unsolicited)***



***I moved to Boxborough 12 years ago to grow organic vegetables and to keep bees. We bought a beautiful 15 acre lot and planted the vegetables.***

***It was an incredible amount of work, but when finished planting there was an incredible amount of satisfaction knowing that God willing, in a few months we would have a bounty of beautiful vegetables.***

***That first year waiting for the crops to come in I got out my white clothes and began working with my bees. Right away I noticed plenty of ticks crawling up my legs – I remember telling my wife how tenacious they were.***

***A few weeks later I went out one morning to water the vegetables – and there were none left – they were eaten down to the nubs!***

***For the next 5-6 years it was the same story and no matter how high I made the fence the deer still got the best of me – and now there were tens of ticks crawling up my legs. I had to do something!***

***I went and took hunter safety course, learned how to safely shoot and began trying to lower the deer population on my property. Eventually I learned how to use a bow and now I usually harvest three deer each season.***

***I have the meat butchered professionally, keep about third of it for my family and donate the rest to a soup kitchen in Worcester.***

***Comments of a Boxborough Resident***

# Deer Predators

In Boxborough, most native deer predators have been removed from the habitat (mountain lions, wolves, etc.)

There is evidence that we are experiencing a slight resurgence of coyotes in Boxborough but they are not considered a natural predator to adult deer – although in areas of higher coyote density they can account for as much as 40% of fawn mortality.

The only predator adult deer have left are...

***Humans***

**At this time, hunting by  
humans is the most  
prevalent predatory method.**

**A Brief Review of Hunting in  
Massachusetts**

***“ I have been hunting my whole life, my whole family hunts and most of my friends hunt. I attend meetings at the Rod and Gun club and basically hang out in the hunting crowd. I have never met anyone that doesn't have or show a respect for the animals we hunt or the way we go about it. Firearms and bow require respect and I have never encountered the types of hunters some of my non-hunting friends think of...you know the Rambo, beer guzzling, no one can tell me anything type. This type of hunter only seems to show up in the movies – and it makes me mad.***

***As for hikers in the woods, during hunting season if hikers wore orange clothing they wouldn't need to be concerned at all. Hunters don't hunt people, they hunt animals – and animals don't wear orange hats or vests.***

***Would a person riding a bike, or walking at night go out without a flashlight or reflective clothing? They would be asking to get run over – wearing orange for a few weeks during hunting season requires the same common sense.”***

***A Boxboro Resident***

# Types of Hunting in Massachusetts

- **Bow and Arrow**
- **Primitive Black Powder or Muzzle Loader**
- **Shot Gun**

***Hunting with Rifles in  
Massachusetts is Prohibited!!***

# Bow Hunting

- Bow hunting is difficult and requires the most skill of the hunting disciplines and is usually the domain of serious hunters.
- It is considered the safest hunting activity as a shot taken with a bow averages a distance of only 20 yards.
- A very high majority of bow hunters use a tree stand that drastically limits the range of their hunt.
- Crossbows are not allowed except to a very small number of paraplegic hunters.
- The bow hunting season is the longest of the three deer hunting seasons in Massachusetts.

# Primitive Firearm Hunting\*

- Primitive firearm season is intended to provide an opportunity to hunt deer in a manner similar to the way our forefathers hunted in the mid-1800's.
- Basically, that means using a single-shot, muzzle-loading firearm with no break-open breech and limited range and firepower.
- This type of hunting is for the serious hunter who is looking the challenge of only one shot to make their mark.

# Shot Gun Hunting

- There are 45-50,000 shot gun hunters in Massachusetts
- The average shot is taken at a target of 100 yards or less
- The Shot Gun Hunting Season lasts for two weeks
- There is no shot gun hunting allowed on Sundays



# General Hunting Regulations\*

- No person shall hunt within **150 feet** of any State or hard surfaced highway
- No person shall hunt within **500 feet of any dwelling** in use
- Hunting with a **rifle is prohibited** in the State of Massachusetts
- Firearms hunting is **not allowed on Sunday** in Massachusetts.
- To purchase a hunting license, **all first time hunters** must have a government issued Hunter Education Certificate that is earned by the completion of a Massachusetts **Hunter Education Course**
- No person shall hunt, or enter upon any land within the Town of Boxborough for the purpose of hunting **without the express permission of the landowner**
- No hunter is allowed to carry with them more than one hunting implement regardless of overlapping seasons, and **no one is allowed to carry a revolver or pistol while hunting**

\* Division of Fisheries and Wildlife

Consumption or being  
under the influence of  
Alcohol or a controlled  
substance while hunting  
of any kind is

**STRICTLY  
PROHIBITED**

# ***Hunting Safety & Accidents***

- In 2002, 100,000 firearm and 33,000 bow hunters actively hunted in Massachusetts – there were only ***three*** accidents (no fatalities).\*
- Over the last 20 years hunting accidents have ***decreased*** by 32%, while the number of hunters has increased.\*
- In Massachusetts, no hunter has ever caused a non-hunter fatality in the ***state's recorded history***.\*
- There have been ***no hunting fatalities*** of any type in almost 20 years.\*
- Of all outdoor activities, Hunting is one of the safest. The latest annual data indicates an accident rate of ***.00004%***.

# Outdoor Activity Accident Rate Comparison

<b>Activity</b>	<b>Participants*</b>	<b>Accidents**</b>	<b>Acc. Rate #</b>
<b>Hunting</b>	19,200,000	720	0.00004
<b>Archery</b>	4,700,000	4,042	0.00088
<b>Golf</b>	26,600,000	46,089	0.00173
<b>Fishing</b>	44,400,000	79,369	0.00179
<b>Mountain Climbing</b>	3,400,000	8,726	0.00257
<b>Snowmobiling</b>	4,600,000	15,333	0.00333
<b>Roller Skating</b>	26,900,000	118,647	0.00441
<b>Skateboarding</b>	9,600,000	104,449	0.01088
<b>Bicycle Riding</b>	39,000,000	546,236	0.01410

\*National Sporting Goods Association \*\*Consumer Product Safety Commission

# ***Nantucket Case Study***

An inefficient deer management plan has allowed the deer population to grow to **60 deer per square mile** causing:

- A dramatic number of vehicular accidents and degradation of delicate habitat and ecosystem
- Increased accidents and habitat degradation are felt to be contributing factors impacting the decline in tourism
- Incidence of Lyme disease cases are among the highest in United States ('02- 567 incidence/100,000, 18 in MSex)
- With the Deer problem out of control, the Island's leaders took drastic measures to conduct a special hunt. Hunters came to Nantucket from all over New England to hunt for one week and came away with almost 250 deer.
- ***This is not what we want to see in Boxborough***

# ***Conclusions***

- **The Conservation Commission concludes that the vibrancy of Boxborough's overall habitat, agriculture/landscape plantings, vehicle safety and control of Lyme Disease are all being adversely effected by the overpopulation of deer in the town**
- **It is the Conservation Commissions desire to maintain or to lower current deer population levels**
- **The incidence of hunting related accidents compared to the number of vehicular accidents in Boxborough - *0 vs. 21 in 2004* – the fourfold increase in Lyme Disease and the habitat degradation indicates more diligent deer management efforts are required**
- **The only method available to maintain or to lower current deer population levels is hunting**
- **The Commission feels with a slightly greater amount of oversight of hunting activity by the Town and it's landowners that we can ensure a safe balance of deer management through hunting, with the recreational use of the Town's Conservation and Municipal lands.**

# **Conservation Commission Conclusion**

***Safe hunting activities be  
allowed to continue on private  
land within Boxborough.***



# **Conservation Commission**

## **Actions To Be Taken**

- Post all Conservation Land borders that abut large hunt-able private land (mainly Conservation Land borders between the areas of potential hunter access).**
- Review all conservation /municipal trails within 500 feet of a private hunt-able parcel for possibilities of rerouting the trail.**
- Trails impractical to relocate, will be temporarily closed within the 500 foot private hunt-able area (such as Beaver Brook-Steele Farm, etc.) during the shotgun season.**
- Place well marked signs for dates of the hunting season and include basic safety measures every citizen should take on all kiosks at Conservation parcel trailheads.**

# **Conservation Commission**

## **Actions To Be Taken (continued)**

- o All conservation trails will be widened significantly to combat the Adult Deer Tick attempts to attach themselves to hikers, pets and horses from hanging on nearby brush and limbs.**
- o Orange colored hiking hats will be sold to town residents at cost from town hall (out of ConsCom discretionary budget).**
- o Ensure that the Town website boldly lists the dates of hunting season on the home page for two months prior to and during the actual hunting season.**
- o One month prior to hunting season, make use of the large Firehouse Sign to state the dates of hunting season.**

# **Conservation Commission Recommendations to the BoS**

- o Post signs on all roads leading into town that state hunting is by landowner permission only.**
- o All hunters in Boxborough must register with Town Hall prior to any hunting activity.**
- o The registration will include the name and address of the property owner that has given the hunter permission to hunt their property.**
- o Hunters will be asked to sign a statement written on the bottom of a map of the town that outlines the location of the Conservation and Municipal parcels; stating that the hunter knows the borders of the conservation/municipal parcels and that it is prohibited to hunt on these lands.**
- o Hunters will leave town hall with a copy of the signed map to carry with them during hunting.**

# More Conservation Commission Recommendations to the BoS

- o Have the Fisheries and Wildlife Division provide a Hunter Safety course in Boxborough at Town Hall.
- o Provide a "hunter friendly" web page Boxborough's website for hunters to include:
  - o The available times to register at town hall before hunting
  - o A safe hunting guide
  - o Boxborough's town hunting bylaw
  - o The state hunting regulations
  - o The Conservation and Municipal Parcel Map of the town

# Guest Hunting Safety and Deer Habitat Experts in Attendance

## *MassWildlife*

- **Pat Huckery**, District Manager, Division of Fisheries and Wildlife
- **Bill Woytek**, Deer and Moose Project Leader (State's Chief Deer Biologist)

### *The statutory responsibility of MassWildlife:*

***Conservation - including protection, restoration, and management - of Massachusetts' fauna and flora.***

***MassWildlife's charge is the stewardship of all wild amphibians, reptiles, birds, mammals, and freshwater and diadromous fishes in the state, as well as endangered, threatened, and special concern species, including native wild plants and invertebrates.***