

TOM NEVERS CIVIC ASSOCIATION

Winter 2010 Newsletter

❖ Deer Tick Quiz ❖

Q. What's the usual life span of a Nantucket deer tick?

- 20 days 2 months
 20 months 2 years

■

Q. How many eggs do they typically lay?

- 20 200
 2,000 20,000

■

Q. How many deer do we now have on Nantucket?

- 1,250 2,500
 3,750 5,000

■

Q. Without intervention, how long would it take the deer to double that number?

- 2-3 years 4-5 years
 6-7 years 8-9 years

Hint--

You'll find all the right answers in the articles inside.

Ticks on the Ballot...

Some say that the only sure way to solve our tick-borne disease problems is to remove all the deer from the Island.

While others say that the deer have just as much right to live here and thrive here as we do...and that despite our tick-borne disease concerns, we should not expand our current efforts to reduce the deer population.

And there, historically, the battle lines have been drawn...a "deer elimination" vs. "deer preservation" impasse. Meanwhile, the incidence of tick-borne diseases keeps climbing!

Fortunately, we now have a realistic solution to this impasse. Thanks to the considerable efforts of an eleven member expert team, appointed by the Selectmen in their role as the Board of Health, we now have a sound, effective and practical action plan. This action plan will help us solve our tick-borne disease problems... while still keeping Nantucket a healthy sanctuary for our deer and our other beautiful gifts of nature.

This plan is detailed in the recommendations of the "Nantucket Tick-borne Disease Committee" (TBDC)...as presented to the Nantucket Board of Health in December. In an integrated six-part program, the TBDC plan details a long-term, sustainable approach to reducing to a minimal level the incidence of tick-transmitted infections on Nantucket.

We won't see results overnight, but if we follow this plan, over time we will make our outdoor spaces increasingly safe again to enjoy and explore.

The recommendations of the TBDC

have been endorsed by the Nantucket Board of Health, by the board of our own Tom Nevers Civic Association, by the Nantucket Community Association, and others. And for your convenience in reviewing the complete TBDC 34-page report, we've posted it on our website—www.tomnevers.org.

To give you a concise overview of the TBDC plan, we've detailed its key points in this newsletter. In addition, we've tried to anticipate and answer some of the key questions you may have about tick-borne diseases on Nantucket and what it will take to put an end to this problem.

IMPORTANT— To make sure that we're all in this together, there'll be a non-binding referendum on the April 2010 ballot. While the precise wording is not yet finalized, the referendum will effectively ask two questions to voters. First,

do you believe tick-borne diseases present a public-health threat that warrants intervention? Second, do you support expanded deer hunting as part of an intervention program? Because implementing the TBDC plan will take years of committed effort on the part of several island-wide and local organizations--and the ongoing support of the Massachusetts Division of Fisheries & Wildlife--it's essential that we express our community support upfront, so that false starts are avoided. This is the first real chance we've had to solve our growing tick-borne disease problems. We say-- Let's take it, enthusiastically! ❖

The Nantucket
Tick-borne Disease
Committee
has made its
recommendations.

A referendum
on the April ballot
will seek
public support.

The Bottom-line Recommendations of the “Nantucket Tick-borne Disease Committee”—

The high incidence of tick-borne diseases on Nantucket Island represents a significant public health problem that warrants intervention... We recommend an integrated, long-term and sustainable approach to reduce the incidence of tick-transmitted infections on Nantucket... comprising a program of... six initiatives...”

1. Managed deer reduction to fewer than 10 per square mile... to be accomplished in 5 phases over several years... with long-term community support measured and obtained before starting any reduction program.
2. Island-wide and individual property-owner vegetation management directed at limiting human exposure to ticks.
3. Prudent use of pesticides (acaricides), including...
 - The strategic use and deployment of “Four Poster” devices on an experimental basis at appropriate locations such as high-risk neighborhoods.
 - Establishment of a program to monitor the level of acaricides in environmentally sensitive areas. (Note—the widespread spraying of acaricides in open areas of Nantucket is not recommended.)

4. Public education programs to include...
 - Personal protection instruction in our schools.
 - Information for property-owners on property landscape management.
 - Information for our island visitors provided on the various modes of transportation to the island—and in hotels, inns and rental properties.
 - Seminars by members of the Tick-borne Disease Committee and experts on the science of tick-borne disease.
5. The development of an improved passive and active surveillance system to better measure the incidence of tick-borne infection on the island, to more accurately measure the results of the overall program.
6. Continuation of the Tick-borne Disease Committee in some form to execute, coordinate and monitor the progress of the recommended activities.

You can review the complete 34-page TBDC report, with all its supporting detail, on our website—
www.tomnevers.org. ❖

Some Key Questions & Answers*...

*Based on the findings of the “Nantucket Tick-borne Disease Committee”



Q 1. -How big is our tick-borne disease problem?

It's a major problem. Since 1992, the Centers for Disease Control and Prevention has listed Nantucket among the top three Lyme Disease counties in the U.S. And in 2008, Nantucket Cottage Hospital reported 411 cases of tick-borne disease infections--counting only those cases that were confirmed by laboratory diagnosis. (Of these, 325 were Lyme Disease and 69 were Babesiosis.) In addition, a 2009 study conducted among TNCA members found that 60% of the households reported that family members, or their guests or renters, had contracted a tick-borne disease.

Deer ticks can transmit several diseases. Three of which have been widely reported on Nantucket—

Lyme Disease... This is a bacterial infection which can spread throughout the body. The organism may localize in joints, the heart or nervous system... causing symptoms in each of these areas. It can also lead to immunological reactions that may lead to symptoms of arthritis at later times.

Babesiosis... This is a protozoan infection that localizes and multiplies in red blood cells in a manner similar to malaria, leading to the destruction of the infected red blood cells. There may be enlargement of the liver and spleen. In persons who have previously lost their spleens or have underlying immunologic diseases or malignancies, the disease may be severe. Failure of multiple organs... such as lungs, kidneys or heart... may ensue, leading to significant mortality rates. Three cases of ruptured spleens occurred on Nantucket in the past year.

Anaplasmosis (ehrlichiosis)...This is a bacterial infection that concentrates in circulating granulocytic white blood cells and travels throughout the body. It causes low white blood cell counts, low platelet counts, and elevated liver enzymes. Fever, chills, headaches, loss of appetite, nausea, fatigue, and muscle pain are the most common symptoms.

After reviewing all of the available data, the Nantucket Tick-borne Disease Committee concluded that..."There is a high incidence of tick-borne disease on Nantucket...and there is a true public health problem that warrants intervention." It should be noted that of the eleven members of the TBDC, seven are health-care and/or disease control professionals.

Q 2.— What happens if we don't solve it?

Even more residents and visitors will contract a tick-borne disease...many with serious health consequences. This is particularly true among visitors who leave the island untreated and undiagnosed.

While medical complications from tick-borne diseases are our greatest concern, there are social and economic consequences resulting from a high incidence of these diseases that also need to be considered—

Negative Public Relations...The strength of our economy depends on tourism. Based on the experience of other resort areas, we know that when rumors and negative news reports spread about uncontrolled health issues, that area's tourism revenue falls off significantly. This is a real threat on Nantucket, where "image" plays such an important role in our popularity as a premier resort area.

Medical Costs...Even when treated on an out-patient basis...without medical complications...tick-borne disease treatment costs (physician fees, medications, lab work) can range from \$90 to \$2,000 per patient. (Assuming 400+ patients a year, that's a total of \$36,000—to-\$800,000 or more per year.) With some patients also suffering cardiac, neurological and/or arthritic complications...at times requiring hospitalization...total tick-borne disease treatment costs can be truly enormous.

Lost School & Work Time—For a child, lost school time can be significant...and it is often difficult for a child to re-establish himself or herself. We've also seen many cases of Nantucket families losing wages because the family wage-earner suffered a tick-related disease and could not work. No doubt, similar problems occur among visitors who leave the island undiagnosed. But the full social and economic extent of their lost school and work time is not documented.

Q 3.— Why does Nantucket have such a major tick-borne disease problem?

Nantucket provides an ideal environment for the proliferation of naturally-occurring tick-borne diseases...which require the interaction of three animal species (mice, ticks and deer) before spreading to humans. Over time, our landscape has changed from open fields to a dense-vegetation habitat...and our moist climate is ideal for deer ticks to thrive in. Increasingly, large parts of Nantucket have become "protected" as unbuildable (50-to-67%), creating ample space for mice and deer to proliferate. As a result, there is a large population of white-footed mice. And the artificial introduction of the white-tailed deer...with no natural predators...has permitted unchecked growth in our deer population. In short, we have more mice, more deer and more ticks...thus, increasing the likelihood that humans will be bitten and infected by a disease-carrying tick.

It should also be underscored that the deer play a truly essential role in the tick population's ability to reproduce. In their 2-year life cycle, deer ticks go through four stages—eggs, larvae, nymphs, and adults. It's at the adult stage that they attach themselves to white-tailed deer for their final blood meal. Without the deer, they cannot successfully reproduce and remain abundant. After feeding on a deer, each single tick typically lays about 2,000 eggs.

Q 4.— What options do we have other than reducing our deer population?

As mentioned above, all three animal species...mice, ticks and deer...must be present and interact before human infection can occur. So logically, we might ask—why not go after the mice and the ticks, and leave the deer alone?

The only feasible way to significantly reduce the mice and tick population is through the widespread use of pesticides...which present grave concerns in an environmentally sensitive ecosystem like Nantucket, with its single source aquifer. Also, any attempt to artificially reduce the mice population in a significant way could possibly backfire...altering the ecological predator/prey dynamics of the Island, with unpredictable negative consequences.

Some local property-owners are currently using Permethrin (an acaricide) on a selective basis to reduce their tick population and provide some level of personal protection...but the widespread spraying of acaricides in Nantucket's open areas is definitely not a recommended option.

One high-potential, but still experimental, use of Permethrin is in the "Four-Poster" device... which uses whole kernel corn as bait to attract deer. As the deer feed, rollers impregnated with Permethrin coat their head, neck and ears...subsequently killing many of the ticks that feed off them. While several legal requirements must first be met before Four Posters can be deployed on Nantucket, their use on a test basis is recommended in the TBDC plan. But their installation and supervision is expensive. Each installed unit can cover an area of only about 52 acres...at a per-station cost of about \$2,000 in the first year, dropping

to about \$1,500 per year on an ongoing basis.

Which leaves us with this reality— Reducing Nantucket’s deer density (the number of deer/square mile) to an appropriate level is the only practical method available for lowering tick numbers...and as a result, lowering tick-borne diseases on an island-wide scale.

Q 5.— How do we know that reducing the deer herd density can significantly reduce the incidence of tick-borne diseases?

The TBDC carefully studied the documented results of other communities that attempted to reduce their incidence of tick-borne diseases through deer density reductions. The inescapable conclusion is that if deer herd density is reduced to or below 8-10 deer/square mile, the number of disease-carrying ticks...and the resultant risk of human infection...can be reduced significantly. The data also show that without deer to feed on, deer ticks do not find alternative hosts suitable for significant propagation.

Per the TBDC Report—“The science of deer and tick reduction is correct.”

Q 6.— Can’t we use non-lethal means to reduce our deer population?

A number of non-lethal alternatives have been investigated...including deer relocation and birth control. All have been found to be very expensive, not practical, and/or experimental.

Without doubt, any expanded deer reduction program that involves hunting will be deemed controversial. But of all the tick-borne disease intervention methods considered feasible for use on Nantucket, a reduction of our deer herd density to an appropriate level via hunting is the only method available for lowering tick numbers (and our tick-borne disease risk) on an island-wide scale. The key is how carefully such a program is planned, monitored and managed.

Q 7.— Why is a gradual approach to deer herd reduction the smartest way to go?

Our current deer herd is so large that attempting to reduce it quickly to an acceptable level is simply not feasible from both a cost and management point of view. Even with our current program of public hunting, we at best barely maintain current deer density levels. (Healthy deer have a tremendous reproductive capacity and can double their population every 2-3 years. On Nantucket, 95% of does deliver 2 fawns annually.)

After weighing all possible alternatives, the TBDC has

concluded that a carefully planned and supervised program of deer reduction spread over a period of several years is the optimal plan for Nantucket. It provides the best results, with the least social disruptions, at the lowest cost.

While it is true that some communities have hired professional sharpshooters to produce “instant results”, the public outrage and costs have proved significant. To slay and remove deer, the costs for professional sharpshooters range as high as \$650 per deer. To use sharpshooters to cull our current deer herd down to the desired reduced level, would incur total cost exceeding \$1,300,000.

Q 8.— How big a deer herd reduction will we need to see a meaningful drop in tick-borne disease infections?

The Massachusetts Division of Fisheries & Wildlife (DFW) currently estimates that we have about 2,500 deer on Nantucket—for a density of 50 deer/square mile. While DFW estimates are considered particularly reliable for Nantucket because of the quality of the information historically collected, some local groups and individuals subjectively believe that our herd is much smaller—closer to 1,500 or 30 deer/square mile. But by either measure, Nantucket’s current deer population is exceedingly high.

The DFW tells us that an ideal density goal for Nantucket should be 6-8 deer/square mile. The DFW calls this the “ideal carrying capacity”—which they define as the “scientifically-established density level” that will...

1. Maintain a healthy deer population in balance with the environment...2. At levels which allow sustainable deer harvests and deer viewing opportunities for both hunters and wildlife watchers...3. At levels that minimize the impact on public health and safety.

It should be noted that the DFW’s ideal density goal of 6-8 deer/square mile is essentially the same as the 8-10 deer/square mile threshold needed to produce a meaningful decrease in the incidence of tick-borne diseases.

Based on all of the above considerations, the TBDC recommends a deer reduction program that is implemented in five phases over several years—

Phase I—Measure and develop long-term community-based support from land-holding organizations and individuals for a deer reduction and maintenance program.

Phase II—Design a sound deer reduction program and pursue supporting regulatory changes with DFW’s guidance.

Phase III—Initiate the first stage of an expanded (or special) public hunting program...which will extend over a 5-to-6 year period...to reduce deer density to 25-30 deer/square mile. Evaluate the need for additional reduction measures and supporting regulatory/statutory changes.

Phase IV—Initiate the second stage of a public hunting program...which will extend over an additional 5-to-6 year

period... to achieve the final threshold density of 8-10 deer/square mile. (If needed to achieve this goal, additional reduction measures, e.g. -professional sharpshooting, may be required.)

Phase V—Thereafter...and on an ongoing basis...manage Nantucket’s hunting programs to maintain deer density at levels necessary to prevent tick-borne disease resurgence.

Q 9.—What do we do in the meantime?

It’s taken many years for our tick-borne disease problems to develop to their current state, and it will take time and great effort to fully curtail them at their source. In the meantime, we must effectively create barriers between these disease-carrying ticks and we humans.

As such, a well managed deer reduction program is just the first initiative in reducing the incidence of tick-borne diseases on Nantucket. In its recommendations, the TBDC outlined four additional initiatives in an integrated, long-term and sustainable plan. Here are the remaining four—

1. Vegetation Management—

The more ticks we can keep away from our dwelling places, the less likely we are to be bitten. And there are definite actions we can take to minimize their presence. Studies have shown that ticks are most prevalent in shrubby and woody areas...and that they need a micro-habitat of at least 85% relative humidity for extended survival. To minimize personal exposure to tick bites--

- Landowners and homeowner associations should be encouraged to reduce brush in yards and common areas... and keep grass cut short, with minimum watering.
- Conservation organizations should be encouraged to promote more grassland habitats and reduce shrubby scrub oak thickets. Grasslands should be cut as short as possible.
- Landscaping contractors should be versed in the above methods of property care. (Proper landscaping techniques are also important in reducing the number of tick-hosting mice around homes.)

2. Pesticide Usage —

Pesticides (acaricides for ticks) have proven to be effective in reducing ticks in localized areas...particularly when combined with landscaping changes that decrease tick habitat. But because of their uncertain environmental impact, the widespread spraying of pesticides in open areas is definitely not recommended for Nantucket.

Currently, some landowners spray their properties for ticks...and others use Damminix tick tubes along the perimeters of their yard areas to kill deer ticks hosting on mice. Without sufficient further information to demonstrate that their use is not detrimental, the TBDC neither condemns nor supports the use of these pesticide products by individual property-owners. However, the TBDC plan does recommend—

- The strategic use and deployment of “Four Poster” devices on an experimental basis at appropriate locations

such as high-risk neighborhoods and high human traffic areas...along with the establishment of a collaborated effort with Barnstable County, Cape Cod Cooperative Extension to determine appropriate locations and installation.

- Establishment of a program to monitor the level of acaricides in environmentally sensitive areas

3. Public Education—

Until our tick population can be reduced to a very minimal level, personal protection has to be our first line of defense in avoiding tick-borne diseases. Current “tick awareness” efforts must be expanded significantly...enlisting the participation of a maximum number of organizations throughout the community.

- Citizens, property-owners, renters and day visitors should be made increasingly aware of the best ways to avoid, detect and deal with tick bites.
- Homeowners should be briefed on the best ways to kill or reduce the number of ticks on their property...including options like landscape modification, perimeter spraying, tick tubes, deer fencing, pet collars, etc.
- Special programs should be conducted in the schools to make “tick hygiene” a routine, daily habit...with materials and projects that can be shared with the whole family.
- Tie-in programs should be developed with the help of the local media, ferry lines, airlines, merchants and places of lodging.
- The Nantucket Tick-borne Disease Committee should conduct seminars throughout the community...and provide experts on the science of tick-borne diseases to keep everyone current on the latest findings and developments.

4. Measuring Results—

The singular goal of this entire effort is to reduce the incidence of tick-borne diseases on Nantucket to a minimal level. To keep the program firmly on course...and to identify the need for any mid-course corrections...it’s essential that we measure our progress on an ongoing basis. This will require designing and setting up data acquisition programs with the local health community. In addition, deer herd density will be monitored with data from the Massachusetts Division of Fisheries & Wildlife. And the impact of any “Four Poster” test installations will also be monitored.

Q 10.—How does this whole effort get managed?

To preclude the missteps that made earlier attempts at deer herd reduction so problematic on Nantucket...and to accomplish the other initiatives included in these recommendations...each step of the program’s implementation must be carefully planned, supervised, managed and monitored. To that end, the Nantucket Tick-borne Disease Committee will be continued in some official form...and will be commissioned by Town Government to assist in the accomplishment of these tasks. ❖

FYI... In case you missed this in the Nantucket media ...

Nantucket Board of Health
Town Building
16 Broad Street
Nantucket, MA 02554

February 1, 2010

Dear Members of the Board of Health:

The Board of the Tom Nevers Civic Association supports the recommendations of the Nantucket Tick-borne Disease Committee. These recommendations, presented at your December 9, 2009 meeting, are an integrated, long-term approach to the greatest threat to the island's public health, tick-borne diseases.

Besides the health and financial toll that the tick-borne diseases have on island residents, we believe that they are also the greatest threat to our visitor-dependent economy. Traditional media sources, such as the Boston Globe, the New York Times and WBZ-TV, have run many articles about tick-borne diseases on the island. With the proliferation of internet-based news sites and blogs, the speed with which information, or misinformation, can be spread is unprecedented. Once potential visitors conclude there is a significant risk to their health or to the health of their children on Nantucket, they will go elsewhere and our economy will suffer a tremendous blow. This is a ticking bomb and we cannot know how much time we have left before it explodes.

Please do all in your power to implement the committee's recommendations as quickly as possible. Our health and our economy depend on it.

Sincerely,

Dual Macintyre, President
Tom Nevers Civic Association

cc: C. Elizabeth Gibson, Town Manager
Richard L. Ray, Health Inspector
Marianne Stanton, Publisher and Editor, *The Inquirer and Mirror*
Margaret Carroll-Bergman, Editor and Associate Publisher, *The Nantucket Independent*

RETURN SERVICE REQUESTED

Tom Nevers Civic Association
P.O. Box 2926
Nantucket, MA 02584

TNCA MEMBERSHIP STATEMENT

Statement Date:	March 1, 2010
Due Date:	April 1, 2010
Account #:	127

Please let us know your current email address ... so that we can keep you posted on all key developments !!

Description	
<ul style="list-style-type: none"> ■ ANNUAL DUES — Tom Nevers Civic Association (January 1 –to– December 31, 2010) \$ 15.00 ■ ANNUAL DUES — Nantucket Civic League (\$5.00)..... Included in your TNCA Dues 	
2010 Total — Please pay this amount	\$ 15.00

The Tom Nevers Civic Association is your “official neighborhood organization”—giving voice to your concerns at the Local, Town, County and Statewide levels. With a volunteer board and volunteer officers, elected by you, our singular focus is in shaping the outcomes of key decisions that will directly affect the quality-of-life and property values in the Greater Tom Nevers Neighborhood. And in this we’re succeeding. With more than 525 members, our collective voice is being heard “loud and clear”. Your Membership Dues make all this possible !

The Tom Nevers Civic Association, Inc. is a non-profit organization under IRS Code: 501(C)(4).

Please cut here and remit this portion with your payment. Thank you!

TOM NEVERS CIVIC ASSOCIATION / 2010 Membership Renewal Form

- Enclosed is my check for \$15 for 2010 dues.
- Enclosed is my check for \$30 for 2010 and 2011 dues.
- I’ve also enclosed a special contribution of _____ to help TNCA protect and improve our neighborhood.

Name(s) as you wish to be listed _____

Island Property location _____

Island Mailing Address _____ Tel. _____

Off-Island Address _____

_____ Tel. _____

Current Email address _____

Preferred mailing address: _____ Off-Island _____ On-Island

**Please make your check payable to the “Tom Nevers Civic Association”
And return with this form to — Dual Macintyre / TNCA / P.O. Box 2926 / Nantucket, MA 02584**