



# RADNOR TOWNSHIP



## *Deer Management Plan* 2012



# DEER MANAGEMENT PLAN



# WILDLIFE SOCIETY BULLETIN

## 2006

- “White tail deer may cause more damage than any other species of wildlife”

# DEER MANAGEMENT CONCERNS

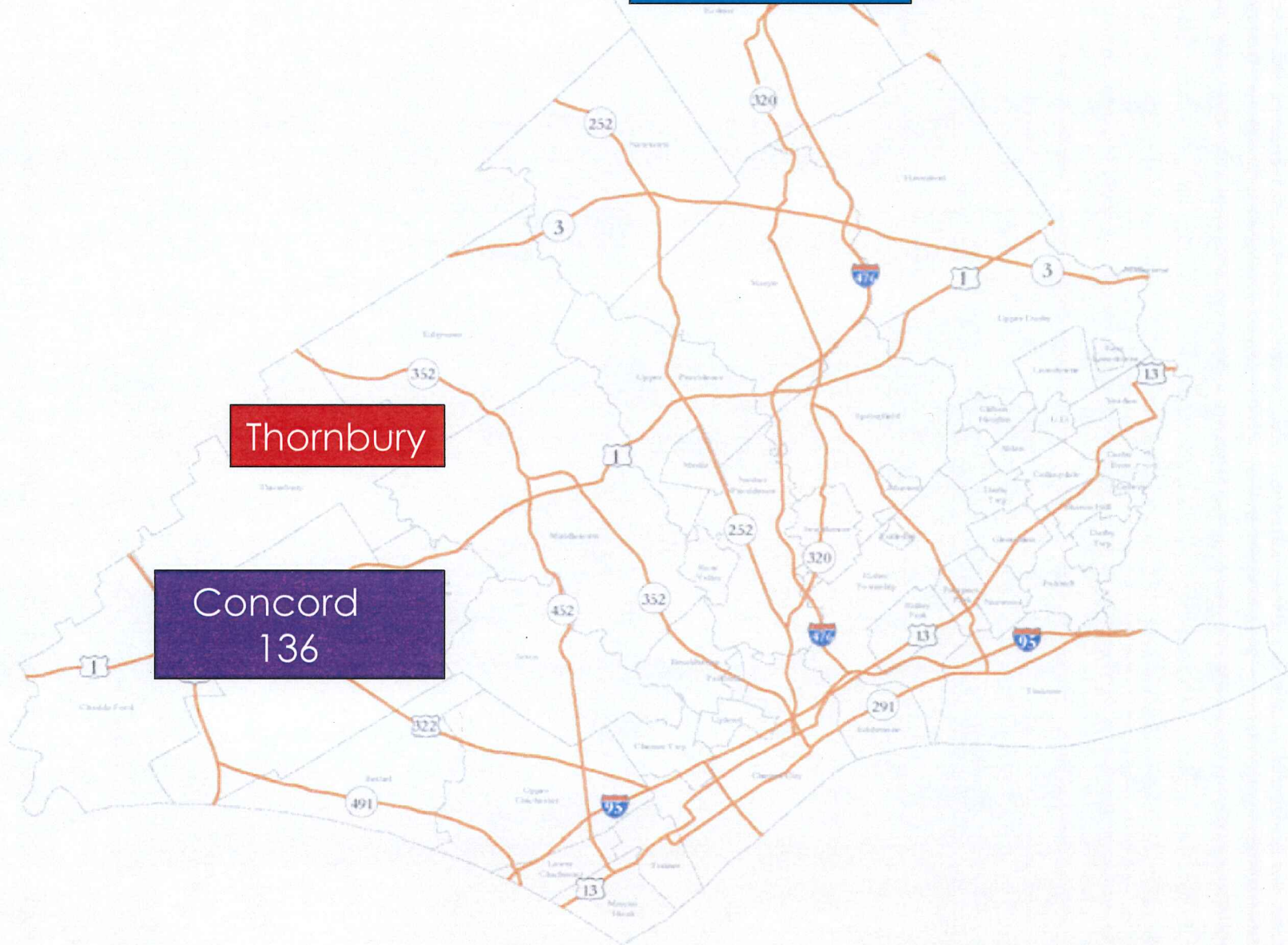
- Deer and Human contact can result in illness and injury.
- Traffic Collisions can result in injury or death
- Environmental & Private Property due to destruction of trees and shrubbery



Radnor  
144

Thornbury

Concord  
136



# DEER MANAGEMENT



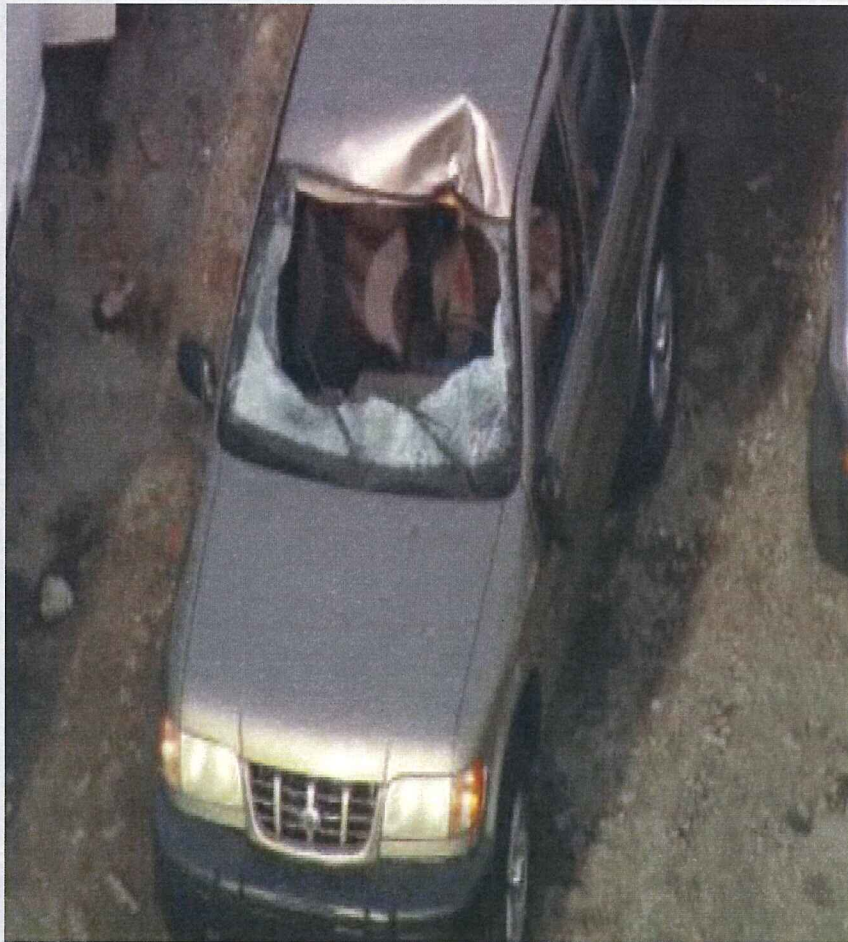
- IDENTIFY HIGH RISK AREAS
- ERECT SIGNAGE TO REFLECT HIGH COLLISION AREAS



# NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

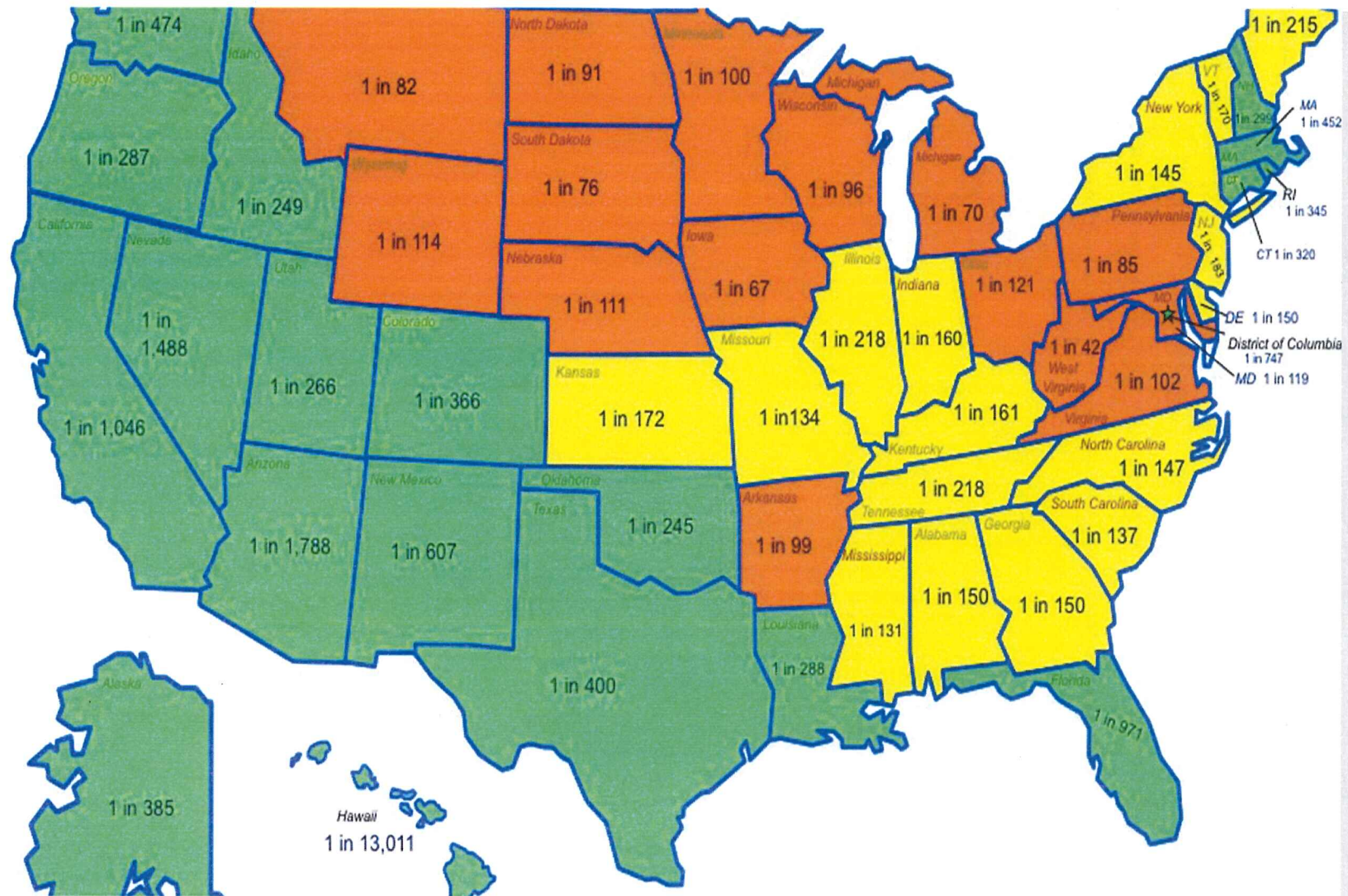
- There are roughly 1 million car crashes involving deer each year.
- These nearly 1 million car crashes a year are responsible for 200 vehicle fatalities and 10,000 serious injuries.
- These nearly 1 million deer-related car crashes a year are responsible for roughly \$1 billion in vehicle damage.

# PENNSYLVANIA STATISTICS



- PennDOT statistics show that there were more than 3000 crashes in Pennsylvania involving deer, in 2010.
- Resulting in more than 600 injuries and eight fatalities.





BASED ON PENNSYLVANIA'S NUMBER OF LICENSED DRIVERS YOU HAVE  
A 1-IN-85 CHANCE OF STRIKING A DEER IN THE NEXT 12 MONTHS.



# TIMING'S EVERYTHING



- PennDOT statistics also show that nearly half of all reportable crashes in the past five years occurred in the months of October and November.
- Nearly 77% taking place between 5 PM and 7 AM.

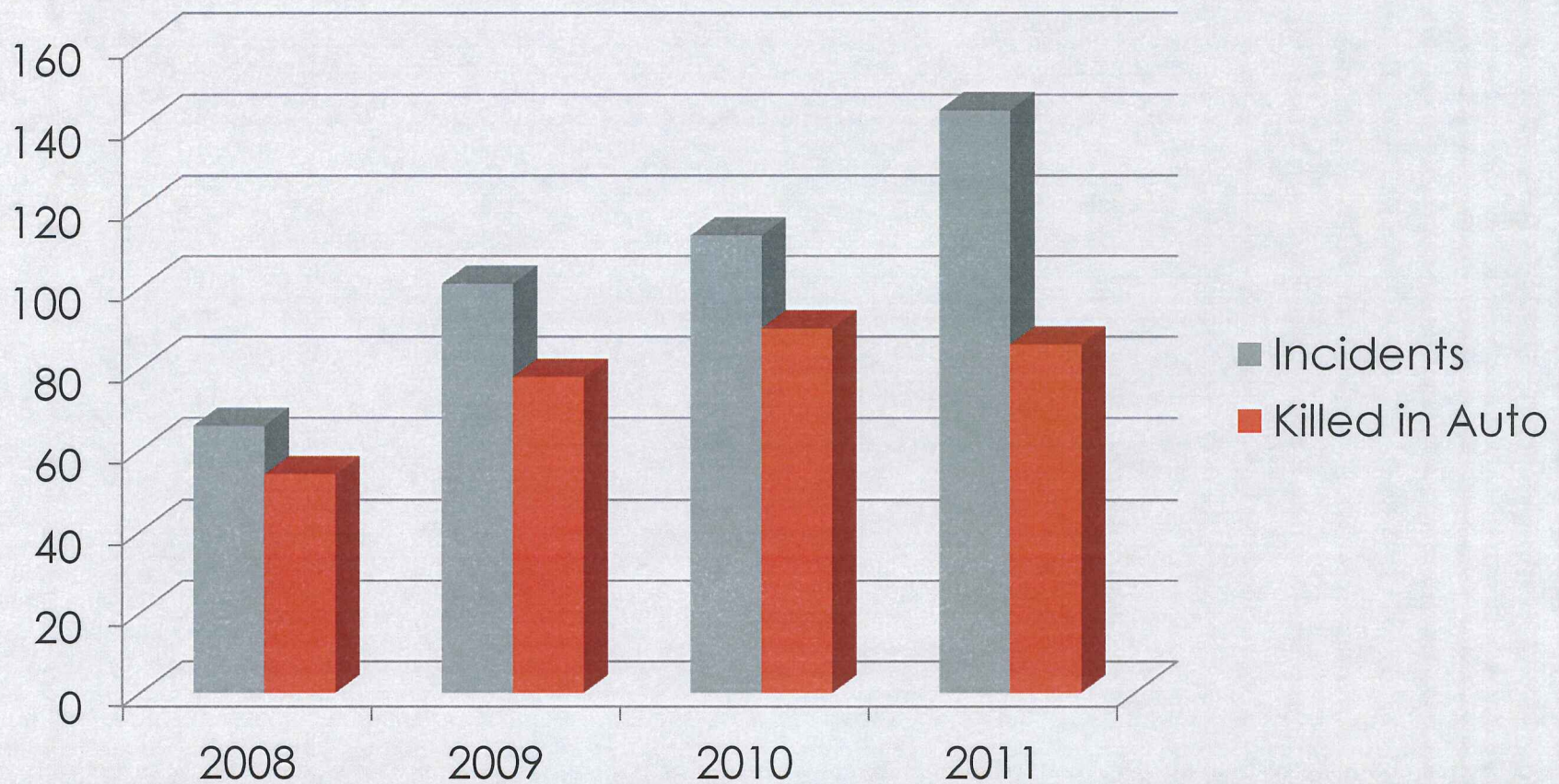


# DEER VS AUTOMOBILE





# DEER INCIDENTS





# CABRINI COLLEGE EAGLE RD.





# WALNUT AVENUE





# LYME DISEASE

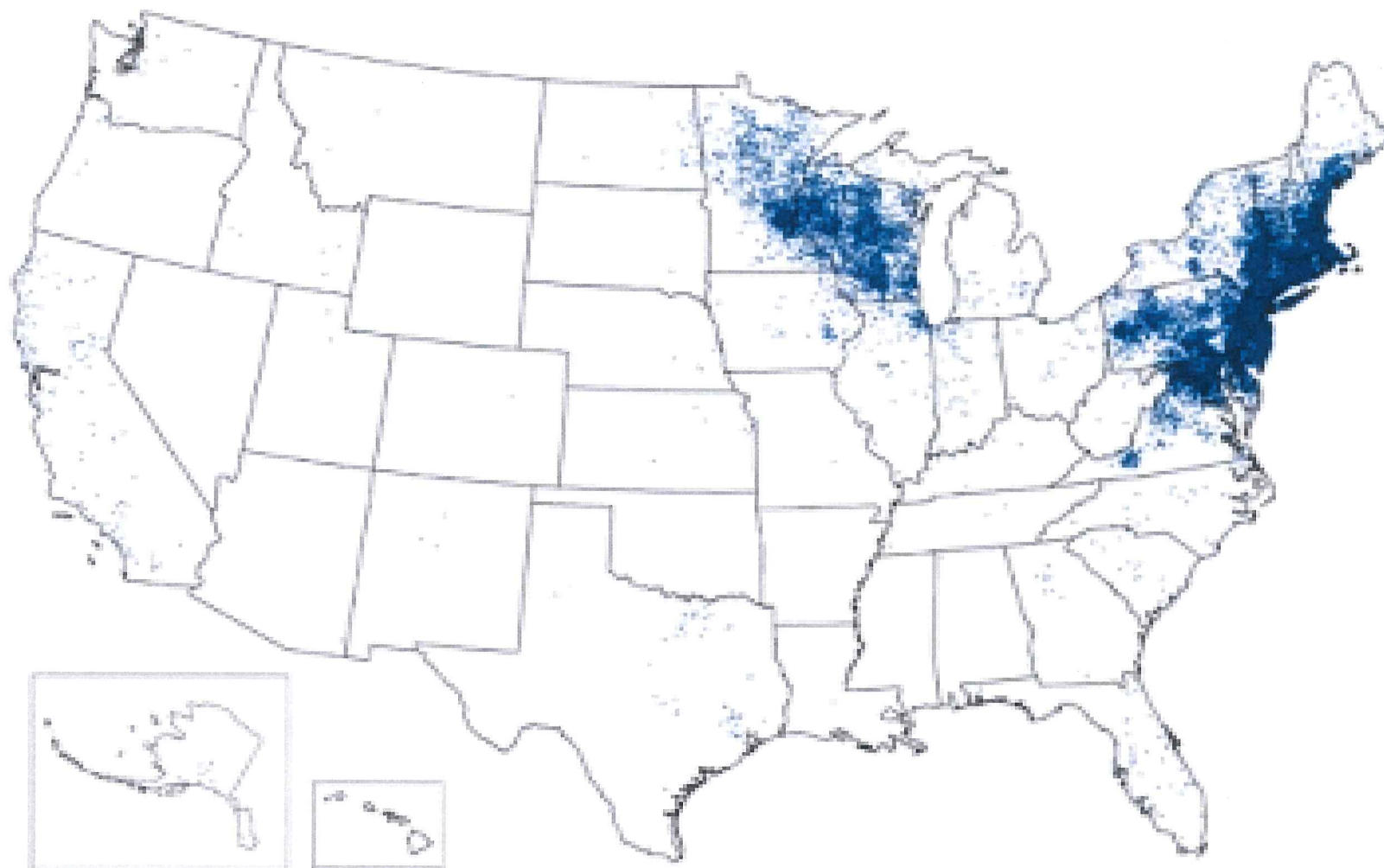
- Lyme Disease is transmitted by the bite of an infected tick.
- The blacklegged or deer tick is the type of tick that carries Lyme Disease in Pennsylvania.
- The number of annually reported cases of Lyme Disease in the United States has increased about 25-fold since reporting began in 1982.

# LYME DISEASE

- Lyme disease is the most commonly reported vectorborne illness in the U.S.
- In 2009, it was the 5<sup>th</sup> most common Nationally Notifiable disease.
- In 2010, 94% of Lyme disease cases were reported from 12 states: Pennsylvania being one of the states.

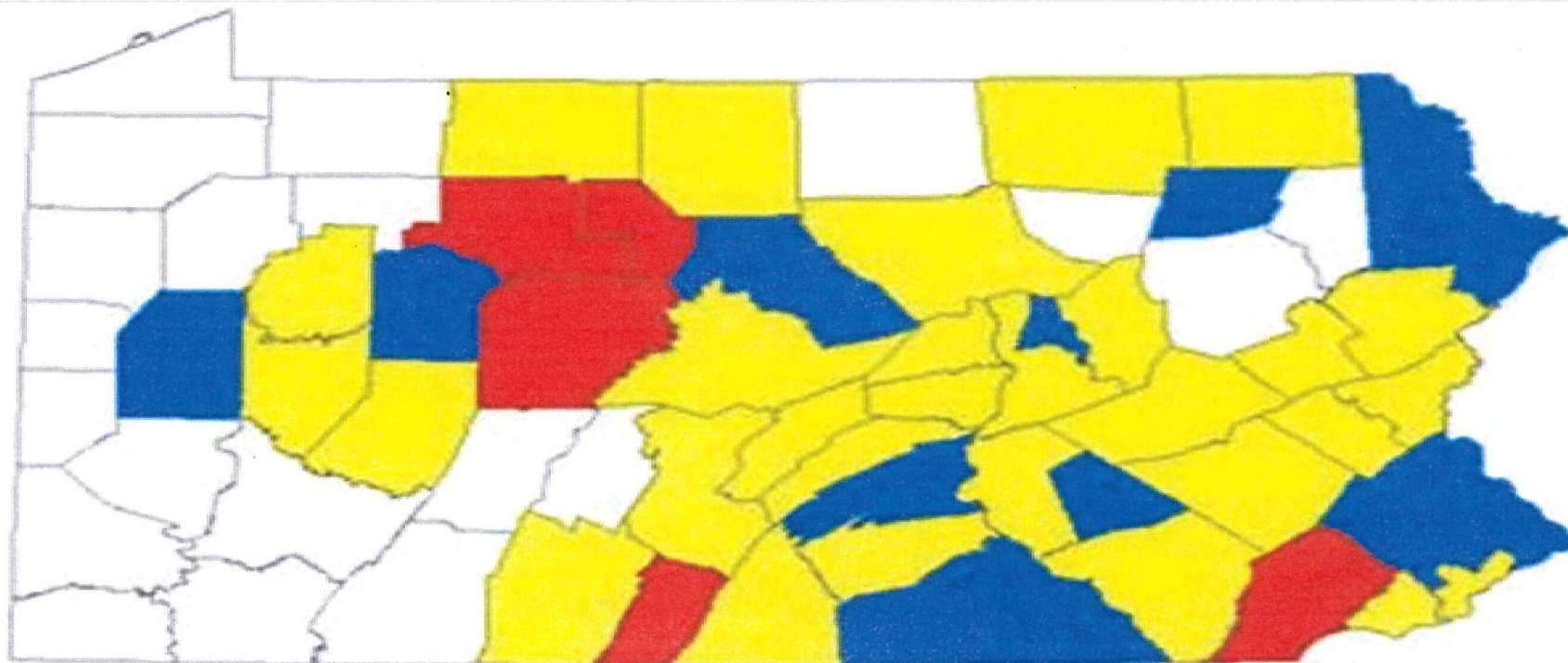


## Reported Cases of Lyme Disease -- United States, 2010

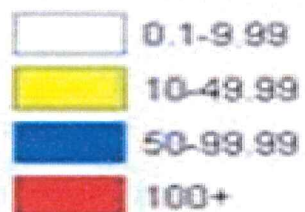


1 dot placed randomly within county of residence for each confirmed case

# NEW CASES 2006-2010



Average Number of New Cases per 100,000 Population,  
Pennsylvania, 2006-2010

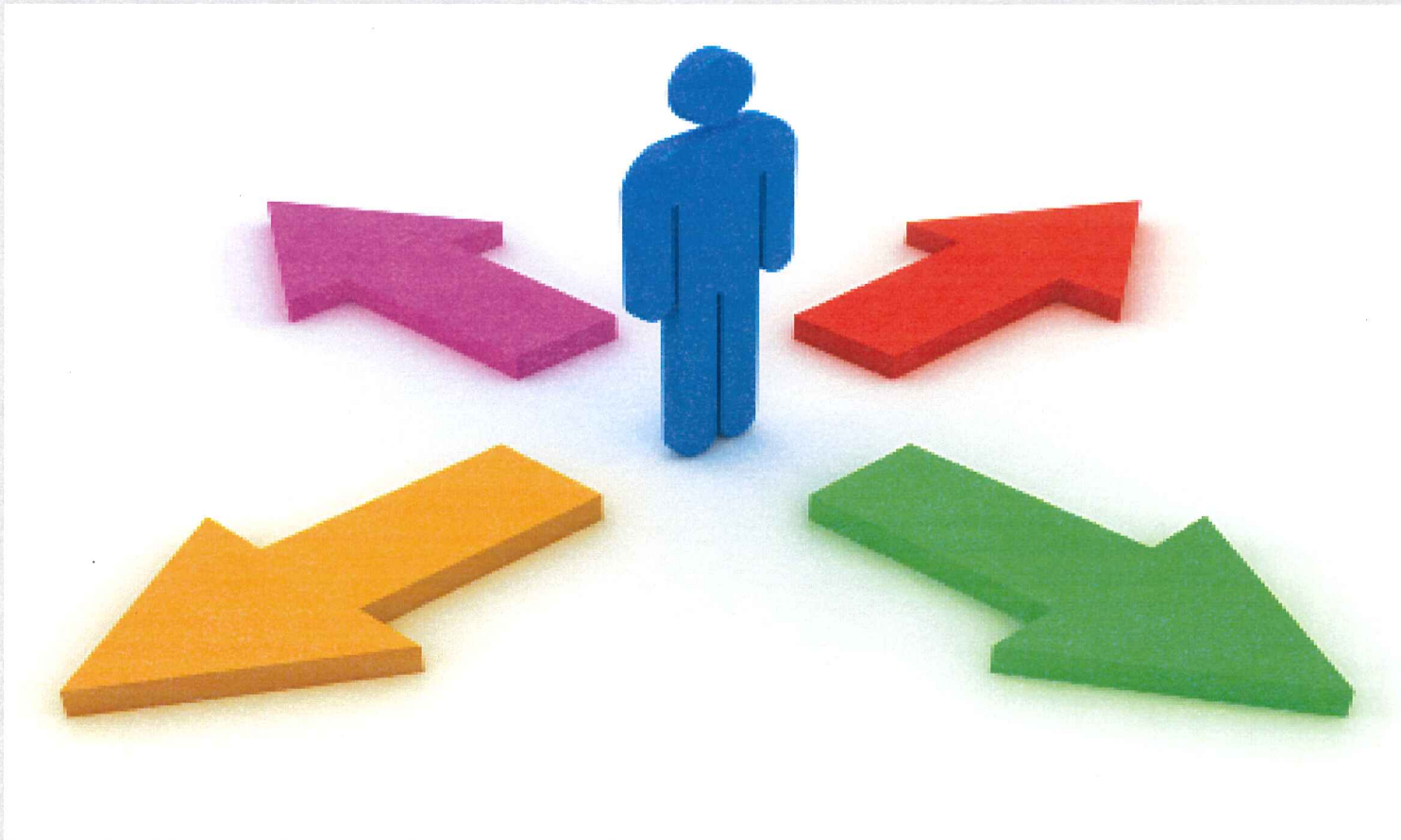




## PENNSYLVANIA DEPARTMENT OF HEALTH

Close to 4,000 Lyme Disease cases have been reported annually in Pennsylvania with the highest incidence of disease being located in the south eastern parts of the state.

# DEER MANAGEMENT OPTIONS





# DEER MANAGEMENT OPTIONS

- NO MANAGEMENT
- ACTIVE MANAGEMENT

## NO MANAGEMENT

- An option if natural factors (predators, disease, famine) and human activities (hunting, car accidents) within the area are maintaining the deer population at a level that does not adversely affect important natural or cultural resources.



# ACTIVE MANAGEMENT

- Barriers
- Repellents
- Contraceptives
- Trap and Transfer
- Lethal Removal

# BARRIERS



- Options include tree shelters, netting, and deer exclosure fencing.
- High cost and maintenance requirements.
- Requires frequent monitoring.



# REPELLENTS

- Repellants create unpleasant sensory experiences that discourage deer from physically interacting with vegetation in the treated area.
- Repellants include periodic loud sounds, bright lights, or foul tasting foliar sprays.
- Repellants can be effective in small areas where the goal is to reduce browsing damage to tolerable limits.

# REPELLENTS

- The main drawbacks are cost (approximately \$150 per acre, plus application) and their short-term effectiveness.
- Deer in dense populations quickly adapt to these tactics.
- Though foliar sprays may be useful for landscape and other special plantings, repellents are usually impractical for natural lands



# CONTRACEPTIVES

- The use of contraceptives to manage the deer population on natural lands in southeastern Pennsylvania is not only prohibited by law, but is also infeasible at this time due to the high cost (over \$1,000 per doe annually for immunocontraceptives) as well as the potential health risks of hormonal contraceptives, and the high mobility of the local deer herd. The fact that deer are free ranging throughout the region makes treating enough of the right animals almost impossible.

# TRAP AND TRANSFER

- Trapping or darting deer (requiring a permit from the Pennsylvania Game Commission) and moving them to another location is the most expensive, difficult, and ineffective deer control method.
- The most difficult, finding a location willing to accept more deer.
- Survival rates of transported deer have been low. Presently the Game Commission has a policy of issuing no permits for trapping and transferring deer.



# LETHAL REMOVAL



- Hunting is the most frequently used deer population reduction and maintenance method commonly available to land owners and land managers.



# LETHAL REMOVAL



- All lethal means of deer management focus on removing the number of does by mainly targeting antlerless deer.
- Removing bucks has almost no effect on the year-to-year rate of population increase, decrease, or maintenance.



# LETHAL REMOVAL

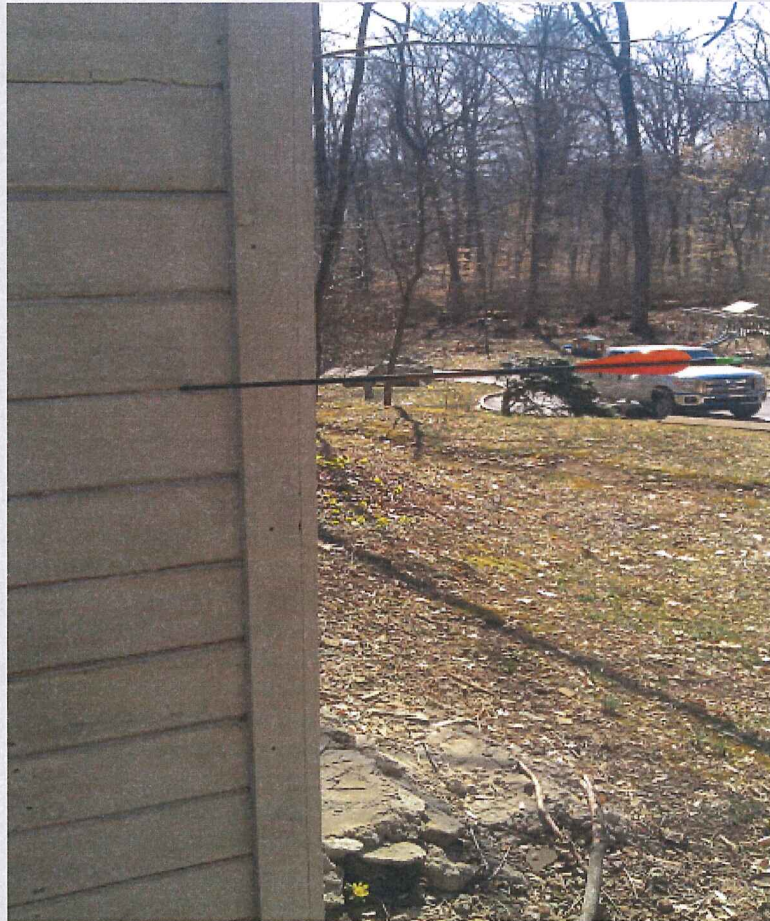
- A controlled, recreational hunting program in most cases is the most practical deer management tool available in southeastern Pennsylvania at this time.
- The likelihood of success rests to a large degree on the level of experience, skill, and dedication of the particular set of hunters who are the mainstay of the program.

# LETHAL REMOVAL

- The foremost issue is the SAFE use of firearms or archery. This is a particular concern in a community such as Radnor, where natural lands are part of the common open space that is used by the local community.
- Any hunting program should be closely monitored and controlled by restrictions that minimize the potential conflict between hunters and other users of the natural areas.



# CAMP WOODS RD.



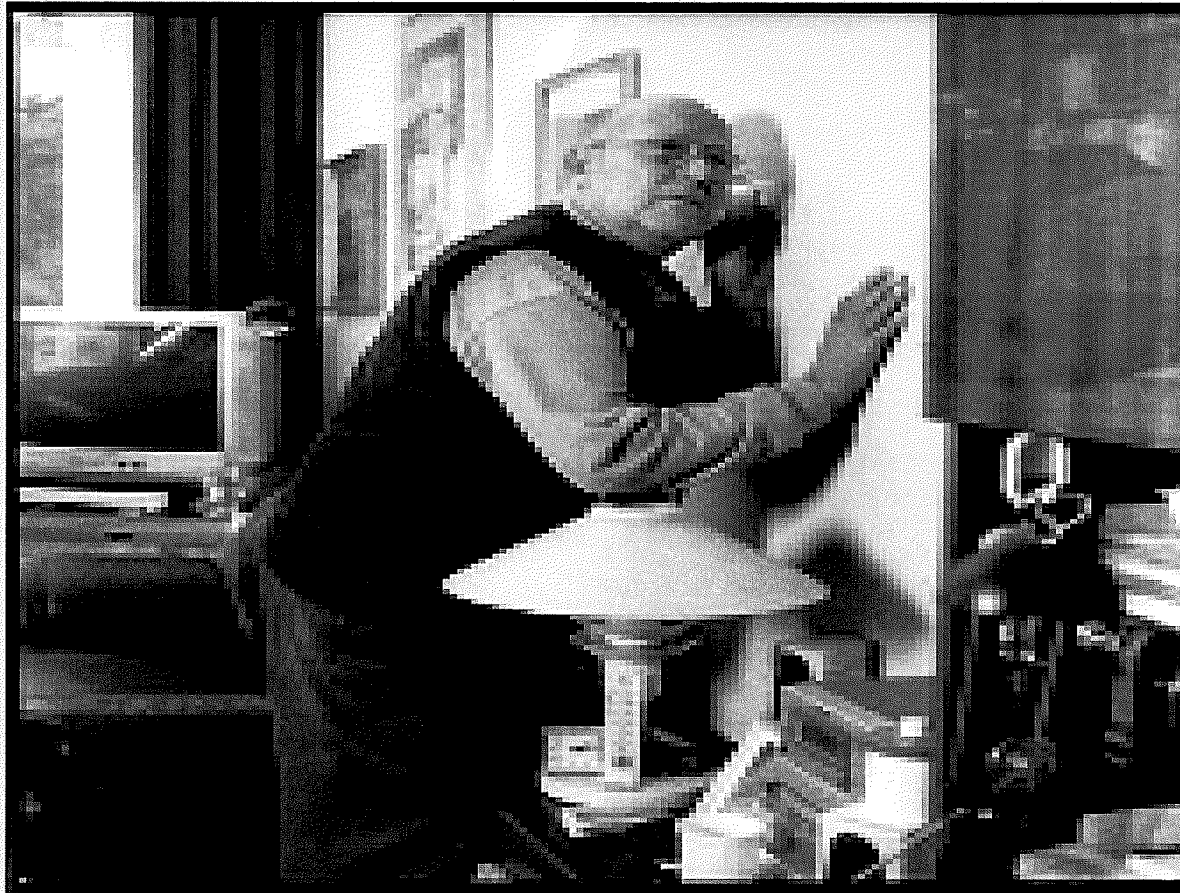
- January, 2012
- Arrow lodged in shed on side of property.
- Three young children in the home.

# MOST IMPORTANTLY

- All hunters should be screened for firearm proficiency and a history of ethical hunting practices.
- Any hunter who violates any program rule should be immediately removed from the program.
- Ideally, hunting can lower the deer population to a level where only a few deer need to be removed each year.



# WHAT ARE OUR NEIGHBORS DOING?



# HAVERFORD TOWNSHIP

- Used Police Officers and their SWAT team and hunted the grounds of the old Haverford State Hospital as well as private residences in the area.
- Used only archery equipment.
- In 2010, 43 deer were culled as a result of the hunt.
- In 2011 Haverford culled 21.



# LOWER MERION TOWNSHIP

- 1995- Police Department acted as a liaison between licensed bow hunters and residents to hunt on private property to control the herds.
- During the same time formed a partnership with the Riverbend Environmental Center and developed an educational pamphlet to address issues concerning the white-tailed deer population.
- 2005- Public meeting to discuss the issues surrounding deer management attended by the Schuylkill Center for Environmental Education as well as the Pennsylvania State Game Commission.

## 2008 STUDY

- United States Department of Agriculture to conduct an extensive survey of suspected problem areas to ascertain the density of deer, extent of environmental damage, and determine if an actual deer overpopulation exists.
- If data establishes deer overpopulation, USDA will develop a management plan for culling deer to acceptable levels.



## 2008 STUDY RESULTS

- USDA found In Lower Merion, that the average deer population was 58 deer per square mile. Extensive overpopulation exists.
- Appropriate levels for suburban area is 6-10 deer per square mile.
- Need to cull 48 deer per square mile to reach this level. Equates to 576 deer.

# USDA CULLING METHODS

- Trained experienced sharpshooters
- Night vision optics
- Noise suppressed rifles
- Controlled baited areas
- Nighttime culling only. December to April
- USDA efforts to be supplemented by archery hunters during the regular hunting season. September to January.



# LOWER MERION RESULTS

- In 2009 a total of 119 deer were culled during 10 days. Removed were 40 males and 79 females with a total projected deer density reduction of 277 less deer for 2010.
- The 2010 deer culling project began on November 8, 2010 and concluded on December 18, 2010. The project consisted of two phases. Phase one occurred during eight nights between November 8 and November 20. Phase two occurred during five nights between December 13 and December 18.

## RESULTS CONTINUED

- A total of 127 deer were culled during this project, 86 female and 41 male. On average, the 86 female deer would have produced 172 fawns in the spring.
- The total projected deer density impact reduction as a result of the 2010 program is 299 less deer in the Township in the spring of 2011.
- Approximately 3,900 pounds of venison was donated to the City Team Ministries as a result of this project.



# LOWER MERION TOWNSHIP

- LMPD retired Lt. Bernard D'Amour reported. "The positive results of the deer density reduction have become very evident to the culling team as it has become increasingly difficult to locate deer."
- The total cost for Lower Merion's 2010 deer management project was \$29,658.
- The project was \$5,342 under the budgeted amount of \$35,000.

## RADNOR TOWNSHIP DEER DENSITY SURVEY

At the request of Radnor Township, the United States Department of Agriculture Wildlife Services conducted deer density surveys to estimate the white-tailed deer population in the Township.



# DEER DENSITY SURVEY

- Using Global Information Systems, Wildlife Services developed a standardized survey route to traverse all habitat types within Radnor Township, including urban, residential, park or campus, and agricultural settings.
- The design of the survey route was intended to randomly sample the Township.
- The survey route was 25.8 miles in length along established roads.

# AVOID BIASES

- Surveying only where deer would be most observable.
- Surveying only habitats most suitable to deer within the Township.
- Counting the same deer multiple times per night



# DEER DENSITY SURVEY

- Three surveys were conducted on the nights of February 17, 18, and 21, 2012.
- Surveys began at approximately 8:30 PM and were concluded by 2:30 AM.
- The survey route was traversed once per night in the same direction for each of the surveys.

## RESULTS AND DISCUSSION

- A total of 510 deer observations were made during the surveys with 183 deer observed on 17 February, 159 deer observed on 18 February, and 168 deer observed on 21 February.
- Deer were observed an average of 58 yards from the survey route.



# DEER DENSITY ESTIMATE

- The average deer density observed for Radnor Township was 101 deer per mile or 1,394 deer in the entire Township.
- The USDA estimates with 95% statistical certainty, the deer population is between 1,298 deer and 1,487 deer at this time.

## AND LASTLY.....

- The estimate of deer abundance in Radnor Township should be considered conservative because most mortality already occurred in the annual deer population cycle.
- When fawns are born in late May and early June in southeastern Pennsylvania, deer populations are theoretically at their maximum level.



# CONCLUSION

- When deer become overabundant, a rapid reduction in deer density is necessary to suppress annual population growth and reduce damages. Once management goals are reached, annual deer harvests must be conducted to maintain acceptable population levels.
- The methods used to remove deer will depend on safety, legal restrictions, financial constraints, timing of the management action, and effectiveness of the removal methods employed. In many deer management situations, using a combination of deer removal methods is necessary to achieve management goals.

# OPTIONS

- Simply continue as we have been.
- Use resources that we already have in place. Several of our Police Officers are hunters and proficient with firearms.
- Establish a program using outside hunting clubs.
- Contract with the USDA to do an extensive study and eventually formulate a program for the Township's deer management.



## WORK CITED

- National Wildlife Society
- Northeast Deer Technical Committee
- Natural Lands Trust
- State Farm Insurance
- Pennsylvania Department of Health
- Ed Hatton, Haverford Township Animal Control
- Ed Boegley, Lower Merion Township Animal Control
- Allen Strickler, PennDOT & Pennsylvania Game Commission Deer Removal

ANY QUESTIONS ??

