

**TOWNSHIP OF PINE  
ALLEGHENY COUNTY, PA  
DEER MANAGEMENT POLICY**

**ADOPTED BY THE BOARD  
June 2, 2014**

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Note: This policy has been adapted from A guide to deer management in developed areas of Pennsylvania, Version 2.3, dated November 2013, provided by the Pennsylvania Game Commission’s Deer & Elk Section ([www.pgc.state.pa.us](http://www.pgc.state.pa.us))

**Section I: Introduction**

White-tailed deer (*Odocoileus Virginianus*) are one of the most widespread and popular wildlife species in North America as well as Pennsylvania’s state animal. Nearly extirpated from the state over 100 years ago, the whitetail has made a miraculous comeback. Now, this ghost of the forest has made itself at home even in the midst of urban settings. And while this wildlife management success story is a welcome addition to communities, this welcome is soon rescinded as deer in urban and suburban environments cause substantial conflict and controversy.

The suburbs are attractive to deer for some of the same reasons they are attractive to people. Deer are afforded the same conveniences and protection as suburban residences. There are natural areas, greenways, and parks, that provide bedding areas, escape cover, and birth sites. Homes are landscaped with trees, shrubs, and herbaceous cover, which are appetizing and nutritious to deer. And wild and domestic predators have been extirpated or controlled.

Deer populations in developed areas can grow rapidly. The combination of the above circumstances leads to high reproductive rates, low mortality rates, and small home range sizes for deer in urban and suburban areas (Swihart et al 1995, Kilpatrick and Spohr 2000, Etter et al 2002). The result can be a rapid increase of a deer herd that is not managed. The speed of which a deer population can increase is demonstrated by a classic example of deer population growth potential. In 1927, 6 deer were released into an enclosure in Michigan. By 1933 those 6 deer

had increased to 160 deer (McCullough 1979). With growth potential like this, a deer population can quickly overwhelm an area.

Managing a deer population requires knowledge of deer biology, familiarity with public attitudes about deer in the area, and adequate tools to address the issue.

## **Problems associated with deer in developed areas**

### **1. Deer-vehicle collisions**

An estimated 1.5 million deer-vehicle collisions occur each year in the U.S. The average cost of vehicle repairs was \$1,500 which means that total vehicle damage resulting from a collision with a deer exceeded \$1 billion annually (Conover et al. 1995). Based on their known market share in Pennsylvania, State Farm Insurance projected more than 115,000 deer-vehicle claims for all insurance companies in the state during July 1, 2011 – June 30, 2012. It is also estimated that 29,000 people are injured and more than 200 fatalities occur annually in the U.S. as a result of deer-vehicle collisions. Pennsylvania was in the top 10 states for fatalities 10 out of 14 years from 1994-2007 (deerCrash.org)

### **2. Landscape/garden damage**

Deer browsing on ornamental trees, shrubbery, and gardens in suburban and residential areas is a common complaint and financially impacts homeowners each year (Connelly et al. 1987, Witham and Jones 1987, Conover 1997b). Wildlife damages incurred in metropolitan residents in the U.S. have been estimated at \$3.8 billion annually. This is in addition to spending \$1.9 billion and 268 million hours trying to solve or prevent to problem (Conover 1997b). Deer are not responsible for all this damage. Only 4% of respondents to a 1997 survey reported a problem with deer. Using this percentage, a conservative estimate of deer damage and preventative measure costs to households is \$376 million (Conover 1997a).

### **3. Public Safety**

Encounters with aggressive deer are not uncommon in urban and suburban areas where deer and people interact frequently. These encounters are almost always associated with the fawning and breeding season. Does are highly defensive of their young and have been known to attack unsuspecting dogs and people who get too close to their fawns. In the fall, bucks in breeding condition with hard antlers and high levels of testosterone can cause significant harm, even death. Feeding deer exacerbates this type of problem by bringing deer and people closer to habituating deer.

### **4. Lyme Disease**

Lyme disease was first recognized in the U.S. in 1975. Lyme disease is caused by the spirochete *Borrelia burgdorferi* and is spread through the bite of an infected tick (*Ixodes scapularis*). Lyme disease, as well as other tick-borne diseases, poses a significant threat to humans. Deer are dead-end hosts for Lyme disease and play no role in the transmission cycle (Underwood 2005, Perkins

et al. 2006). However, deer play a part in the complex life cycle of *I. scapularis*, by supplying adult ticks with a final blood meal and a place to mate (Underwood 2005, Perkins et al. 2006)

## 5. Habitat Degradation

Deer can have a major impact on the natural community in which they live. As a number of deer increases, plants that are preferred by deer will become less abundant or may disappear (Ross et al. 1971, Marquis 1981, Tilghman 1989, Healy 1997). Preferred plants become scarce as deer densities increase. The disappearance of certain plant species adversely affects other wildlife species and can cause a dramatic reduction of biodiversity in forest ecosystems (Whitney 1984, McShea and Rappole 1992, deCalestra 1994, 1997).

## **Obstacles associated with community deer management**

### 1. Aesthetics

White-tailed deer are the most easily viewed of all large mammals in Pennsylvania. Wildlife watchers outnumber sportsmen in Pennsylvania by more than 3 to 1 with more than half its residents spending more time viewing or watching deer around their home (U.S. Department of Interior and U.S. Department of Commerce 2008, responsive management 2012). Residents erroneously assume that deer management actions will lead to elimination and their wildlife viewing opportunities.

### 2. Conflicting social attitudes and perceptions

Addressing deer issues in developed areas involves numerous stakeholders. This diversity often results in wide range views and opinions regarding what action, if any, should be taken. Residents unfamiliar with wildlife management techniques may not be comfortable with hunting or other removal methods. While others may feel control measures are necessary for the safety and quality of life of all residents.

### 3. Hunting and/or firearms restrictions

Local ordinances governing the discharge of firearms may be impediments to implementing deer management measures.

### 4. Safety and liability concerns

Lethally removing or capturing animals within populated areas often generates safety concerns from residents. Whether concerns are real or perceived, they must be adequately addressed before deer management actions are taken.

### 5. Public relations concerns

Appointed or elected decision makers are often hesitant to make controversial or unpopular decisions even if they are supported by the majority of residents or by an abundance of evidence.

## 6. Private property rights

It is usually difficult, at best, to acquire 100% property owner consensus on any particular subject, and this may be true with a deer management program. Those opposed to deer management will most likely not authorize activity on their private property. Removal options rely on larger blocks of property to achieve satisfactory results so a “non-cohesive” block of property with some owners desirous of a removal option and some opposed may make a removal option non-viable.

### **Deer management in developed areas: Facts & Fiction**

- In a healthy population, female deer can breed as fawns (6-7 months of age) producing young at 1 year of age. Average pregnancy rate of doe fawns in developed areas is 40%.
- Healthy adult does most often produce 2 fawns annually.
- Removing a deer from a healthy population will NOT increase reproductive rates of the remaining deer. Deer in Pennsylvania breed once a year. Average reproductive rate for adult does in developed areas in Pennsylvania is 1.8 fawns/adult doe with 15% producing a fawn, 79% producing twins, and 6% producing triplets. Reproduction in females is already close to maximum, so there is little room for reproductive increases.
- Deer can live up to 18 years of age.
- Deer populations can double in size every 2-3 years.
- Deer eat about 5-10 pounds of food daily.
- Deer home ranges are relatively small in urban areas (100-300 acres).
- Current birth control practices are costly and ineffective in controlling free-ranging deer populations over a large area.
- Hunters can assist landowners at no cost.
- Landowners can waive the 50 yard archery or 150 yard firearm safety zone.
- Hunting does not increase deer-vehicle accidents. During fall, deer naturally move more due to increased activity associated with breeding season. Investigations have shown deer-vehicle accidents occur more frequently on Sundays when no hunting is allowed than on Saturday (higher hunter participation day) and 1-4 hours after dark which is after hunting hours.
- Landowners who allow the use of their property without a fee are protected from liability.
- Typically, the removal of 1 adult doe during the hunting season equates to 3 less deer the following spring.

- All deer management programs require long-term maintenance.

## **Section II: Management Options**

When considering community deer management actions, the advantages and disadvantages of all available techniques must be evaluated. As stated previously, every community is different so, success is rarely achieved with a single method. An integrated approach combining several management options will likely yield the best results. It is also important to note that deer management requires considerable long-term planning and commitment. No matter what blend of management options employed, actions will need to be sustained for years.

### **Non-Removal Options:**

#### **1. Roadside devices**

*Definition: Devices which flash light and/or emit noise into the surrounding area triggered by passing vehicles. The intention is to scare deer away from the area.*

Advantages:

- (a) Readily available from several manufacturers
- (b) Relatively simple to erect

Disadvantages:

- (a) Cost - \$150 each depending on design and manufacturer
- (b) Requires maintenance (knocked over, cleaning, etc)

Application:

- (a) Used along roads in areas where high numbers of deer-vehicle collisions have occurred

Expectations for Success:

- (a) Effectiveness is not well substantiated

#### **2. Landscaping Alternatives**

*Definition: Selection of unpalatable (less preferred) herbaceous and woody plants to reduce deer browsing on landscaping.*

Advantages:

- (a) Species preference lists are readily available
- (b) Can be practiced at the landowner level

Disadvantages:

- (a) People and deer often prefer the same plants
- (b) Few ornamentals are classified as rarely damaged by deer
- (c) Displaces the problem to neighboring areas
- (d) Only useful in areas with low to moderate deer feeding pressure
- (e) Could negatively impact desirable wildlife species

Application:

- (a) Individual landowner

Expectation for Success:

- (a) Limited in areas with high deer density
  - (b) Unproven technique to control deer-human conflicts
- 

### **3. Ban Deer Feeding**

*Definition: Outlaw the supplemental feeding of deer by residents of the community*

Advantages:

- (a) Reduces artificially high deer populations in problem areas
- (b) Possible reduction in reproductive and survival rates
- (c) Discourage deer tolerance of people

Disadvantages:

- (a) Unpopular with residents
- (b) Difficult to enforce

Application:

- (a) Community-level as it requires the passing of an ordinance

Expectation of success:

- (a) High when in conjunction with a community education program

### **4. Repellants**

*Definition: Product applied to plants that reduces attractiveness and/or palatability of treated plants to deer*

Advantages:

- (a) Many repellants commercially available
- (b) Individual plants may be protected (orchards, nurseries, gardens, and ornamentals)

- (c) May be used prior to or upon observation of damage
- (d) Substantial scientific literature on effectiveness

Disadvantages:

- (a) High application cost
- (b) Impractical for row crops, pastures, or low-value commodities
- (c) Effectiveness depends on availability of other forage
- (d) Must be reapplied repeatedly during growing season
- (e) Performance reduced with high deer density
- (f) Only reduces damage, does not eliminate it
- (g) May cause plant damage

Application:

- (a) Individual plants
- (b) Orchards
- (c) Nurseries
- (d) Gardens

Expectations for success:

- (a) Short term solution
  - (b) Problem will escalate each year
- 

## **5. Fencing**

*Definition: Construction of a physical or electric barrier to exclude or direct deer movements from an area. Barrier fencing (minimum 8-foot high; woven or individual wire cages 1.5 feet in diameter and 3-4 feet high; fine netting to cover shrubs and gardens; or any type of fencing that creates an obstacle to deer access).*

Advantages:

- (a) Provides long term deer exclusion
- (b) Can be used for individual trees/shrubs/plants or large blocks
- (c) Performs well under intense deer pressure
- (d) Many options available

Disadvantages:

- (a) Expensive (\$5-7 per linear foot)
- (b) Regular maintenance is required
- (c) Changes aesthetics of area
- (d) Difficult to use across water gaps and flood plains
- (e) For large areas, deer must be removed from inside the fence
- (f) Local ordinances may restrict use

Application:

- (a) Individual trees/plants/shrubs
- (b) Orchards
- (c) Nurseries
- (d) Gardens or small plots
- (e) Airports

Expectation for Success:

- (a) High

***Electric fencing*** (*electric current passed through a wire fence at regularly timed pulses*)

Advantages:

- (a) Less expensive than barrier fence (\$0.15 per linear foot)
- (b) Easier to remove
- (c) Several designs to suit area and needs

Disadvantages:

- (a) Regular maintenance required
- (b) Possible injury to people, pets, and wildlife
- (c) Deer learn to avoid contact

Application:

- (a) Orchards
- (b) Nurseries
- (c) Gardens

Expectation for success:

- (a) Short term solution
- (b) Problem will escalate each year

---

## **6. Hazing and Frightening Techniques**

*Definition: Use of audible, visual, or other sensory cues to frighten deer from specific areas*

Advantages:

- (a) Effective before or at the initial stages of conflict
- (b) Provides quick relief

Disadvantages:

- (a) Deer habituate quickly to disturbances
- (b) Deer movements or behavior patterns are difficult to modify once established
- (c) Disturbance of surrounding residents

Application:

- (a) Small farms or preserves near suburban areas

Expectations for Success:

- (a) Short term solution

## **7. Fertility Control Agents**

*Definition: Use of contraceptive drug or vaccine to reduce reproductive rate of deer population within a community*

Advantages:

- (a) Acceptable to many urban/suburban residents
- (b) Viewed as a humane and safe way to resolve deer problems

Disadvantages:

- (a) Fertility control agents are classified as “restricted use pesticides”
- (b) Federal and State permits are required
- (c) All treated animals must be marked
- (d) Expensive (\$500 - \$1,300 per deer)
- (e) Large proportion of females (>75%) must be treated to stop or reduce population growth
- (f) May have health, behavior, and genetic impact on deer the current and future population
- (g) Does not address existing population problems and may take a decade or more to have an impact on deer abundance

Application:

- (a) Communities with limited huntable areas
- (b) Requires a permit from the Pennsylvania Game Commission
- (c) Limited to localized areas with closed populations

Expectations for Success:

- (a) Unlikely given the current limitations of this method. Long-term field studies have demonstrated reduced population growth rates, but actual population reductions have not occurred or have taken more than a decade.

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## **8. Trap and Relocate**

*Definition: Capture animals, remove them from one area, and transfer them to another.*

Advantages:

- (a) Reduces population in the trap and remove area
- (b) Acceptable to many urban/suburban residents

Disadvantages:

- (a) High mortality during transfer and after release due to capture-related injuries, capture myopathy (trapping stress), unfamiliarity with the release site, human activities, and encounters with new mortality agents
- (b) Potential for spreading diseases
- (c) Lack of suitable release sites
- (d) Expensive (\$110 - \$800 per animal)
- (e) Urban/Suburban deer usually exhibit reduced flight distances and a preference for roadsides and open lawns seeking out comparable residential locations from which they came

Applications:

- (a) Currently not approved for use in any area in Pennsylvania

Expectations for Success:

- (a) Low
- 

## REMOVAL OPTIONS

### **1. Hunting within statewide regulations** (See Pennsylvania Game Commission website, [www.pgc.state.pa.us](http://www.pgc.state.pa.us))

*Definition: Hunting by licensed sportsmen within the community as defined by the Pennsylvania Game Commission regulations set forth each year, including the Deer Management Assistance Program (DMAP)*

Advantages:

- (a) Makes deer wary of humans making them less likely to frequent inhabited areas
- (b) Reduces population
- (c) Proven effective technique
- (d) Cost effective

Disadvantages:

- (a) May be unpopular with some residents due to personal values or safety concerns
- (b) Limited hunter access

Applications:

- (a) Any huntable area with landowner permission. Safety zones (150 yard for firearms and 50 yards for archery)

Expectations for Success:

- (a) Practical solutions to deer population control
- (b) High expectation for success where hunter access is adequate

## **2. Community Managed Hunts**

*Definition: Hunting by licensed sportsmen within Pennsylvania Game Commission regulations with increased restrictions defined by the community or landowner.*

Advantages:

- (a) Makes deer wary of humans making them less likely to frequent inhabited areas
- (b) Reduces population
- (c) Proven effective technique
- (d) Low cost
- (e) Criteria defined by managing group (i.e. marksmanship requirements, who may hunt, hunting methods, hunting times and locations, and the sex, age and number of deer that can be harvested)
- (f) Equipment could be restricted or liberalized to influence effect on deer population or address public safety concerns

Disadvantages:

- (a) May be unpopular with some residents due to personal values or safety concerns
- (b) Not effective where hunting is prohibited from large areas of good habitat (i.e. parks and dedicated open space)

Applications:

- (a) Effective in large areas when permitted (i.e. parks, watershed areas, dedicated open space)

Expectation for Success:

- (a) Practical solution to deer population control
- (b) High expectation for success where hunter access is adequate

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## **3. Deer Control Permits/Sharpshooters**

*Definition: Permitted control agent hired to remove deer from specified areas within a community.*

Advantages:

- (a) Makes deer wary of humans making them less likely to frequent inhabited areas
- (b) Reduces population
- (c) Discretely removes significant numbers of deer from targeted areas within a relatively short period of time
- (d) Written contract provided
- (e) Permitted to use tools not authorized for use by the general public (spot lights, small caliber

rifles, etc.)

(f) May be viewed as “safer” than hunting by the community

Disadvantages:

- (a) May be unpopular with some residents
- (b) Expensive (\$100 - \$300/deer removed)

Applications:

- (a) Small areas
- (b) Requires a permit from the Pennsylvania Game Commission

Expectations for Success:

- (a) Limited solution
  - (b) Effective in areas where public hunting would not be allowed
- 

#### **4. Predator Reintroduction**

*Definition: Reintroduction of deer predators into an area*

Advantages:

- (a) May be supported by some community members

Disadvantages:

- (a) Predation is not sufficient to reduce high deer densities
- (b) Coyotes currently occupy suitable habitat in and around many urban and suburban areas
- (c) Large mammalian predators (bears, wolves, or cugars) have large home ranges
- (d) Urban/suburban areas are unsuitable for large predators due to high human densities and safety concerns, extensive road networks, and inadequate habitat

Applications:

- (a) Not approved for any area in Pennsylvania

Expectations for Success:

- (a) Low

### **Section III: Stakeholder Involvement**

#### **1. Individual Homeowner (property owner) Involvement**

*Definition: An individual homeowner or property owner affected by the influences of deer can and should take steps to deter or mitigate such influences. Individual homeowner or property*

*owner involvement must be the first step in addressing unwanted deer influences on individual properties.*

Action Steps:

(a) An individual homeowner or property owner shall take and document that he/she/they have, at a minimum, adequately implemented the following “non-removal” options:

- Landscape Alternatives (non-removal)
- Ban deer feeding (non-removal)
- Repellants (non-removal)
- Fencing (non-removal)

(b) An individual homeowner or property owner shall have indicated their agreement that he/she/they have or will permit the following “removal” options:

- i. Hunting within statewide regulations (removal)
- ii. Community managed hunts (removal)
- iii. Deer control/Sharpshooters (removal)

## **2. Homeowners’ Association Involvement**

Action Steps:

(a) A Homeowners’ Association, as a group, shall take and document that they have, at a minimum, adequately implemented the following “non-removal” options for Association owned property(s):

- Landscape Alternatives (non-removal)
- Ban deer feeding (non-removal)
- Repellants (non-removal)
- Fencing (non-removal)

(b) A Homeowners’ Association, as a group, shall take and document that they have indicated their agreement that they have or will permit the following “removal” options:

- i. Hunting within statewide regulations (removal)
- ii. Community managed hunts (removal)
- iii. Deer control/Sharpshooters (removal)

## **3. Township Involvement\***

Action Steps:

(a) Upon notification that an individual Homeowner or property owner or a group of two or more homeowners and/or property owners has requested assistance from the Township with deer intrusions, the Township, at its sole discretion may:

- Refer the homeowner, property owner, or group of two or more homeowners or property owners to the established homeowners’ association for action

- Determine if additional homeowners and/or property owners are desirous of implementing one or more of the management options outlined in Section I or Section II
- Determine if additional homeowners and/or property owners and/or homeowners' associations of adjacent properties are desirous of implementing one or more of the management options outlined in Section I of Section II
- Staff to conduct a survey of the existing conditions and community interest and, if warranted, develop an implementation plan using one or more of the selected management techniques outlined in Section I, II or III if approved by the Board of Supervisors of the Township of Pine

#### **4. Outside Involvement**

The Board of Supervisors may utilize outside sources to assist with deer management techniques not specifically listed in this policy as they deem appropriate.

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\*The Township of Pine cannot authorize hunting on private property. When Township involvement is requested, the Township may seek permission from private property owners, but will not authorize activity on private property without owners consent.

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## **Appendix A: Landscaping Alternatives, Repellants, Fencing Resources and Removal Resources**

Further information regarding non-lethal, and lethal mitigation techniques can be found at the websites/Information listed below:

Resistance of Ornamentals to Deer Damage (Maryland Cooperative Extension):  
<http://extension.umd.edu/sites/default/files/docs/articles/FS655-ResistanceDeer.pdf>

Deer Fencing:  
<http://deerfencing.com>

<http://deerbusters.com>

Wildlife Management:

Timothy A Giger  
121 Kyle Road  
Valencia, PA 16059  
(724) 898-2244 (office)  
(724) 898-3461 (home)

The Township of Pine cannot authorize access or hunting on private property. When Township involvement is requested, the Township may seek permission from private property owners, but will not authorize activity on private property without the owner's consent.