

# OH DEER, WHAT CAN THE MATTER BE?

A Public Service Advisory

## The Churchill Area Environmental Council

2300 Wm. Penn Highway, Pittsburgh PA 15235 Spring, 2007

Watching an antlered buck browsing in your yard can evoke simultaneous feelings of admiration at his regal elegance and anger at his acquired taste for your expensive hostas. Beyond our personal ambivalence, deer overpopulation in Pennsylvania, along with the spread of these large herbivores into suburbia, have had very serious and costly impacts on public health, farming, forestry and wildlife. The elimination of natural predators (wolves and cougars) and past mistakes in managing the white-tailed deer population have brought us to the current crisis. Beloved bambi has become the animal most damaging and dangerous to humans.

### Background and Impact

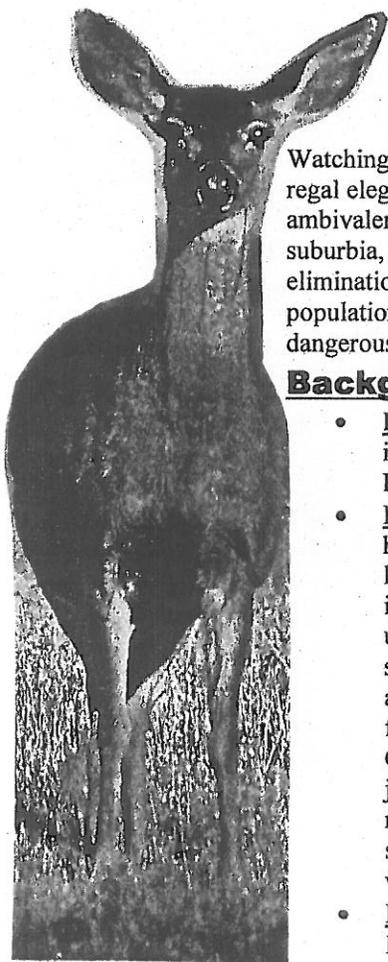
- **Deer/vehicle collisions** often involve human injuries and deaths as well as huge dollar outlays in insurance, medical and governmental costs. Between 80,000-100,000 deer are killed annually on Pennsylvania roads.
- **Lyme disease**, a serious spirochaete bacterial infection carried by the tiny, black-legged deer tick, has increased in the Commonwealth from 2 cases in 1982 to 5,700 in 2003. Pennsylvania now leads the U.S. in the annual number of new Lyme cases. Although it can be cured with antibiotics if diagnosed early, Lyme disease can result in chronic arthritis and neurological damage if untreated and allowed to progress. Dogs are also susceptible to the ravages of Lyme and can suffer painful and long-term disabilities. Other tick borne diseases include **babesiosis** (caused by a malaria-type protozoan) and **ehrlichiosis** (a rickettsia bacterial infection). These are not yet found in our area but are increasingly common along the east coast in popular vacation spots like Cape Cod and the Jersey shore. The ticks that carry all 3 of these infectious microbes go through juvenile stages that feed predominantly on small mammals (e.g. white-footed mice), gradually maturing into adults that seek blood meals on larger mammals (e.g. deer, humans). Ticks drop off successive hosts to rest, digest and molt. They jump onto new hosts from the vegetation through which their unwitting victims travel.
- **Damage to private property** by roaming deer has been costly to homeowners and businesses. A Penn State research report estimates yearly farming losses from deer damage at \$74 million. Nurseries and related suppliers suffer declining sales as frustrated gardeners abandon or reduce their ornamental and vegetable plantings. Ironically, there is some commercial balance through increased demand for fencing, netting and odoriferous sprays.
- **Forest destruction** has been the inevitable result of over-browsing by deer. At current estimated levels of **1.6 million deer statewide and 50+ white-tails/square mile in some areas**, deer have virtually **eliminated most tree seedlings**, including commercially valuable oak, ash, poplar, sugar maple and black cherry. This has led to a "failure of regeneration" as the mature **canopy trees** of these species die. Deer herds out-compete bear, turkeys, grouse, mice and other animals for the nutritious, annual acorn crop. As the numbers of these animals decrease there is a cascade effect on their predators – foxes, bobcats, hawks and owls. In the **forest understory**, most shrubs and tree branches below the 5' deer "browse line" are gone. Popular wildflowers, like Pennsylvania's signature trilliums, have suffered repeated defoliation and are endangered in many areas. A major reason for deer dispersal to the suburbs is the degradation of their natural forest habitat.

### Short Term Options for Protecting Property Against Deer

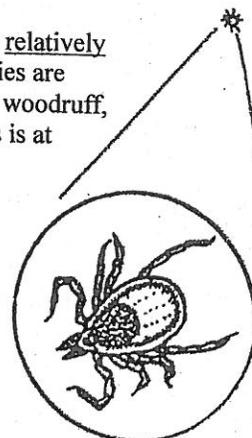
- **Fences and enclosures** – Deer are extremely wary and will avoid places where they feel threatened or insecure. Try to repel them when you find the first signs of their presence. When there is plenty of forage a low fence may deter them but, if they are hungry, they can jump fences up to 10 feet high. Be sure to check with your municipality before erecting any fence. **Wire cages** or **deer netting** can be used to enclose vulnerable plants. Large sheets (14' x 14') of UV treated, reusable, black netting sold as "Bird Block" are effective, inconspicuous, inexpensive and sold in packaged rolls at garden centers. Also see [www.nationalgardening.com](http://www.nationalgardening.com)
- **Protecting trees** – Buck rubs can damage small trees (2'-6'). Use special wrapping, corrugated plastic sleeves or 2" wooden stakes 4 – 5' high around trees. Garden centers often carry these supplies.
- **Repellents** – A variety of sprays and pellets are available at home and garden centers to repel deer. These contain combinations of putrid eggs, hot pepper and garlic to discourage browsing. Many of these products also repel rabbits and groundhogs. Repellents need to be reapplied during the season and can be costly if there are many plants to be protected. Sprays include **Liquid Fence**, **Deer Off** and **Shot Gun**. Among the pellets that are effective look for **Critter Ridder** and **Deer Scram**. Gardeners also report good results with sulfur, human hair and perfumed soaps, suspended from branches like sachets. Scarecrows, effigies, balloons and tape strips may repel deer, especially if they are dangled to produce motion. Lights set to go on by motion sensors may help protect gardens. The scent of a dog on the property can be repellent. Resident deer will, however, grow accustomed to all these things over time.
- **Choice of Plants** – If hungry enough, deer will eat almost any plant, but some plants are **relatively resistant** to their casual browsing. These include native perennials like ferns (most species are toxic), yarrow, butterfly weed, bellflower, bleeding heart, foxglove, joe pye weed, sweet woodruff, coral bells, iris, lupine, creeping phlox and ironweed. A database of deer resistant plants is at [www.mydeergarden.com](http://www.mydeergarden.com)

### Long Term Options for Controlling Deer Populations

Dramatic changes in land use over the past 25 years coupled with an increasing deer population have led to an increase in contact and conflict between deer and people. The white-tailed deer is an extremely adaptable species. Having taken up residence in suburban and even urban areas, the deer will probably stay. Attempts to drive them away, if they succeed at all, will likely result only in moving the problem to a neighboring location. The options for controlling the real problems arising from a growing, local deer population are currently quite limited. White-tailed deer fall under the jurisdiction and control of the **Pennsylvania Game Commission**. The PGC manages the deer population through recreational hunting, the most effective tool being antlerless deer hunting. This is aimed at decreasing the number of female deer, thereby decreasing the following year's fawn population.



(Actual size)



DEER TICK

While this is a very effective way to control the state's deer population, there are serious limitations to it from a suburban perspective. Recreational hunting is nearly impossible in heavily settled areas. The PGC makes a large number of antlerless hunting permits available for Allegheny County and each year many of them go unclaimed. The same situation prevails in the Philadelphia area. This is in sharp contrast to more rural and wooded parts of Pa. where the permits generally sell out quickly on a first come, first served basis. It means that the hunting approach is least successful in the areas where deer/human conflicts are greatest. There are just not enough suitably safe areas in our developed region where recreational hunting can be used to control deer populations.

In response the PGC has developed and released an Urban Deer Management Plan. This plan proposes to educate residents of urban deer environments about deer biology, ecology, and management. It encourages communities to develop their own long range deer management plans and offers PGC assistance to communities filing written requests for aid. A serious limitation of the plan is that it makes no change to the PGC policy that requires communities to include recreational hunting in their local deer management plans in order to qualify for any other (non-hunting) deer reduction programs. This effectively handcuffs communities such as those served by the Churchill Area Environmental Council.

Urban/suburban deer management is more of a pest control than a wild game issue. The most effective technique has been the use of licensed Deer Control Cooperators. They conduct deer removals professionally, generally at night, using bait and suppressed, small caliber rifles. Most residents are unaware of their activities. This approach has been successful in Maryland and was approved by the PGC for private land in southeastern PA starting Dec. 26,2006 in a 3-year trial. Programs aimed at controlling deer numbers using contraception are expensive and generally unsuccessful. The PGC is funded almost exclusively by revenue from the sale of hunting licenses so it is not surprising that past decisions on deer management have been skewed toward the desire of many hunters for a large deer population. This revenue base has been shrinking (fewer licenses sold) while the PGC's operating costs have been rising. The Commission cannot raise hunting license fees without approval from the state legislature and it has not been able to obtain such approval in recent attempts. Thus, the PGC is in poor financial shape. Even if permission is given to raise license fees, it is widely acknowledged that higher fees will result in fewer license sales.

As the burgeoning suburban deer population becomes more of a problem the PGC is less able to deal with it, both because of its diminished finances and its mission to serve a hunting constituency. Funding deer management in developed areas should not be the responsibility of hunters alone, nor should their perceived interests be the dominant ones in every aspect of deer management. The approach needs to be broadened to reflect the changing stakeholders and situations in Pennsylvania. Tax dollars, or other sources of revenue, must be brought into play in order for this to happen. Other agencies, interests, and local governments must have voices and greater flexibility in dealing with issues that now affect far more than just recreational hunters.

### **Here are a few steps we can take:**

- Encourage the passage of local ordinances prohibiting the feeding of deer.
- Educate suburban residents about practices which discourage deer, such as landscaping alternatives, repellants, netting and fencing (see specifics above).
- Quite possibly, the most meaningful step we can take, both as individuals and municipalities, is to **lobby for change in the way deer management is handled at the state level.**
  - Write to the governor, your state senator, and your representative urging broadened funding sources for deer management and a Game Commission that includes well regarded representatives from agricultural, small landowner, and wildlife interests.
  - Write to the PGC asking them to drop the stipulation in their new management plan requiring that recreational hunting be allowed in the area before local municipalities can obtain PGC aid. This is a good way to influence a developing policy.

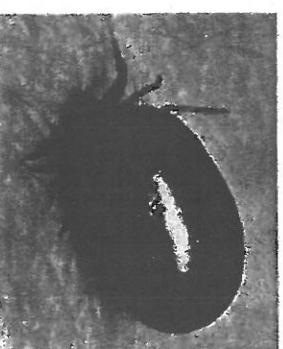
Fortunately, western Pa. does not yet have the large scale Lyme and other deer-related disease concerns that the eastern part of the state does. However, we do have cases and the number will almost certainly grow. The number of dead deer on our local streets and roads gives an inkling of how many of these animals already live in our area and what health and safety hazards they can be. **We should begin to deal with this issue now, while it is still at a manageable stage.**

### **Sources of Information**

- **Ecosystem Management Project (EMP)**, 554 Hillside Ave., State College, PA 16803  
[www.ecosysmp.com](http://www.ecosysmp.com)
- Frye, Bob, *Deer Wars, Science, Tradition and the Battle Over Managing White-tails in Pa.*, College Park, PA, Penn State Univ. Press, 2006.
- Moyer, Ben, et al., "Deer, Communities and Quality of Life", EMP, 2006.  
This booklet available free by e-mail request at [emp@qcol.com](mailto:emp@qcol.com).
- **Resource Report**, a periodical of the EMP, July, Dec., 2005 issues and Mar., Aug., 2006 issues.
- **"Urban Deer Management Plan"**, Pennsylvania Game Commission, 2006. Download a copy from [www.pgc.state.pa.us](http://www.pgc.state.pa.us).
- **"Nuisance Animals"**, Churchill Area Environmental Council, Spring, 2004. This advisory is available free at municipal offices or send a SASE to CAEC, 2300 Wm Penn Hwy, 15235.

### **Contact Addresses**

Governor Edward G. Rendell, 225 Main Capitol Bldg, Harrisburg PA 17120 (717) 787-2500  
State Senator Jay Costa, Jr., Senate Box 203043, Harrisburg PA 17120 (412) 241-6690  
State Representative Paul Costa, House Box 202020, Harrisburg PA 17120 (412) 824-3400  
Pennsylvania Game Commission, 2001 Elmerton Ave., Harrisburg PA 17110 (717)787-4250



A black-legged tick (deer tick) injects the spirochete that causes Lyme disease as it engorges with the blood of a human host.