

DEER MANAGEMENT QUESTIONS AND ANSWERS

BOROUGH OF ROSE VALLEY PUBLIC MEETING SEPTEMBER 27, 2010

THE SCOPE OF THE ISSUE

1. How many deer are there in Rose Valley?

The best current estimate is that there are approximately 20 to 48 deer in Rose Valley (a Borough-wide average of 27 to 65 per square mile), with the most likely number being around 35, although no one knows for sure. This estimate is based upon the level of deer browsing in Rose Valley compared with that in other local areas where deer densities have been estimated using intensive methods, such as Valley Forge National Historical Park and the woods along Crum Creek in Nether Providence and Swarthmore. These estimates have been corroborated by sightings of large groups of deer in widely separated Borough neighborhoods.

2. Isn't there a good way of actually counting the deer in Rose Valley?

Most deer census methods, including aerial thermal imagery and pellet counts, are considered scientifically unreliable, as well as being extremely expensive. The one method that is widely acknowledged to yield credible results, at least with small isolated populations, requires outfitting a high percentage of deer with radio transmitters and periodically homing in on each one to count its compatriots without transmitters. This could cost up to \$500,000 but may not yield accurate results here in any case, because our population is not isolated; deer wander across the borders of Rose Valley to and from Middletown, Brookhaven, Upper Providence and Nether Providence.

3. How many deer can be ecologically sustained in Rose Valley?

Based upon extensive research done by U.S. Forest Service scientists in northwestern Pennsylvania, approximately 10 deer per square mile is consistent with full forest recovery, which translates to about 4 deer in the Borough's wildlife sanctuaries and other wooded areas. However, adjusting for the different forest type in Rose Valley and the availability of alternate food sources (i.e., residential gardens and landscaped areas), the ecological carrying capacity of Rose Valley as a whole may be a bit higher, perhaps 10 to 12 deer. "Ecological carrying capacity" takes into account all of the other native animals and plants that our woods supported until the deer population skyrocketed. If deer were the only animals we cared about, we would be talking about "maximum carrying capacity" and the numbers would be higher. But a healthy ecosystem is the goal in our wildlife sanctuaries. The lack of tree regeneration, proliferation of

DEER MANAGEMENT QUESTIONS AND ANSWERS

BOROUGH OF ROSE VALLEY PUBLIC MEETING SEPTEMBER 27, 2010

nonnative invasive plants, and the inevitable decline in wildlife that depend on native plant species — all resulting from the overpopulation of deer — are signs of ecosystem degradation.

4. If we don't know exactly how many deer we have or exactly how many we can support, how do we know we have too many?

As stated by the Pennsylvania Game Commission in its 10-year plan for deer management “Deer management objectives are no longer defined by deer densities. Instead, deer management objectives are defined by measures of deer health, forest habitat health, and deer-human conflicts.” The most reliable evidence of an overpopulation of deer is the effect on the plants they feed upon, and in turn, on the other wildlife species that depend on those plants for food, cover and breeding sites. A healthy forest will produce enough food for the local fauna and will regenerate year after year. However, our wildlife areas are showing unmistakable signs that the native vegetation is being overbrowsed and the local trees and native understory vegetation are failing to reproduce and gradually being decimated. This creates openings for nonnative invasive plants, which deer seldom eat, and these have become rampant in our wildlife areas. Other native animals seldom feed on these plants, either (the lack of natural predators to keep them in check is a large part of what enables them to be invasive). Deer-human conflicts include road collisions and the rising incidence of diseases spread indirectly by deer through the deer tick.

5. To what level should the deer population be reduced?

The Borough estimates that up to 30 deer should be taken. This number should be considered flexible. Although the ultimate goal is to have a roughly 50/50 ratio of males to females, in reducing a population via culling, it is preferable to take mainly females. Thus, if more males are taken, the goal may need to be adjusted upward. Also, depending on population reports from the field, the goal may be adjusted upward or downward, as appropriate.

6. Has the Borough considered methods of population control that do not involve killing, such as deer contraceptives?

Contraceptives are an unproven method of control at present and, in any event, their use is not currently legal.

DEER MANAGEMENT QUESTIONS AND ANSWERS

BOROUGH OF ROSE VALLEY PUBLIC MEETING SEPTEMBER 27, 2010

THE EFFECTS OF OVERPOPULATION

7. Why is the overpopulation of deer considered to be a Borough concern?

The Borough is the owner and the steward of the wildlife sanctuaries in Rose Valley and must manage these lands responsibly for current and future generations of residents. In addition to recommending a deer management program, the Rose Valley EAC sponsors invasive plant workshops every year in the spring and fall where volunteers remove nonnative invasive plants and plant native plants in the wildlife sanctuaries. (The next workshop is Saturday, October 16 from 9 a.m. to noon at the Saul Wildlife Sanctuary behind the Old Mill. Everyone is encouraged to participate!) Additionally, if a problem associated with Borough-owned lands is contributing to roadway accidents and human disease, the Borough has a responsibility to take appropriate action.

8. Is there an association between the deer population and Lyme disease?

Deer are a primary vector for the spread of Lyme disease (caused by a species of bacteria called *Borrelia burgdorferi*) to humans, as shown in the short article by Dr. Roger Latham that was enclosed with your notice of this public meeting. According to the Center for Disease Control, Pennsylvania has the third highest number of cases and the ninth highest per capita incidence of Lyme disease in the United States. Within Pennsylvania, the Southeast region has the highest incidence rate and Delaware County has the 15th highest incidence rate among Pennsylvania's 67 counties. Since Pennsylvania began to require reporting of Lyme disease in 1987, there have been over 4,200 confirmed cases in Delaware County alone.

9. Are any other diseases spread by deer ticks?

Yes, deer ticks spread other diseases that are presently less common in Pennsylvania. These diseases include anaplasmosis (caused by a species of bacteria called *Anaplasma phagocytophilum*); human ehrlichiosis (caused by a species of bacteria called *Ehrlichia chafeensis*; also *Ehrlichia ewingii*); and babesiosis, also known as human theileriosis (caused by a protozoan parasite called *Babesia microti*).

DEER MANAGEMENT QUESTIONS AND ANSWERS

BOROUGH OF ROSE VALLEY PUBLIC MEETING SEPTEMBER 27, 2010

10. Do these diseases present serious concerns to human health?

Lyme disease, anaplasmosis and human ehrlichiosis can each cause encephalitis if the brain becomes infected, which has been suffered by Rose Valley residents. The babesiosis parasite is similar to the parasite that causes malaria and babesiosis presents malaria-like persistent fevers and anemia. All of these diseases present very serious health conditions that can be life-threatening without timely diagnosis and treatment.

11. How many deer-related accidents have there been on Borough roadways?

Official statistics are difficult to come by so the precise number is unknown. Anecdotally, we know that there have been several deer-related accidents along Rose Valley Road over the past few years. Deer crossings, and therefore accidents, are expected to increase over time as the population increases and the wildlife sanctuaries continue to be over-browsed. It has been reported that the average cost of a deer/vehicle collision is \$2,500, which does not include costs stemming from injuries to drivers and passengers.

BOW HUNTING

12. What is a bow hunt?

Bow hunting is a form of game hunting that is regulated by the Pennsylvania Game Commission and takes place during the designated seasons. Private groups of bow hunters offer their services to municipalities and other public and private landowners who are concerned about high levels of deer on their land.

13. Didn't the Borough approve a bow hunt last year?

Yes. In the winter of 2009-2010, the Borough approved a bow hunt by Deer Management Professionals of Southeastern Pennsylvania (DMPSE), a highly qualified organization that provides deer management services for Tyler Arboretum, Westtown School and a number of municipalities. They have an excellent safety record and client recommendations and the Borough is considering using their services again.

DEER MANAGEMENT QUESTIONS AND ANSWERS

BOROUGH OF ROSE VALLEY PUBLIC MEETING SEPTEMBER 27, 2010

14. How many deer were taken in last year's bow hunt?

Only one on Borough property although one or more others may have been taken on adjacent private land (where the landowners had given permission to hunt). The low results are attributed to a late start and extraordinary weather conditions that followed.

15. What role does the Borough have in regulating hunting on private land within the Borough?

The Borough has no role in regulating or permitting hunting on privately-owned land within the Borough. Pennsylvania law reserves all power to legislate in this area to the state.

16. Couldn't the overpopulation problems be solved with a bow hunt this year with an earlier start and better weather?

Possibly, but not likely. Last year, Pennsylvania Game Commission rules allowed baiting on private lands and baiting was used on private land adjacent to the Borough-owned property. The rules now prohibit all baiting during hunting. Baiting is considered to be the key to obtaining the results needed to bring the population down to ecologically sustainable levels.

17. If the Borough permitted a bow hunt this year, when would it begin and how long would it last?

A bow hunt, if approved at all by the Borough, would be approved no earlier than the next Council meeting on October 13, 2010. Pennsylvania Game Commission rules applicable to Rose Valley set the permissible seasons for bow hunting as mid-September through November and the end of December through the end of January, although some of these times are restricted to certain types of deer (any adult deer vs. antlerless adults only). The parameters of any Borough-approved bow hunt have not been determined.

DEER MANAGEMENT QUESTIONS AND ANSWERS

BOROUGH OF ROSE VALLEY PUBLIC MEETING SEPTEMBER 27, 2010

SHARPSHOOTER CULLING

18. What is a sharpshooter cull?

A sharpshooter cull is an organized effort to reduce the size of the deer population by the use of firearms. It is highly regulated by the Pennsylvania Game Commission and is not considered to be “hunting” per se. As such, different rules apply and only those authorized by the state may participate.

19. Who would the Borough use for a sharpshooter cull?

The Borough is considering Eccologix Biodiversity Consulting Group, a highly qualified natural resources management organization that has done similar work for other municipalities and institutional landowners. Eccologix works in the Mid-Atlantic region, notably in Upper Makefield Township, Bucks County, and also has an excellent safety record and client recommendations.

20. Is a sharpshooter cull more humane than a bow hunt?

Possibly, although the skill levels of the members of both the cullers and the bow hunters are considered to be very high. Both groups shoot from close range and both arrows and bullets are highly lethal. Bow hunting groups are very sensitive to the bad relations that occur when wounded deer are seen by the public at large and typically take precautions to prevent that. For example, Eccologix has provided bow hunting services for Upper Makefield Township and in a 2009 survey of 44 residents, none reported seeing a wounded deer with a protruding arrow. The Borough expects the same results from DMPSE.

21. Is a sharpshooter cull less safe for humans than a bow hunt?

It should not be. Both aim downward only and shoot from close range (arrows must be shot from close range to be effective and firearms are shot from close range due to the use of baiting stations). Both groups operate at times of day when people are unlikely to be present. Deer are very adept at detecting the presence of people anyway so it is unlikely for deer to be in close range of a human on foot. Also, each person authorized on a special use permit must pass two separate qualification exams to be authorized to participate in a cull by the Pennsylvania Game Commission. The bow-hunting organization also requires

DEER MANAGEMENT QUESTIONS AND ANSWERS

BOROUGH OF ROSE VALLEY PUBLIC MEETING SEPTEMBER 27, 2010

each of its members to complete a 12-hour hunter safety course and a 12-hour bow hunter certification, and requires re-qualification annually.

22. Why would a sharpshooter cull be any more effective than a bow hunt?

The primary advantage of a cull is that baiting is permitted under Game Commission rules. Baiting is essential to the effectiveness of a cull because it concentrates a group of deer in one spot. Although baiting is not permitted for hunting, including bow hunting, the Game Commission does not consider culls to be “hunting” and therefore special rules apply.

23. If the Borough permitted a sharpshooter cull this year, when would it begin and how long would it last?

A sharpshooter cull, if approved at all by the Borough and the Pennsylvania Game Commission, would be approved no earlier than the next Council meeting on October 13, 2010. Any cull this season would take place after the hunting season and therefore would not begin until February 2011. The parameters of any Borough-approved cull have not been determined.

24. If a cull is considered to be more effective, why would the Borough also consider permitting further bow hunting on Borough land?

Well-fed deer living in uncrowded conditions reproduce at one year of age and often have twins, triplets or even quadruplets, every year. A bow hunt on a yearly basis will be necessary to maintain ecologically sustainable population levels once such levels have been achieved. Further, culls are permitted only under a special use permit issued by the Pennsylvania Game Commission. The Game Commission will not approve a cull unless the municipality has permitted hunting of some sort prior to and within a year of the planned cull. If the Borough does not permit some form of hunting this year it will not be eligible to apply for a cull permit next year, which may be necessary if this winter’s weather is again unfavorable.

25. If there is a bow hunt prior to the cull, will the goals of the cull be reduced by the results of the bow hunt?

Yes.

DEER MANAGEMENT QUESTIONS AND ANSWERS

BOROUGH OF ROSE VALLEY PUBLIC MEETING SEPTEMBER 27, 2010

COSTS, EFFECTS AND FUTURE EFFORTS

26. Even if the Borough achieves its goal this year, won't deer from surrounding areas simply migrate into the Borough?

Eventually yes, which is one of the reasons it is prudent to permit bow hunting on a periodic basis. However, deer are very territorial by nature with a home range of only one to three square miles and are slow to migrate.

27. What if the cull and/or bow hunt are too successful and the deer are eliminated?

This is considered to be a very remote possibility, particularly given the limited amount of time that hunters would be actively hunting. Deer have been evading predators for millions of years. In the unlikely event this were to happen, Rose Valley would gradually be re-colonized by neighboring populations.

28. Given the uncertainty over how many deer there are and how many can be supported in our wildlife areas, how will we know if the number of deer taken is sufficient?

The Borough, primarily through the EAC, will monitor the regeneration of the native flora. The EAC will explore the use of various resources to assist in this effort (such as volunteers and local colleges). The ideal way to track regeneration is by enclosing portions of the wildlife areas with small deer-excluding fences for comparison with similar adjacent "control" areas. Likely two pairs of 30-foot x 30-foot areas (one fenced and one unfenced) under an open tree canopy where sunlight reaches the forest floor would be sufficient. This could cost as much as \$5,000 although the Borough would seek to reduce costs (perhaps to zero) through various alternatives.

29. What is the cost to the Borough of the bow hunt and the sharpshooter cull?

There is no charge for the bow hunt. The cost for the cull is \$189 per deer taken, all-inclusive. The Borough has not budgeted for a cull and will not approve a cull unless private funds can be raised to cover its costs.

DEER MANAGEMENT QUESTIONS AND ANSWERS

BOROUGH OF ROSE VALLEY PUBLIC MEETING SEPTEMBER 27, 2010

30. What happens to the deer that are removed by hunting or culling?

Deer taken by bow hunters will be utilized by the hunters and their families and any excess will be donated to a local charitable food bank. Pennsylvania Game Commission rules require that deer taken in a cull be dressed (the cost is included in the \$189 per animal) and provided to local charitable food banks. This is usually done through a state program, Hunters Sharing the Harvest. Participating butchers coordinate the meat deliveries to local food banks. The food banks redistribute the venison to more than 4,000 local food assistance provider organizations such as food pantries, missions, homeless shelters, Salvation Army facilities and churches, as well as needy families.

FOR FURTHER INFORMATION

31. Where can I learn more about how deer overpopulation happened and what its ecological effects are?

An excellent and highly readable book is *Where the Wild Things Were*, by William Stolzenburg (five copies available through Furness Library or \$6.40 in paperback at Amazon). The entire book is pertinent, but chapter 6, "Bambi's Revenge," goes into detail about white-tailed deer, including the situation in Pennsylvania.