

**Syracuse-Onondaga County
Urban Deer Task Force
Report & Recommendations**

September 2014

SYRACUSE-ONONDAGA COUNTY URBAN DEER TASK FORCE

REPORT & RECOMMENDATIONS

SEPTEMBER 2014

Stephanie A. Miner, Mayor

Joanne M. Mahoney, County Executive

TASK FORCE MEMBERS

Dana Cooke, Syracuse resident
Luke Dougherty, Office of the Mayor/Task Force Coordinator
John Ferguson, Office of Assemblyman William B. Magnarelli
David Kirby, Syracuse resident & Eastside TNT facilitator
Joe Leonard, DeWitt resident
Christine Manchester, Town of DeWitt Naturalist & Sustainability Coordinator
Sandra Porter, Syracuse resident & member of the Animal Alliance of Greater Syracuse
Justin Sayles, Office of the County Executive
Craig Wilson, Office of Senator David J. Valesky

TASK FORCE ADVISOR

H. Brian Underwood, PhD, SUNY-ESF & U.S. Geological Survey

TASK FORCE CONTRIBUTORS

Dr. Paul Curtis, Extension Wildlife Specialist, Dept. of Natural Resources, Cornell University
Hon. Linda R. Ervin, Onondaga County Legislature, 17th District
Hon. Pamela J. Hunter, Syracuse Common Council, At-Large
Chellby R. Kilheffer, M.S. Candidate in Conservation Biology, SUNY-ESF
Jan Markarian, Syracuse resident & member of the Animal Alliance of Greater Syracuse
Hon. Nader Maroun, Syracuse Common Council, 5th District
Andrew M. Maxwell, Director, Syracuse-Onondaga County Planning Agency
Matthew J. Millea, Deputy County Executive, Onondaga County
Sophia A. Pevzner, M.S. Candidate in Conservation Biology, SUNY-ESF
Jonnell Robinson, Director, Syracuse Community Geography, Syracuse University
Mary Kay Ryan, Town of Onondaga Board of Supervisors
David Skeval, Executive Director, Cornell University Cooperative Extension, Onondaga County

SPECIAL THANKS TO:

Geoffrey Day, Eastside TNT facilitator
Hon. John A. DeFrancisco, New York State Senate, 50th District
Hon. William B. Magnarelli, New York State Assembly, 129th District
David Maynard, Principal, Nottingham High School
Edward M. Michalenko, PhD, DeWitt Town Supervisor & President, Onondaga Environmental Institute
Hon. Samuel D. Roberts, New York State Assembly, 128th District
Sharon Sherman, Eastside TNT facilitator
Jim Simonis, Eastside TNT facilitator & Chair, Ad-Hoc Deer Committee
Hon. David J. Valesky, New York State Senate, 53rd District

Table of contents

INTRODUCTION.....	1
Background	1
Ad-Hoc Deer Committee	1
Urban Deer Task Force	2
RESEARCH & FINDINGS	3
Urban Deer Management Options.....	3
Case Studies	4
Deer Census.....	5
Lyme Disease	6
RECOMMENDATIONS	7
Pilot Program	7
Funding	7
Replication	8
APPENDIX A: ADDITIONAL RESOURCES	9
APPENDIX B: DEER ABUNDANCE & DISTRIBUTION	10

Introduction

BACKGROUND

In the spring of 2012, the City of Syracuse Mayor's Office began to experience a sharp increase in the number of complaints from Eastside residents regarding the urban deer population. The deer, which had always been present to a certain extent, suddenly seemed to have increased in numbers and had begun to destroy landscaping and other property and walk the streets of urban neighborhoods in broad daylight. Residents expressed fears of Lyme disease, automobile accidents, and incidents with household pets.

In April 2012, the *Syracuse Post-Standard* newspaper ran an article addressing the Eastside deer population¹, and the issue became a hot topic at neighborhood meetings. In September 2012, the Eastside TNT held a meeting to address the issue². This meeting was attended by over 200 people and featured Steve Joule, regional wildlife manager for Region 7 of the New York State Department of Environmental Conservation (DEC), who had been quoted in the *Post-Standard* article, as well as various City, County, and State officials. While ultimately the DEC refused to take action to address the issue or provide assistance to local municipalities, the meeting led to the creation of the Eastside TNT Ad-Hoc Deer Committee, which was chaired by TNT facilitator Jim Simonis and included Common Councilor Nader Maroun and ten other Eastside residents.

AD-HOC DEER COMMITTEE

Over the next few months, this committee studied the issue of urban deer population and conducted a survey³ to gauge the extent of the problem and better understand the concerns of Eastside residents. Of the over 500 people surveyed, 73 percent reported having witnessed or been involved in a deer-vehicle accident, and 59 percent reported deer sightings every few days or more. The survey also included dozens of anecdotal examples of problems caused by the deer, from Lyme disease to deer droppings to property destruction.

In February 2013, the committee released its final report⁴, which stated that "the typical resident...clearly feels that the [deer] situation is out of control and that *some* measures need to be taken." Major concerns included disease and sanitation (especially Lyme disease), deer/vehicle collisions, damage to landscaping and other property, and overall environmental imbalance. While noting that further study was required, the committee recommended the following:

¹ Tulloch, Katrina. "Exploding deer population in Syracuse has residents searching for ways to protect their gardens, trees." *Syracuse Post-Standard*, April 21, 2012. Accessed online: http://www.syracuse.com/news/index.ssf/2012/04/the_deer_are_here_to_stay.html

² Hannagan, Charley. "200 attend meeting seeking solution to Syracuse deer problem." *Syracuse Post-Standard*, September 12, 2012. Accessed online: http://www.syracuse.com/news/index.ssf/2012/09/200_attend_meeting_seeking_sol.html

³ Eastside TNT Ad-Hoc Deer Committee. *Results of Survey Regarding Deer Population*, November 2012. Accessed online: <http://www.syracuse.ny.us/uploadedFiles/Departments/CommunityDevelopment/TNT/Westcott/Survey%20Results.pdf>

⁴ Eastside TNT Ad-Hoc Deer Committee. *Report of the TNT5 Deer Committee*, February 2013. Accessed online: <http://www.syracuse.ny.us/uploadedFiles/Departments/CommunityDevelopment/TNT/Westcott/Deer%20committee%20report%202013-02-12.pdf>

1. The City of Syracuse should work with experts to develop and implement a deer management plan, making use of a combination of culling, sterilization, and contraception, to reduce the Eastside deer population. To pay for this, the City could create a special tax district covering parts of the Eastside neighborhoods, which revenues earmarked for deer management efforts.
2. The City of Syracuse (or other organization) should create a program to educate residents on ways to prevent property damage and other adverse effects of the urban deer population. Additionally, the Onondaga County Health Department (or other agency) should education residents on ways to protect themselves from Lyme disease.
3. The City of Syracuse should change its regulations to allow residents to install fences up to eight feet in height in rear and side yards; current rules allow for fences up to six feet, which deer can easily jump. The report acknowledges that while this step might help protect individual properties, it would not address the overall issue of the urban deer population.

This report was presented to Syracuse Mayor Stephanie Miner and members of the Syracuse Common Council. It was also posted online on the City's website (www.syr.gov) and distributed to members of the Eastside TNT.

URBAN DEER TASK FORCE

In the spring of 2013, following the release of the committee's report, Syracuse Mayor Stephanie Miner and Onondaga County Executive Joanie Mahoney formed the Syracuse-Onondaga County Urban Deer Task Force to study the issue of the deer population in the Eastside neighborhoods. The study area was broadened to include the adjacent towns of DeWitt and Onondaga to accommodate for the fact the urban deer population does not recognize political boundaries and to compare the experiences of city residents to those of the suburbs.

This task force included residents of the neighborhoods in the Eastside of Syracuse and DeWitt, as well as representatives of local elected officials and town supervisors. The task force was advised *pro bono* by H. Brian Underwood, an adjunct associate professor at SUNY-ESF and a research biologist with the U.S. Geological Survey. (For a full list of task force members, advisors, and contributors, please see "Acknowledgements.") Dr. Underwood provided guidance and information to the task force and offered to conduct additional research to assist in its mission. The results of this research are summarized below.

The task force met six times between August 2013 and June 2014, including a public meeting at the Westcott Community Center, meetings with various experts and officials, and a meeting with local elected officials. In addition, the task force reported to the Eastside TNT at two of their monthly meetings during that time period. At their most recent meeting, the members of the task force decided they were ready to summarize their research and discussions into a report and recommendations for the Mayor, the County Executive, and other elected officials.

Research & Findings

The work of the Urban Deer Task Force included an evaluation of the various methods of urban deer management, review of existing research and case studies, and a determination of the number and location of deer in the target area. This research is summarized below.

URBAN DEER MANAGEMENT OPTIONS

There are various options available to municipalities seeking to reduce or manage the deer population, which can be implemented on their own or in combination with other methods. These include:

- **Lethal population control methods**
 - **Culling** – Culling means to reduce the population of any wild animal by selective slaughter, and in the case of deer management, is generally used to refer to the killing of deer by sharpshooters, bow hunters, or other means. Culling is a quick, effective, and relatively inexpensive method of reducing the deer population, although there are major concerns with the practicality of culling in populated areas, as well as ethical and humane concerns involving the slaughter of urban wildlife. Dr. Paul Curtis of Cornell University⁵ estimates that culling costs \$600 per deer and requires permits and police supervision.
 - **Controlled hunting** – Encouraging civilian hunters to kill deer is inexpensive but is generally less effective than organized culling, and it can be difficult to implement a safe and effective hunt in urban areas. Bow hunting is often the preferred method in a controlled hunting program.
- **Non-lethal population control**
 - **Surgical sterilization** – This method requires capturing, tagging, and surgically sterilizing a large percentage of the female deer in the target area. Sterilization is permanent, and while results are less immediate than with culling, the deer population will begin to decline (or grow less rapidly) in a few years. There are, however, often difficulties capturing free-ranging deer in sufficient numbers to be effective. Dr. Curtis estimates the costs at about \$1,500 per deer, although private contractors may be able to do it for less than \$1,000 per deer.
 - **Immunocontraception** – Immunocontraception is a form of birth control that entails capturing, tagging, and injecting female deer with contraceptive drugs. This method, which is considered to be in the research phase by the DEC, has a similar effect as sterilization but requires an annual booster shot be administered to every treated deer. It can be almost impossible to keep free-ranging deer on an annual booster schedule, and Dr. Curtis suggests it might be better to sterilize the deer once it is in captivity. The cost is about \$1,300 per deer per vaccination.

⁵ For more information about the work and research of Dr. Curtis, see **Appendix A: Additional Resources** on page 7.

- **No population control** – Some municipalities choose a *laissez-faire* approach to deer management. Rather than focusing on reducing the deer population, these localities educate their citizens on ways to coexist with the deer, emphasize the benefits of urban wildlife, and pass ordinances that ban the feeding of deer. In some cases, this hands-off approach is selected out of necessity, if the municipality lacks the funds or political will to implement one or more of the lethal or non-lethal methods described above.

CASE STUDIES

Acknowledging that Syracuse and Onondaga County are hardly the first municipalities confronted by the challenges of an urban deer population, the Urban Deer Task Force reviewed case studies from other communities and studied the various options for urban deer management, including both lethal and non-lethal methods. These case studies included:

- **Austin, TX** – Austin’s deer policy, adopted in 2013, emphasizes education and coexistence. The policy states that the City “will practice tolerance and coexistence with deer and will promote this policy through a multi-tiered program of education, awareness and humane, non-lethal conflict management.”⁶ Austin encourages deer-resistant vegetation and fencing to protect landscaping and gardens, and has enacted a no-feed ordinance. A website (DeerAustin.org) was set up to provide information and promote efforts to “Keep Austin Deered.”
- **Cayuga Heights, NY** – The village of Cayuga Heights decided in 2012 to implement a plan that combined sterilization and culling. According to the plan, a certain number of deer would be captured and surgically sterilized, while the rest would be killed by sharpshooters monitored by the DEC and local police.⁷ After this plan was put on hold by public opposition, legal issues, and the logistical concerns of using sharpshooters in populated areas, the village redirected its focus and has since sterilized approximately 95 percent of its female deer population.⁸
- **East Hampton, NY** – The village of East Hampton on Long Island recently decided to implement a sterilization program after a regional plan that would have utilized trained sharpshooters to cull ten percent of the deer population was dropped due to widespread opposition and court challenges.⁹ The village expects to hire a private contractor to capture and surgically sterilize the female deer, at a cost of about \$1,000 per deer. The program will begin in January 2015.

⁶ City of Austin, Texas. “Deer Policy.” February 5, 2013. Accessed online: <http://www.austintexas.gov/edims/document.cfm?id=183449>

⁷ Mulcahy, Matt. “Cayuga Heights approves deer culling plan.” *CNY Central*, January 9, 2012. Accessed online: <http://www.cnycentral.com/news/story.aspx?id=705585>

⁸ Lee, Gabriella. “Cayuga Heights Grapples With Deer Overpopulation Problem.” *The Cornell Daily Sun*, April 26, 2013. Accessed online: <http://cornellsun.com/blog/2013/04/26/cayuga-heights-grapples-with-deer-overpopulation-problem/>

⁹ Associated Press. “East Hampton Village to Surgically Sterilize Female Deer To Control Population.” *CBS Local New York*, July 1, 2014. Accessed online: <http://newyork.cbslocal.com/2014/07/01/east-hampton-village-to-surgically-sterilize-female-deer-to-control-population/>

- **Hastings-on-Hudson, NY** – The village of Hastings-on-Hudson, located just north of New York City in Westchester County, implemented a plan to utilize immunocontraception to control the deer population.¹⁰ Under this method, does are captured, tagged, and injected with birth control that prevents pregnancy for two years. While the village hoped this would reduce the deer population by 35-40 percent in five years, recent reports suggest the program has stalled due to difficulties in capturing the deer.¹¹
- **Irondequoit, NY** – The town of Irondequoit, just outside of Rochester, has tried various methods to reduce its deer population. In 1993, the town, working with Monroe County, implemented a bait-and-shoot program in Durand-Eastman Park. Deer were lured into designated areas of the park and shot by sharpshooters. While the plan got off to a slow start, by 2002 over 800 deer had been culled in this manner.¹² The town also experimented with contraceptive methods and later utilized bow hunters to cull the deer during selected dates in designated “Harvest Zones.”¹³

DEER CENSUS

From April to August of 2013, Brian Underwood and ESF graduate student Chellby Kilheffer conducted a census of the deer population in the Eastside target area comprised of the 11.5 square miles of land bounded by interstates 81, 481, and 690. In order to estimate the deer population, Dr. Underwood and Ms. Kilheffer counted deer along roadsides, characterized land cover from high-resolution digital photos, and delineated areas of contiguous cover to identify potential daytime resting sites. These methods were later supplemented by the work of ESF graduate student Sophia A. Pevzner, who verified patch use by deer through winter track counts.¹⁴ The presented these results of this census at a meeting of the Eastside TNT at Nottingham High School on April 8, 2014. (For a one-page summary of the census, see **Appendix** on page 10.)

The “best estimate” of the researchers suggests that between 192 and 244 deer live in the target area, which represents about 19 deer per square mile. The deer, however, are not spread out evenly throughout the study area; instead, counts were highest in the less populated parts of the target area, such as St. Mary’s Cemetery, Drumlins Country Club, and LeMoyne College. This suggests that despite their presence in an urban area, most deer prefer the safety and comfort provided by wooded green spaces.

¹⁰ Foderaro, Lisa W. “A Kinder, Gentler Way to Thin the Deer Herd.” *The New York Times*, July 5, 2013. Accessed online: <http://www.nytimes.com/2013/07/06/nyregion/providing-birth-control-to-deer-in-an-overrun-village.html>

¹¹ Associated Press. “Deer birth control: NY town’s project off to slow start.” *USA Today*, April 7, 2014. Accessed online: <http://www.usatoday.com/story/news/nation/2014/04/07/slow-start-for-ny-town-using-birth-control-on-deer/7442121/>

¹² McDermott, Meaghan. “Irondequoit’s first deer management bowhunt program ends.” *Rochester Democrat & Chronicle*, December 13, 2013. Accessed online: <http://blogs.democratandchronicle.com/rochistory/2013/12/13/dec-13-irondequoits-first-deer-management-bowhunt-program-ends/>

¹³ Town of Irondequoit, New York. “Deer Management Program.” 2008. Accessed online: <http://www.cayuga-heights.ny.us/doc/DEER%20-%20Town%20of%20Irondequoit%20Deer%20Management%20Program.pdf>

¹⁴ Underwood, H. Brian, Chellby R. Kilheffer, and Sophia A. Pevzner. “Abundance & Distribution of White-tailed Deer in the Eastside Communities.” PowerPoint presentation. Nottingham High School, Syracuse, NY, April 8, 2014.

A few additional points about the study:

- There is no rule for how many deer per square mile is “too many,” and Dr. Underwood hesitates to suggest whether or not the estimated population is too high for this particular urban environment. He believes it is up to the community to decide how many deer they are willing to accept, and where.
- This study was focused solely on the Eastside neighborhoods of Syracuse and parts of DeWitt. A recent informal survey showed that residents from various parts of the city and county have experienced issues related to the deer population.¹⁵ One possible area of future study would be a comparison of the deer population of this area to other parts of the city and county, which would help put the issue into context.
- In any given year, a harsh winter and other environmental conditions can cause a reduction in the deer population, although Dr. Underwood notes that the urban deer he has studied have about a 90 percent survival rate each year. According to Dr. Curtis, in order to keep the population stable (i.e., maintain zero growth), about half of the deer need to die every year. Otherwise, the population will continue to grow as much as 30 percent annually; to put it another way, two deer can multiply into 40 in just seven years.

LYME DISEASE

One of the main complaints about the Eastside deer population is its role in the spread of Lyme disease. Exact numbers are difficult to come by, but anecdotal information suggests that instances of Lyme disease are on the rise. The number of cases of Lyme disease in 2013 is expected to equal or exceed the county-wide record set in 2011¹⁶, and incidents of the disease are especially high in the 13210 zip code that covers much of the Eastside target area. The members of the Task Force believe this increase in Lyme disease amounts to a public health problem that should be addressed by our state and county health departments, similar to the way the prevention and control of rabies is handled.

¹⁵ Carlic, Steve. “A Syracuse gardener’s lament: ‘Deer are eating everything.’” *Syracuse Post-Standard*, July 23, 2014. Accessed online: http://blog.syracuse.com/cny/2014/07/a_syracuse_gardeners_lament_deer_are_eating_everything.html

¹⁶ Figura, David. “Lyme disease is widespread in Onondaga County, but exact numbers are unknown.” *Syracuse Post-Standard*, April 25, 2014. Accessed online: http://www.syracuse.com/news/index.ssf/2014/04/lyme_disease_is_widespread_in_onondaga_county_but_exact_numbers_are_unknown.html

Recommendations

After months of study and discussion, the members of the Urban Deer Task Force believe they are ready to make recommendations to Mayor Miner, County Executive Mahoney, and other elected officials. These recommendations are below.

PILOT PROGRAM

The Task Force recommends that the City of Syracuse and Onondaga County work together to develop a deer management pilot program in the Eastside neighborhoods of the City of Syracuse and the Town of DeWitt. As part of this program, the City and/or the County would put out a request for proposals (RFP) to determine the most appropriate company, agency, or organization to implement one or more methods of deer management. The City and County would continue to work with wildlife experts, consultants, and the public to ensure that the deer management program is implemented safely, effectively, and humanely.

The members of the Task Force believe that humane, non-lethal deer management methods – such as surgical sterilization – should be utilized whenever possible, although most agree that lethal means may need to be considered in the short term. The logistical concerns associated with the culling of deer in an urban area, however, are likely to make any lethal methods difficult to implement, and there is the potential for public opposition which could derail the entire program.

FUNDING

Due to the nature of the target area, it is impractical for any one municipality to bear the responsibility and cost of a deer management program. The Task Force believes this pilot program should be paid for with a combination of state, county, and city funds. To this end, legislators from the City, County, and State Legislature should identify and deliver monies to supplement the funding for this program, which has been estimated to cost up to \$100,000 in its first year.

In addition, the New York State Department of Health should be petitioned to take steps to halt the spread of Lyme disease before it becomes a true public health crisis. Finally, the DEC will be need to provide expert guidance as well as the licenses and permits required for various deer management methods.

OUTREACH

The Task Force recommends that outreach efforts be made to inform the public about this pilot program and to educate citizens about how to prevent property damage and other problems caused by deer, including the use of “deer-proof” plants and other gardening techniques, as well as how to prevent the spread of Lyme disease. This outreach could be coupled with legislation at the local level that would ban the feeding of deer within the city limits.

REPLICATION

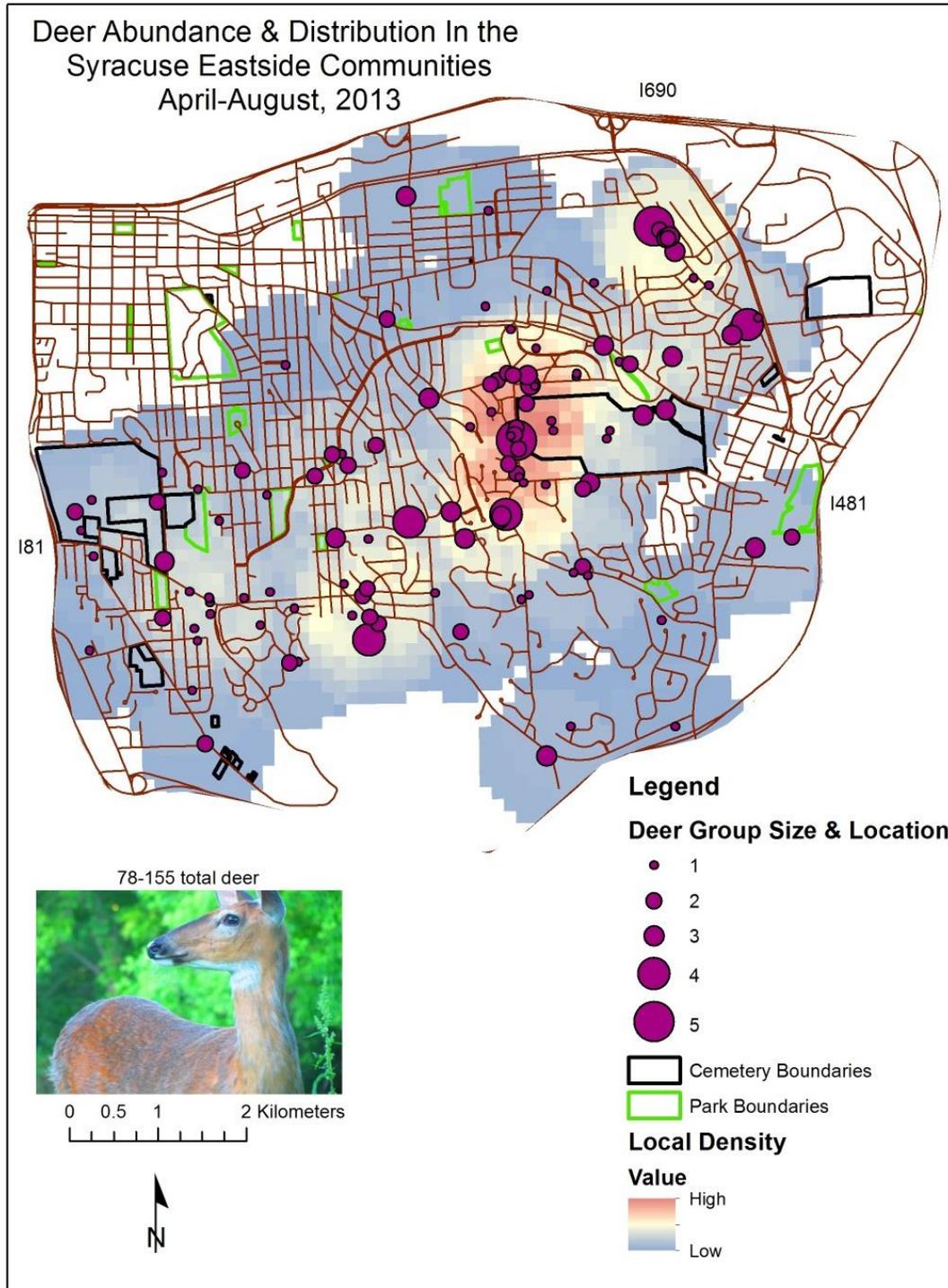
Once this pilot program is announced, it is likely that residents of other areas of the city and county will request similar deer management efforts in their neighborhoods. Once the Eastside program has been fully implemented, the Task Force recommends a full evaluation of its effectiveness. Once this is complete, the program may be tailored for use in other areas. This would, however, be dependent on a reliable funding stream from the sources mentioned above.

Appendix A: Additional Resources

The following resources were referenced during the meetings of the Urban Deer Task Force and in the formulation of this report:

- Bishop, P., J. Glidden, M. Lowery, and D. Rielman. *A Citizen's Guide to Management of White-Tailed Deer in Urban and Suburban New York*. New York State Department of Environmental Conservation, 2007. Available online: http://www.dec.ny.gov/docs/wildlife_pdf/ctguide07.pdf
- Decker, Daniel J., Daniela B. Raik, and William F. Siemer. *Community-Based Deer Management: A Practitioner's Guide*. Northeast Wildlife Damage Management Research and Outreach Cooperative, 2004.
- DeNicola, Anthony J., Kurt C. VerCauteren, Paul D. Curtis, and Scott E. Hygnstrom. *Managing White-Tailed Deer in Suburban Environments: A Technical Guide*. Cornell University Cooperative Extension, 2000. Available online: http://wildlifecontrol.info/pubs/Documents/Deer/Deer_management_mechs.pdf
- Hume, Stephen. "Urban wildlife: There are humane alternatives to ineffective culls." *The Vancouver Sun*, June 11, 2013. Available online: <http://www.canada.com/vancouver/news/westcoastnews/story.html?id=528842e7-53d1-4cd3-bf41-e3c7797f900b>
- Kilheffer, Chellby R., and H. Brian Underwood. *Abundance and distribution of white-tailed deer in the eastside communities of the Syracuse Metropolitan Area*. 2013, unpublished paper.
- Kilpatrick, Howard J., and W. David Walter. "A Controlled Archery Deer Hunt in a Residential Community: Cost, Effectiveness, and Deer Recovery Rates." *Wildlife Society Bulletin*, Spring 1999.
- Lange, Karen E. "Out of Season: Culling abundant deer populations is controversial and ineffective." *All Animals Magazine*, May/June 2014. Available online: <http://www.humanesociety.org/news/magazines/2014/05-06/out-of-season-alternatives-to-deer-culls.html>
- Lien, Ricky. "Urban Deer Management in Wisconsin." *Wisconsin Urban & Community Forests*, Spring 2000. Available online: <http://dnr.wi.gov/topic/urbanforests/documents/vol8no1.pdf>
- Management Plan for White-tailed Deer in New York State 2012-2016*. New York State Department of Environmental Conservation, October 2011. Available online: http://www.dec.ny.gov/docs/wildlife_pdf/deerplan2012.pdf
- Rawinski, Thomas J. *Impacts of White-Tailed Deer Overabundance in Forest Ecosystems: An Overview*. USDA Forest Service Northeastern Area, June 2008.

Appendix B: Deer Abundance & Distribution



Date: 10/25/2013

Authors: C. R. Kilheffer & H. B. Underwood
SUNY-ESF & USGS-PWRC