City of Galena - 2015 Deer Committee
Final Report to the City Council
December 6, 2016

Galena lies nestled within the natural beauty of Jo Daviess County, and because of the rugged terrain, there are places within the city that - while often platted for roads and subdivisions as if flat - have remained undeveloped natural areas within the corporate limits. These natural areas are appreciated by both residents and wildlife, but citizen concerns about the deer within the city have resulted in the desire for a deer management plan. This report contains reference information compiled over a 14-month period and a recommended management plan based on that information for Galena City Council consideration.

On September 10, 2015, the Galena City Council completed the process of appointing the members of the 2015 Deer Committee. The committee members appointed were: John Cox, Beth Baranski, Carmen Ferguson, Kirk Foecking, and Mary Hartman. Mary Hartman served for several months but was unable to continue due to business and family commitments.

The Council assigned John Cox as chair and the Committee immediately began its work, holding our first meeting on October 21, 2015. The final meeting was held on December 6, 2016.

The Committee was given a list of assigned tasks that serve as the table of contents for this report.

The committee provides its "findings" to the City Council within each section of the following:

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1. Engage the public in an open process of study and discussion

Members of the Deer Committee made commitments to begin and remain open-minded on issues, to attend committee meetings to be sure all members are on the same page, to follow Robert's Rules of Order, to vote if necessary but maintain a goal of consensus, and to sign the Final Report to send to the City Council. We committed to a totally open process and agreed that we would post all information (some from presenters and some from citizens and others) on the city website unless it was not technologically achievable. We have done so and you are urged to take a look at the City webpage on the 2015 Deer Committee, where our materials are posted.

We have met once per month (except for October, 2016) on the third Wednesday with our meetings published as required under the Open Meetings Act. We have placed our approved meeting notes on the webpage as well. We have reached out to what we believed were relevant presenters to assist us in accumulating information to fulfill the tasks you have assigned. Complete meeting notes are available on the city website at http://www.cityofgalena.org/en/your_government/agendas_and_minutes/2015_deer_committee/
Meeting topics/presentations have been as follows:

October 21, 2015	Committee discussion to establish a plan of action and proposed meeting agendas
November 19, 2015	Presentation on the Galena Territory Association deer management program by Joe Mattingley, Rich Mattas, and Emily Lubcke
December 16, 2015	Presentation on Apple Canyon Lake deer management program by Jim Petelle and John Schereson, members of their Deer Management Committee
January 20, 2015	Presentation on Lyme disease and other deer related issues by Laura Simon, Wildlife Ecologist for the Humane Society of the United States
February 17, 2016	Presentation on Deer Chronic Wasting Disease and other matters by Doug Dufford, Illinois Department of Natural Resources
March 16, 2016	Presentation on issues the Galena Police Department deals with related to deer by Lori Huntington, Galena Chief of Police
April 20, 2016	Committee discussion on how to determine deer population and benefit of an interim report to the City Council
May 18, 2016	Presentation on how to feed the birds without feeding the deer by Julie Bruser, Wild Birds Unlimited
June 15, 2016	Committee discussion on possible citizen survey
July 20, 2016	Presentation on general issues of wildlife management by Peggy Doty, University of Illinois Extension Educator from Ogle County

August 17, 2016	Presentation on how to garden, choose plants, and other information related to dealing with wildlife near one's own garden, by Krista Ginger, University of Illinois Extension Master Gardener
September 21, 2016	Presentation to consider assistance from local hunters to manage the deer population by Bob Buman, hunter
October 19, 2016	Meeting cancelled
November 16, 2016	Discussion with property owners of land surrounding the City of Galena to consider approval by those property owners and the Department of Natural Resources of hunting those properties with assistance from local hunters with the goal of managing the deer population
December 1, 2016	Committee works to complete Final Report
December 6, 2016	Committee works to complete Final Report

2. Committee to take whatever time needed to do the job

In discussions with the Mayor at the time the committee was formed by the City Council, the committee was advised to take whatever time the committee needed to fulfill the various commitments made in agreeing to proceed with the Council's direction. The Mayor urged the committee to meet at City Hall as often as the committee deemed necessary to do the research and hold public hearings to receive and process information regarding the various issues confronted in working to complete the committee's assigned tasks.

The committee members determined that the hearings held to date and the information accumulated through the research done and study completed are sufficient to allow the committee to provide this Final Report to the Mayor and City Council. Although the committee is not opposed to further efforts if requested by the city leaders, the committee feels that this report should provide those leaders with sufficient information to make decisions on how to proceed with the recommendations provided in this report.

The committee wishes to express its appreciation to all presenters who came to our public hearings, to city staff for their patient assistance in distributing information to the general public and in our use of city facilities to complete our work, to the staff of Galena Gazette for attending our hearings and sharing their views of the work we have done, and, especially, to the citizens who took the time to come to our meetings and contribute their input as we proceeded. We particularly wish to thank Bill Grosshans for his help and assistance with our work and for his assistance to Beth Baranski in the weekly deer counts done to get us some basic data on the deer population in Galena.

3. Carefully review information previously accumulated by the City.

Our committee carefully reviewed the information and found:

The first committee began meeting on July 24, 2013 and met 4 times. At the first meeting the Galena Territory Association (GTA) presented information about their deer culling program and the committee decided to invite Marty Jones from the Illinois Department of Natural Resources (IDNR) to meet with them. They desired to move forward in time for the city to schedule a helicopter deer census with the GTA in December or January.

Marty Jones, from the IDNR came to the second meeting and suggested that a survey be done to assess the extent of the problem. Jones explained that if there is an overpopulation problem and a culling program is established, it would need to be a long-term program. Mark Moran suggested that the city staff prepare a report for the committee summarizing what has been learned through research, public input and from the IDNR.

At the third meeting they reviewed the committee progress report and recommendation prepared by staff. Committee member, Bill Salzman presented four maps showing locations of injured deer and deer/vehicle accidents. They presented the progress report to the city council at their September meeting.

The last meeting was held on January 14, 2014. The results of the community survey regarding the deer population was discussed. They were disappointed that there were only 92 responses. They decided to move forward with a permit application to the IDNR for culling up to 25 deer in the winter of 2015.
Our committee reviewed the results of the deer survey and the map of deer locations presented to the city by the committee.

Mark Moran prepared an application for a Deer Population Control Permit which was granted to Galena. Photographs of deer damage to property and maps of deer/vehicle accidents were included. On February 9, 2015 the culling program was suspended after one deer was killed by the City's sharpshooter and one was wounded and never found. The cost of the overall program was $1,264.38 (see Appendix A). A petition, Rethink Deer Culling in Galena, was presented to the council.

Much information about Deer Population Control permits were included in the committee report including sharpshooter qualification/testing procedures as well as an article by Doug Dufford, IDNR district wildlife biologist – Natural Area Protection – A Case for Deer Management.

The 2013 Deer Committee studied what other communities were doing about deer over-population. Included were the Galena Territory, the city of Dubuque, the city of Rock Island, and the city of Peoria. The committee presented a list of plants that deer don't prefer, a deer repellant recipe, and copies of petitions regarding deer, both pro and con for culling.

An excellent summary of the issues that led the 2013 Deer Committee to seek a deer population control permit from the Illinois Department of Natural Resources can be found on the City of Galena website under the title of "Committee Information Packet Vol. 1"

4. Show findings are accurate with the "Facts on the Ground."

<u>Deer Incident Reports</u>

The number of deer incidents documented by the Galena Police Department has tripled from 2010 to 2016 (see Figs. 1-3) A table containing detailed information supporting these graphs is available in Appendix B.

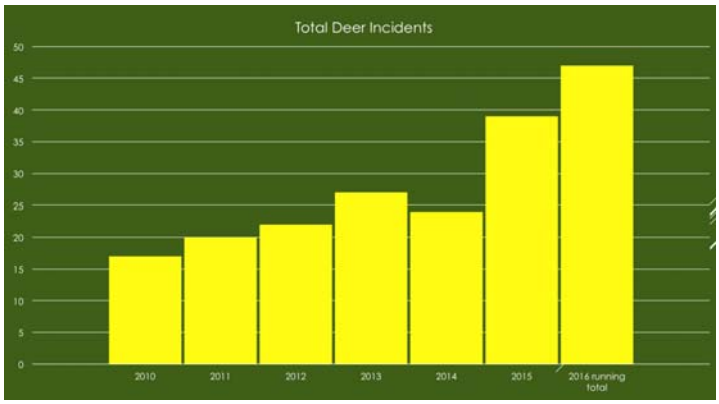


Figure 1. Total Deer Incidents

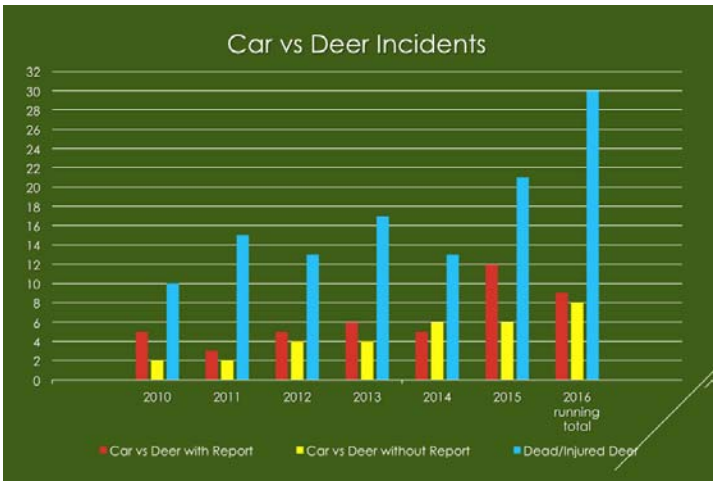


Figure 2. Car vs. Deer Incidents

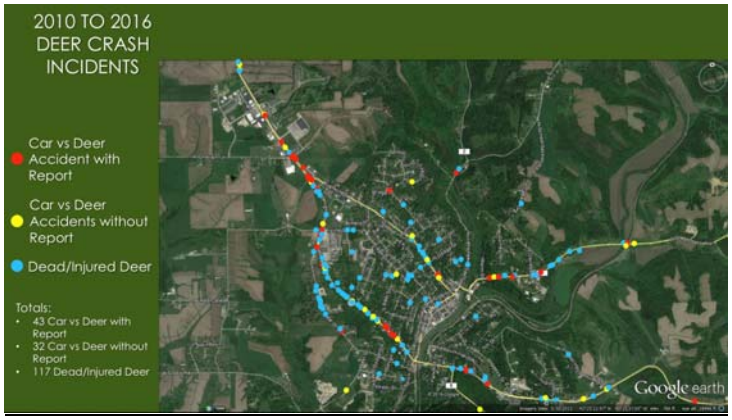


Figure 3. 2010 to 2016 Deer Crash Incidents

Referendum Results

In the March 15th Primary Election, Galena voters were asked to vote on a deer management question. The question and the results are shown in Figure 4.

CITY OF GALENA

ADVISORY QUESTION REGARDING DEER POPULATION MANAGEMENT

"SHOULD THE CITY OF GALENA SPEND PUBLIC FUNDS TO ANNUALLY COUNT THE NUMBER OF DEER IN THE CITY LIMITS, AND IF THOSE COUNTS DETERMINE THAT DEER ARE OVERPOPULATED BY ILLINOIS DEPARTMENT OF NATURAL RESOURCES STANDARDS, SHOULD THE CITY OF GALENA SPEND PUBLIC FUNDS TO ANNUALLY REDUCE THE DEER POPULATION BY LETHAL MEANS?"

PRECINCT	YES	NO
East Galena	84	143
Rawlins	23	22
West Galena 1	152	253
West Galena 2	152	170
West Galena 3	229	209
TOTAL VOTES	**640**	**797**

Figure 4. Referendum Results

The Number of Deer

It seems to be generally accepted that the actual number of deer in the City is an important reference point for the development of a deer management plan. An aerial count is needed.

Doug Dufford, Wildlife Disease Program Manager for the Illinois Department of Natural Resources, suggests that 20-40 deer per square mile is generally considered a reasonable biological carrying capacity in a rural setting with good habitat. He has provided a map showing deer habitat areas in Galena based on criteria established by researchers at Southern Illinois University-Carbondale that includes woodland acreage plus potential forage habitat. This map indicates that there are approximately 1.96 square miles of deer habitat within the city limits (fig. 9 on page 10). The City of Galena is about 4 square miles, and therefore, using the lower end of the recommended range (20 deer per square mile) because Galena is a developed area, a reasonable initial reference point for considering biological carrying capacity would be 40-80 deer. The cultural carrying capacity based on human tolerance for the deer at any given population level is a different matter, may fluctuate over time, and has yet to be established for the City of Galena.

In order to provide a reference point for trying to answer the question - "How many deer are there in Galena?" the Committee recommended and the City Council agreed to obtain a winter helicopter aerial count working in conjunction with the Galena Territory's annual aerial count. Insufficient snowfall (4" is desired) in the winter of 2015/2016 precluded this count from taking place. A drone count was considered, but the drone doesn't make enough noise to startle the deer into motion.

In attempt to provide an alternative reference, a program for driving around town and counting the deer (similar to the approach used at Apple Canyon Lake) was created. A methodology was established to eliminate as many variables as possible (see Appendix C), and this regular count was conducted with the thought that it might help frame the general number of deer in town, could help us understand seasonal changes, and also might help identify specific locations that tend to have more deer than others. It will be interesting to see how the driving counts done as winter approaches compare with a winter aerial count (if one is conducted).

Leonard Lee Rue III's book, *The Deer of North America*, recommended by Rich Mattas during the Galena Territory Association's presentation to our committee, contains an Appendix with information about "Deer Activity Cycles" describing the seasonal changes that play a role in the number of deer that may be seen at any given time. Some of that information is paraphrased here for reference:

- January - most bucks have lost their antlers and are indistinguishable from does
- February - hardest month on deer and they can be seen feeding more in the daytime. They may hole up in areas sheltered from the wind where snow is not as deep.
- March - deer may stay in fields and open areas midday because of reduced human pressure. Because food is still scarce they can be seen any time of day.
- April - the deer are very hungry and feed into midmorning and start again at about 3 p.m.
- Mid-May through the end of June - does can be seen almost any time of day
- June - poor time to see deer as does that have given birth are secretive and bucks are still in seclusion
- July - deer observation picks up with fawns following does around and yearling females rejoining their mothers, and bucks become more active
- August - deer tend to feed when it is cooler
- September - deer are active in daylight hours until bow hunting season opens
- Last week of September and the first two weeks of October, all of the deer seem to virtually disappear. They abandon their regular haunts and trails, stop feeding on corn, soybeans, alfalfa and orchards because acorns are available. Gun hunting season makes them more secretive.
- November - the last week and a half of October, all of November and first two or three weeks of December make up the rutting season when the bucks are most active. They expand their range, throw caution to the wind, and can be seen at any time of the day. Hunting keeps the does and their young out of sight during most of the daylight hours.
- December - usually a poor month to see deer as almost all deer activity takes place under cover of darkness

The table below (Fig. 5) shows the number of deer seen in the driving counts conducted from April 18th through November 28th, 2016 - a total of 23 counts, ranging from individual count totals of 6 to 30 (with

the highs and lows in each precinct highlighted), and documents notable conditions and recorded identification of fawns and bucks.

2016 Galena Driving Deer Count								
Date	Time	Precinct					Total	Comments
		Rawlins	West Galena I	West Galena II	West Galena III	East Galena		
April 18, 2016	a.m.	0	6	0	7	1	14	
May 2, 2016	a.m.	0	8	0	6	0	14	
May 12, 2016	a.m.	0	0	0	9	0	9	visibility still good but foliage filling in
May 12, 2016	p.m.	0	4	0	6	0	10	
May 16, 2016	a.m.	0	3	0	9	0	12	
May 16, 2016	p.m.	4	10	0	14	2	30	
May 31, 2016	a.m.	0	6	3	0	0	9	
June 13, 2016	a.m.	0	4	1	4	3	12	
June 27, 2016	a.m.	0	8	1	10	0	19	4 fawns
July 11, 2016	a.m.	0	7	3	13	0	23	13 fawns
July 25, 2016	a.m.	1	4	0	9	2	16	6 fawns
August 8, 2016	a.m.	9	1	0	14	0	24	11 fawns, 1 buck
August 15, 2016	a.m.	0	3	0	15	2	20	8 fawns, 2 bucks
August 29, 2016	a.m.	8	8	1	11	0	28	3 fawns, 1 buck
September 12, 2016	a.m.	6	12	0	10	0	28	
September 26, 2016	a.m.	0	11	1	9	0	21	beautiful morning
October 3, 2016	a.m.	8	0	4	11	0	23	foggy this morning
October 10, 2016	p.m.	0	5	0	10	0	15	
October 19, 2016	p.m.	2	3	0	5	0	10	
November 7, 2016	a.m.	3	0	0	3	0	6	
November 14, 2016	a.m.	3	7	0	9	0	19	Great moon!
November 21, 2016	a.m.	0	9	0	18	0	27	18th-20th shotgun hunting weekend
November 28, 2016	a.m.	0	8	0	0	0	8	Wienen Park closed for winter, cloudy
December 5, 2016	a.m.	0	12	0	5	0	17	Snow covered
							0	
							0	

Figure 5. 2016 Driving Deer Count

The graph below (Fig. 6) depicts the driving count totals from April 18th through December 5th, 2016. As a matter of reference, a goal of 20 deer per square mile is used by the City of Dubuque, 20 deer per square mile is the high range goal of the Galena Territory (12-20 deer per square mile), and the low range goal of the Apple Canyon Lake Property Owners Association (20-30 deer per square mile). In Dubuque, the Galena Territory, and Apple Canyon Lake, the entire square mile area is used to determine the carrying capacity of the area in terms of number of deer per square mile.

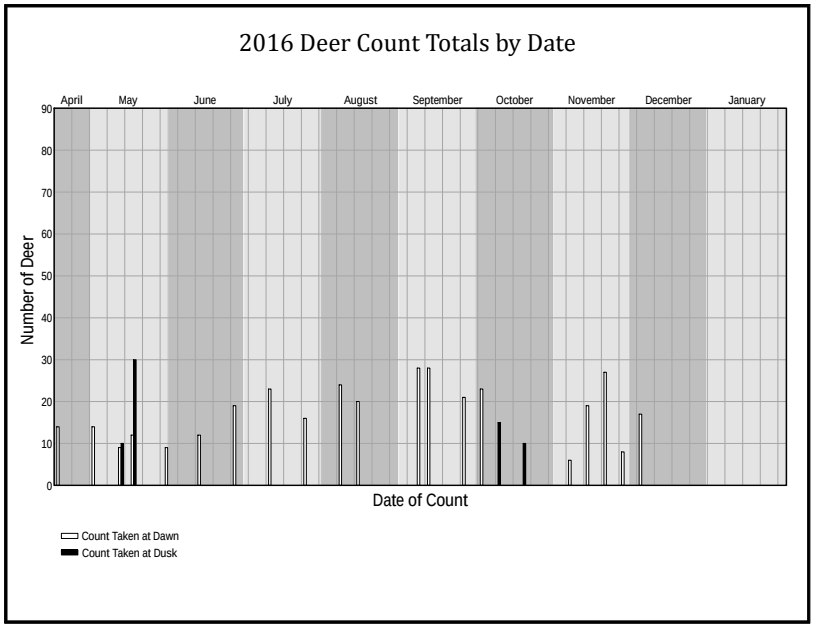


Figure 6. 2016 Deer Count Totals by Date

The map below (Fig. 7) shows the range of deer totals per count seen in each precinct of the City from April 18th through November 14th, 2016.

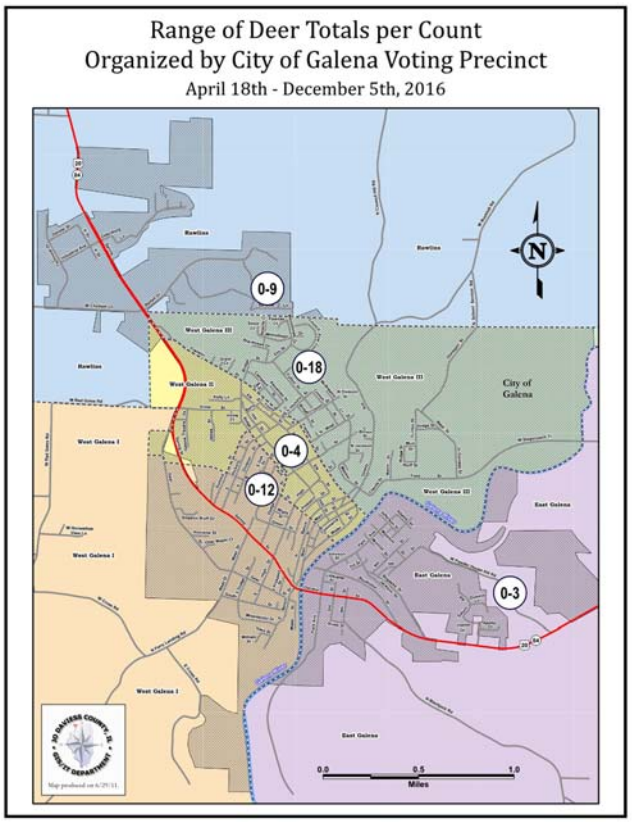


Figure 7. Range of Deer Totals by Precinct

The map below (Fig. 8) shows the range of deer totals per count seen in each precinct of the City from April 18th through November 28th, 2016 relative to wooded areas in and around the community.

Figure 8. Range of Deer Totals Relative to Wooded Areas

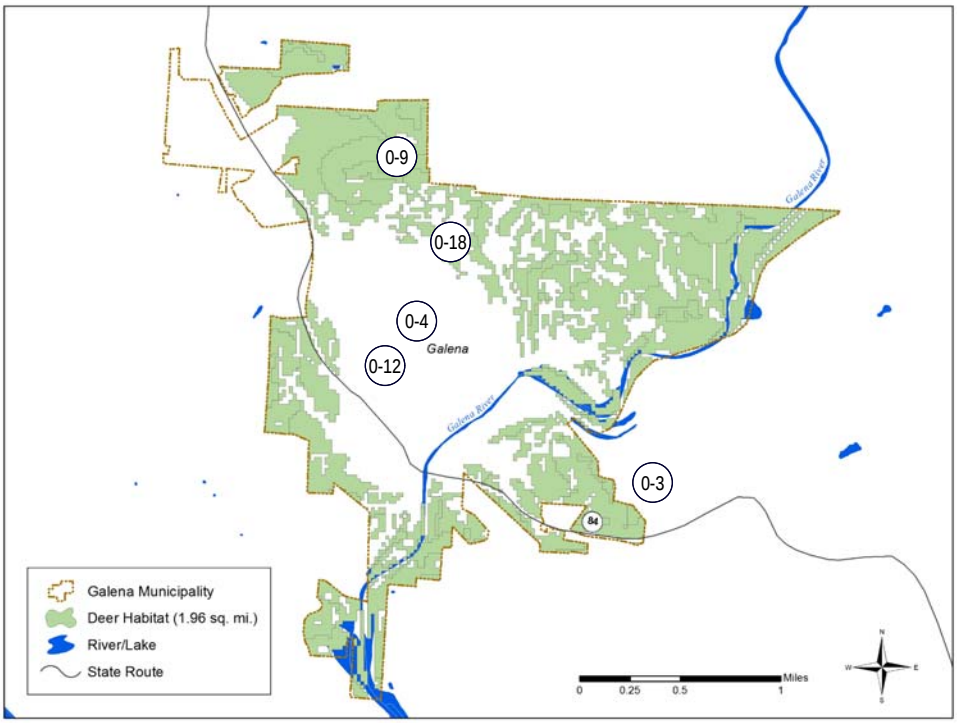


Figure 9. Deer Habitat Areas within the City of Galena and general locations of deer numbers per count.

5. Relevance of Lyme disease issue.

Lyme Disease is an issue in Jo Daviess County, and while deer play a role in the life cycle of the Black-legged tick that carries the disease-causing bacterium *Borrelia burgdorferi*, reducing deer populations is not the approach recommended by the Centers for Disease Control and Prevention, the Humane Society of the United States, scientists at the Illinois Natural History Survey, or the Jo Daviess County Health Department. A vigorous educational program to inform citizens on how to protect themselves is considered the best way to reduce the incidence of Lyme disease. Therefore, while Lyme disease is certainly a concern, for the purposes of this report, it is not seen as a consideration in the development of a deer management plan for the City of Galena.

The Jo Daviess County Health Department records the number of Jo Daviess County residents that have been diagnosed with Lyme disease. Recorded incidence over the past 10 years is as follows: 2006-1, 2007-9, 2008-7, 2009-1, 2010-0, 2011-0, 2012-4, 2013-14, 2014-8, 2015-14. It is likely that there are additional resident cases that go undiagnosed and also that visitors to the county may contract Lyme disease (cases are recorded in the infected person's county of residence). However, the Health Department records provide a reference point. The records are kept by county only, so a breakdown for the City of Galena is not available.

The Black-legged tick has an interesting life cycle, transforming from a larvae to a nymph and then to an adult over a two-year period. The tick feeds on the blood of a host animal at each stage, starting with small creatures (e.g. mice and other rodents, birds, and even lizards), moving to mid-size hosts (e.g. raccoons, possum, skunks), and finally to large hosts (e.g. deer and humans). Deer are the preferred large host for the tick, however the ticks have been found to be very adaptable in their quest for a suitable host, and with the exception of the elimination of deer on an island, studies do not support the theory that reducing the deer population reduces the number of black-legged ticks.

The following served as references for this report, and may be helpful should the City Council choose to proceed with the development of an educational program to prevent Lyme disease:

- The Centers for Disease Control and Prevention (http://www.cdc.gov/lyme/toolkit/index.html)

- Laura Simon (who presented to our committee) no longer works with The Humane Society of the United States, but Marc Ayers, Illinois State Director - HSUS has offered to be of assistance. (mayers@humanesociety.org)

- Nohra E. Mateus-Pinilla, Veterinary Epidemiologist and Director of the Veterinary Epidemiology Laboratory at the University of Illinois, Prairie Research Institute,Illinois Natural History Survey. (217/333-6856, nohram@illinois.edu)

- Lori Stangl, RN, BSN, Director of Clinical Services, Jo Daviess County Health Department (815/777-0263, lstangl@jodaviess.org)

6. Relevance of Deer Chronic Wasting Disease.

Doug Dufford, of the Illinois Department of Natural Resources, provided the committee with his commentary on Chronic Wasting Disease (CWD) including how it is spread and how close the disease is to Galena and its surroundings. The Illinois Department of Natural Resources is working hard to slow the spread of this disease that can devastate deer herds until a cure can be found.

There are potential disease concerns about the bait (and feeding deer in general), since this may cause unnatural congregation of deer feeding at the same source. This results in increased risk of disease transmission through direct (animal to animal) contact, and through saliva or wastes deposited at the bait site.

Doug advised that Chronic Wasting Disease is a neurological disease. It is caused by an infectious protein called prion and is always fatal. He told us that there is no current treatment for the disease but that there is research progressing and one deer has survived to date. Once infected, a deer will die within 18 months to 2 ½ years. The disease can only be confirmed through testing. Infected deer appear healthy until the final stages of the disease. Over time, the prions become integrated with the neural tissue and normal neuron function breaks down, resulting in weight loss, salivation, and loss of coordination. The prions build up and can be shed in fluids: saliva, feces, and urine. The disease is transferred primarily through saliva. Deer are social animals. They nuzzle and lick each other. The disease can quickly spread, infecting entire family groups. So far, there has been no known affect on humans.

Management involves trying to lower the deer density through localized population reduction. The goals are lowered densities, a younger age structure in the population, a higher population turnover rate, and a low emigration rate.

The disease entered Illinois northeast of Rockford and has been spreading west into Jo Daviess County. A deer has been identified with the disease about three (3) miles south of Elizabeth. At some time CWD may very well reach Galena. If it arrives, the health of the entire Galena herd is at risk. Once the disease is confirmed in Galena, the IDNR will take action as it sees fit. We need to be vigilant to protect the health of the herd, and to cooperate fully with the IDNR's efforts to slow the spread of the disease.

7. Answer the question, "Is There a Problem?" and, if so, what is it?

There is a problem in Galena related to the deer and other wildlife populations inside the city limits. based on the following findings:

1. There are citizens who are experiencing deer damage to their property located inside the city limits.

2. There are accidents along Spring Street that are related to the presence of deer inside the city limits.

3. There are multiple incidents of deer being impaled on fences inside the city limits.

4. There are citizens illegally feeding the deer.

The committee has identified the following items of disagreement in the community:

1. There are mixed opinions on how serious the problem is.

2. There are disputes on how best to resolve the problem.

3. There is disagreement on whether or not the City Council should expend public funds to attempt to deal with the problem.

The committee has learned that:

1. Not all areas of Galena are being affected in the same way by the increase in deer population.

2. There is a limit to the number of deer that can live healthily in any given area.

3. If the number of deer within the city limits is not detrimental to deer health, then problems regarding the deer population must be evaluated in consideration of quantified human tolerance.

4. Without an accurate and accepted means of counting the deer inside the city limits, it remains a difficult task to define the problem and identify fact-based solutions.

Based on an advisory referendum question submitted to the public in the spring election of 2016, the majority of voters who participated in the election voted to discourage the City Council from expending public funds to deal with wildlife populations inside the city limits.

Attached, as Appendix B is the updated report from the Chief of Police on deer issues, which continue to arise inside the city limits.

8. Investigate how other communities have handled the issue.

The 2015 Deer Committee researched efforts in the following communities to deal with deer population issues:

1. Galena Territory Association (GTA) Deer Management Program presented by Joe Mattingly, GTA CEO, Dave Oldenburg, and Emily Lubke. The GTA began an investigation in 1988 when the deer population exploded after hunting was prohibited. There was extensive damage to landscapes, golf course, and woodland. There was a peak of 31 vehicular/deer accidents in 1992. The GTA explored options for deer control including regulated hunting, bow and gun. Live capture and euthanasia as well as trap and relocate were looked at. Sharpshooting was examined and considered to be the best solution. The Illinois Department of Natural Resources (IDNR) recommended a density of 12-20 deer per square mile based on knowledge of deer health and fitness, and their impact on plants, wildlife, and healthy ecological systems. There was an estimated 1,000 deer in the 10.265 square miles of the Territory.

In 1991 a sharp shooter program was begun. Safety was the top priority when considering culling methods. The use of a rifle was selected because of its accuracy and range. The IDNR identified the shooting zones. They looked at the cover density and selected areas with adjacent open areas safe for shooting. They avoid rental areas. There were 600 deer culled the first year. The cost per deer was estimated to be $150. The meat is donated to local food pantries.

In a review of the program in 2012 it was determined that the sharpshooter be more visible by wearing an orange vest and having a flashing strobe light on the vehicle. Property owners are asked for permission to shoot on their property and to access their property to pick up dead deer. They have maintained the same program since 1991, culling every year for consistency. There are 50 to 100 deer culled annually. Every year an aerial count is done when there is at least 4" of snow on the ground.

The program objectives are to maintain the number of deer/vehicle accidents at less than 20 per year, maintain deer browsing of native plants at less than 20%, and maintain deer damage to ornamental plantings such that 75% of residents are satisfied, and promote an understanding of the need for management. Every three years a browse study of the woodland areas is done. Ongoing efforts continue to educate the community about the program, emphasizing not feeding the deer or putting out salt licks. Overall, the GTA believes that their management program has been a success.

More info about their program can be found on our deer committee website dated 12/7/2015 which includes: GTA deer culling costs, browsing data, and culling maps.

2. Apple Canyon Lake (ACL) - Jim Petelle and John Schereson, members of the Apple Canyon Property Owners Association, gave our committee a report on their deer management program as well as copies of the ACL Property Owners' Association Rules and Regulations regarding deer archery hunting in specified resort common areas.

In response to complaints about property damage and vehicular accidents, a deer management committee was formed. They met 2 to 3 years before their deer management program was started in 2010. They worked with Doug Dufford, wildlife biologist, with the IDNR. They discovered that they should have 20-30 deer per square mile. Their territory is comprised of 3.4 square mile whose deer carrying capacity was 80-90 deer. They had four times that many deer.

They chose archery over rifle because they felt the proximity to houses was an issue. Their archery program culls 50-60 deer per year in designated areas from elevated stands during regular hunting

season. Participating archers adhere to strict requirements above and beyond what the state of Illinois requires. In addition to their archery program they offer a youth archery program every summer in conjunction with the boy scouts.

In their second year, they did an aerial count, and since then they do an annual roadway count when there is snow on the ground. People drive around 4 quadrants in the evening during a one and a half hour period to count deer. They still have twice the number of deer they should have according to IDNR recommendations.

They offer a public presentation about their deer management program every year to educate the public and to get their buy –in for their program. They believe that a culling program must be maintained every year to be effective. There are fewer vehicular accidents and less property damage. Based on comments received at their meetings and in their paper, The Apple Core, the program seems to be generally well received. They collected $2,500 - $3,000 in hunter fees, and the program cost was $1,200.

More detailed information can be found on our deer committee website: minutes from our 12/16/2015 meeting, ACL Rules and Regulations for Hunting were listed as ACL Management Program.

Also listed on our deer committee website is information from other communities that we investigated:

3. Austin, Texas
In 2009 Austin became the largest city in the U.S. to become a certified, wildlife habitat by the National Wildlife Federation. In 2011 they enacted a "no-kill" policy declaring "The City of Austin will practice tolerance and co-existence with deer and will promote this policy through a multi-tiered program of education, awareness and humane, non-lethal conflict management." Education on methods of exclusion, deterrents and conflict management with white-tail deer and other wildlife is provided.

Austin has 931,830 residents so it does not compare to Galena, but the Austin Animal Advisory Commission made a number of recommendations that could be very useful in helping Galena deal with our deer population. That information is also on the deer committee website.

4. Lincolnshire, Illinois
Lincolnshire is a northern suburb of Chicago with a population of 7,275. They previously culled deer, but discontinued in 2011 since their data suggested they didn't need to cull. Before 2011 they compiled an annual report of residential complaints, plant data (browsing numbers), deer/vehicle accidents, and they paid a natural areas maintenance contractor to collect browsing data.

5. Clifton, Ohio
Clifton is part of Cincinnati. They are engaged in a 5 year pilot study on a non-lethal fertility control program that began in 2014. In their first year 41 does were sterilized and tagged (an estimated 90% of their total herd) and 3 male fawns were tagged. Their hope is to control their deer population through sterilization. They set up bait stations, and performed field surgery. Many people including wildlife biologists, veterinarians, and volunteers were involved in the first event. This year for two weeks after the event strategically located cameras will take thousands of photos which will be examined by wildlife biologists to estimate with high reliability the number of deer. The costs were not clearly shown, but this year they expected the costs to be $15,000 more than last year and they were seeking grants and donations to cover the expense.

Their 2014 deer estimate was 60-65 deer, but they felt they had double that amount. Again, this community is not very relative to Galena, but their research is worth following even though they are in the beginning stages.

6. Rochester Hills, Michigan

Rochester Hills created a program to reduce deer-car collisions including highly-visible deer warning signs at collision hot spots, removal of sightline barriers, and a "Don't Veer for Deer" educational campaign. Over several years, they achieved a 25% reduction in deer-vehicle collisions in spite of a 34% increase in the deer population. The program costs $2,000 per year.

9. Options to reduce the number of deer in herd if determined appropriate.

If the herd needs to be reduced there are several options. Some are more practical than others. We heard from many sources. These are some of the things that have been tried:

1. Attempts to capture and relocate deer have been shown to be deadly to the deer. They struggle and injure themselves and need to be put down.

2. Capturing and sterilizing or neutering deer is much too expensive and is ineffective in reducing deer population.

3. Sharpshooters have been used in the Galena Territory. They have been successful in reducing the herd. The Territory herd is now healthy and sustainable. Only proven marksmen can be used, in specified firing zones. Due to a lack of natural predators, the culling needs to be a long-term program to control the herd. Also because of IDNR rules sharpshooter culling is expensive.

4. Bow Hunters are used in many communities. They utilize normal hunting seasons. Apple Canyon Lake actually makes money through bow hunting. Each hunter has to pass safety and accuracy tests, then pay for deer permits. They can keep and process the deer they shoot. For separation each hunter is assigned a specific area. Following the rules implemented by Apple Canyon Lake has resulted in a safe and effective deer management program.

5. Re-introducing natural predators to Galena can also reduce the deer population. This does not require bringing predators to Galena. They are already being attracted to the area. It only involves not taking steps to stop them.

6. The Galena herd is already being reduced involuntarily. Deer are killed in vehicle accidents and by being impaled on fences.

7. Plants that deer like to eat are getting scarcer in Galena. Some people are actively planting deer resistant plants. Others are not replacing plants that have been over browsed by deer. Either way there is less for deer to eat. Reducing the food supply could result in some deer leaving the city. Additional benefit will be derived from plantings that do not attract deer and are not a useful food source for the deer population.

8. Stricter municipal ordinance prohibiting the feeding of deer within the city limits.

10. Committee Recommended Deer Management Program

Based on the above-itemized findings, the committee recommends the following options to the City Council and urges adoption of as many as the council deems appropriate to assist in managing deer and other wildlife in the city limits:

1. Count the deer

The City should:

- Conduct an aerial deer count, working in conjunction with the Galena Territory Association's deer count.
- Evaluate the number of deer counted against the 20 deer per square mile reference point.
- Estimate the degree of accuracy of the driving count for future counts.
- Conduct annual driving counts on a regular basis.
- Conduct an aerial count again in 2 years (winter 2018-19) if the number of deer-vehicle accidents in the 2018 calendar year exceeds 20.

2. Educate Citizens

The City should:

- Contract with the University of Illinois Extension to provide natural resource education presentations at City Hall each winter that are free to the public. Topics might be drawn from those in the Extension's Master Naturalist program, such as "Urban Areas and Wildlife," Agricultural Lands and Wildlife," "Understanding the Natural World," and "Understanding Prairie in the Prairie State." The Master Gardeners program on Deer Resistant Plantings should be repeated on a regular basis. Include education along the lines of the "Veer for Deer" program used successfully in Rochester, MI.

- Invite the formation of a citizen advisory committee to make ongoing recommendations to the City Council on natural resource issues (including wildlife management), and to assist in educating the public on natural resource matters.

- Offer a survey to the citizens each year (see recommended survey in Appendix D). Evaluate the number of responses to the question, "Are levels of deer damage tolerable?"

3. Install Deer Warning Signage

The Illinois Department of Transportation will not install deer warning signs, but the City may do so in consultation with the department. The City should install deer-warning signs along roadways with high deer-vehicle incident rates (e.g. Gear St., U.S. 20, Franklin St., and Stagecoach Trail - see Fig. 3, p. 7).

4. Maintain Deer Health

The City should:

- Follow the progression of Chronic Wasting Disease in deer in Jo Daviess County and cooperate with the Illinois Department of Natural Resources should infected animals be documented in or near the City.

- Manage the deer population by encouraging increased hunting on private properties surrounding the City of Galena, and open City properties on the periphery of the City (e.g. Gateway Park, the acreage north of Indian Ridge subdivision) to hunting during the regular hunting season.

- Determine the number of deer within the city limits (through aerial or driving counts, or both) per square mile each year. If the number is found to exceed 20 deer per square mile, consider special City permission working with the IDNR to implement a bow-hunting program in select areas within the city. Neither the hunters interviewed nor the committee recommends using firearms within the city limits to reduce the deer population. The Apple Canyon Lake program for testing and certifying bow hunters is a good reference. The City of Dubuque's program for identifying areas within the City limits suitable for deer hunting is a good reference.

5. Improve the Ability to Enforce the Prohibition of Deer Feeding
The City of Galena should pass an ordinance that will assist law enforcement in stopping the feeding of deer inside the City limits. Recommended sample ordinance language is provided in Appendix E.

6. Monitor Overall Situation
The City should annually review information about the number of deer, number and nature of deer incidents, status of Chronic Wasting Disease in the area, and citizen opinion. A sample annual report is provided as Appendix F.

7. Evaluate the Galena Deer Management Plan
In 3 years (December 2019) evaluate the effectiveness of the Galena Deer Management Plan as written and modify as appropriate.

11. Cost Implications and staff time for deer population management

Costs:

1. Count the deer

The cost of a driving count would be minimal if conducted by volunteers (similar to the annual bird count conducted by the Jo Daviess Conservation Foundation). The cost of the aerial count = $1,500. If an aerial count is conducted once every two years, the maximum annual expense at current rates would be $750 per year.

2. Educate Citizens

The University of Illinois Extension will provide 2-hour programs that are free to citizens as desired by the City, will promote those programs, and will handle online registrations for the programs. They would ask the City to host the programs and help promote them. The cost per program event would be in the range of $150-$250. Assuming three programs at the higher cost, the annual expense would be $750.

There are minimal anticipated costs for the formation of a citizen advisory committee to make ongoing recommendations to the City Council on natural resource issues.

An online survey (e.g. Survey Monkey) would be free. There would be some additional expense for city staff to analyze the data.

The cost for an annual mailing of the survey including an addressed return envelope to 1900 households is approximately $2,000. There would be additional expense for the city staff to compile and analyze the survey data.

3. Install Deer Warning Signage

The purchase and installation price for a standard sign is approximately $300 per sign, and the Police Department should identify appropriate locations.

4. Maintain Deer Health

There is no cost involved in following the progression of Chronic Wasting Disease in deer in Jo Daviess County and cooperating with the Illinois Department of Natural Resources should infected animals be documented in or near the City beyond the minimal staff time required to accomplish this.

5. Improve the Ability to Enforce the Prohibition of Deer Feeding

The ordinance should allow for clear enforcement of the prohibition on feeding deer. Revenue may be generated through the collection of fines.

6. Monitor Overall Situation

A sample annual report is provided as Appendix F. There is no cost involved in putting together the annual report beyond the minimal staff time required to accomplish this.

7. Evaluate the Galena Deer Management Plan

There is no cost involved in evaluating the Galena Deer Management Plan beyond the minimal staff time required to accomplish this.

The Committee recommends the following ACTION PLAN:

Winter 2016-17

- Conduct aerial count in conjunction with Galena Territory Association

- Contract with University of Illinois Extension to provide three educational programs

- Adopt ordinance language regarding prohibition of feeding deer

- Offer Citizen Survey

Summer 2017

- Install deer-crossing signs in strategic locations

Winter 2017-18

- Conduct driving count

- Work with landowners just outside the city limits to increase hunting on their properties.

- Open City properties on the periphery of the community to hunting (e.g. Gateway Park, the area north of Sproule Lane)

- Contract with University of Illinois Extension to provide three educational programs

- Offer Citizen Survey

Winter 2018-19

- Evaluate number of deer-vehicle collisions

- If deer-vehicle collisions are over 20, conduct aerial count

- If deer-vehicle collisions are under 20, conduct driving count

- Work with landowners just outside the city limits to increase hunting on their properties.

- Open City properties on the periphery of the community to hunting (e.g. Gateway Park, the area north of Sproule Lane)

- Contract with University of Illinois Extension to provide three educational programs.

- Offer Citizen Survey

CITY OF GALENA, ILLINOIS

DEER POPULATION CONTROL ACTIVITY REPORT: February 9, 2015

Date	Time Out	Time In	Total Hours	Employee	Department	Vehicle	Mileage	Temperature	Weather	Location	Shots Fired	Doe	Buck	Tag #	Notes
1-1--1-13-15			2.00	Bill Salzmann		#5	10	NA	NA	NA	NA	NA	NA	NA	Met with property owners in shooting areas
1-1--1-13-15			2.00	Bill Salzmann	Police	#5	8	NA	NA	1-4	NA	NA	NA	NA	Baiting
1-14-15	4:15 PM	5:00 PM	0.45	Bill Salzmann	Police	#2	4.9	24	Clear	NA	NA	NA	NA	NA	Met with Hoogerwerf of DNR regarding feeding law. Checked locations where residents reported to be feeding.
1-20-15	8:00 AM	10:30 AM	2.50	Bill Salzmann	Police	#5/PW pickup	27.5	30	Clear	1-4	0				Saw deer at feeding locations, did not take shots
1-26-15	10:00 AM	11:00 AM	1.00	Mark Moran	Administration	NA	NA	NA	NA	NA	NA	NA	NA	NA	Prepare activity report template
1-28-15	8:00 AM	12:00 PM	4.00	Bill Salzmann	Police	#5	8.3	25	Clear	4	1				Deer wounded but not recovered. Tracked unsuccessfully.
1-28-15	8:00 AM	12:00 PM		Bill Salzmann	Police	#5		25	Clear	2	1	Doe(F)	NA	134867	Field dress and transported to Territory refrigerated storage
1-28-15	11:00 AM	11:30 AM	0.50	Kevin Sinagra	Public Works			NA	NA	NA	NA	NA	NA	NA	Met with Bill Salzmann to give him access to Gator.
1-28-15	8:00 AM	11:00 AM	3.00	Mark Moran	Administration	NA	NA	NA	NA	NA	NA	NA	NA	NA	Field emails and calls regarding culling
1-29-15	8:00 AM	4:30 PM	1.00	Mark Moran	Administration	NA	NA	NA	NA	NA	NA	NA	NA	NA	Field emails, calls, and office visits regarding culling
1-29-15	8:00 AM	4:30 PM	1.00	Mark Moran	Administration	NA	NA	NA	NA	NA	NA	NA	NA	NA	Field emails, calls, and office visits regarding culling
2-2--2-9-15	8:00 AM	4:30 PM	6.00	Mark Moran	Administration	NA	NA	NA	NA	NA	NA	NA	NA	NA	Field emails, calls, and office visits regarding culling
TOTAL			**23.45**				**58.7**				**2**	**1**	**0**		

DEER POPULATION CONTROL COSTS

Employee Rate	Employee Cost	Vehicle Cost	Ammunition Cost	Processing Cost	Total Cost
$37.04	$74.08	$5.60			$79.68
$37.04	$74.08	$4.48			$78.56
$37.04	$16.67	$2.74			$19.41
$37.04	$92.60	$15.40			$108.00
$57.72	$57.72				$57.72
$37.04	$148.16	$4.65	$120.00		$272.81
$25.99	$13.00				$13.00
$57.72	$173.16				$173.16
$57.72	$57.72				$57.72
$57.72	$57.72				$57.72
$57.72	$346.32				$346.32
TOTAL	**$1,111.22**	**$32.87**	**$120.00**	**$0.00**	**$1,264.10**

Notes:

1. Employee Rate includes: base wage, Social Security, Medicare, retirement, health insurance and dental

2. $0.56 per mile for vehicle cost.

Appendix B: Galena Police Department Deer Incident Report Tables

2010	Accident with report	Accident w/ no report	Reported dead/ found dead	Reported injured Put down	Reported injured Ran away	Reported injured Unable to locate	Total
January	1					4	5
February					1		1
March							0
April							0
May							0
June							0
July							0
August	1	1				2	4
September	1				1	1	3
October					1		1
November	2	1					3
December							0
Total	5	2	0	0	3	7	**17**
2011	**Accident with report**	**Accident w/ no report**	**Reported dead/ found dead**	**Reported injured Put down**	**Reported injured Ran away**	**Reported injured Unable to locate**	**Total**
January				1		1	2
February					1		1
March							0
April						1	1
May							0
June			1				1
July	1		2				3
August					1		1
September			1				1
October		1					1
November	2				1		3
December		1	1	1	1	2	6
Total	3	2	5	2	4	4	**20**

2012	Accident with report	Accident w/ no report	Reported dead/ found dead	Reported injured Put down	Reported injured Ran away	Reported injured Unable to locate	Total
January			1				1
February		1					1
March			1			1	2
April							0
May						1	1
June							0
July				2			2
August					1		1
September				1			1
October		2		2			4
November	2	1	1		1		5
December	3		1				4
Total	5	4	4	5	2	2	**22**
2013	**Accident with report**	**Accident w/ no report**	**Reported dead/ found dead**	**Reported injured Put down**	**Reported injured Ran away**	**Reported injured Unable to locate**	**Total**
January		1	1	3			5
February				1			1
March		2	1	1			4
April					1		1
May							0
June	1		2				3
July							0
August							0
September	1	1	1			2	5
October	2		1	1		1	5
November	2		1				3
December							0
Total	6	4	7	6	1	3	**27**

2014	Accident with report	Accident w/ no report	Reported dead/ found dead	Reported injured Put down	Reported injured Ran away	Reported injured Unable to locate	Total
January		1			1		2
February					1		1
March	1						1
April		2					2
May							0
June	1				1		2
July			1				1
August		1	1				2
September	1			1	1		3
October		1	1		1		3
November	1	1		1	1	1	5
December	1			1			2
Total	5	6	3	3	6	1	**24**
2015	**Accident with report**	**Accident w/ no report**	**Reported dead/ found dead**	**Reported injured Put down**	**Reported injured Ran away**	**Reported injured Unable to locate**	**Total**
January	2	1	1	1		1	6
February	1	1	1	1		2	6
March	1	1				1	3
April				1		1	2
May							0
June							0
July	2		1	1			4
August					1		1
September	1					1	2
October	2	1	1	1			5
November	3	2	1				6
December			1	2		1	4
Total	12	6	6	7	1	7	**39**

2016	Accident with report	Accident w/ no report	Reported dead/ found dead	Reported injured Put down	Reported injured Ran away	Reported injured Unable to locate	Total
January	1	1	2	3	1	2	10
February	1	2	1	1	1		6
March	3	1	1				5
April		1	2				3
May	1				2		3
June	1		3	1	1		6
July		2			1		3
August							0
September	1	1	2	1	1		6
October			2	1			3
November	1			1			2
December							
Total							
2017	**Accident with report**	**Accident w/ no report**	**Reported dead/ found dead**	**Reported injured Put down**	**Reported injured Ran away**	**Reported injured Unable to locate**	**Total**
January							
February							
March							
April							
May							
June							
July							
August							
September							
October							
November							
December							
Total							

Appendix C: Driving Deer Count Methodology

At the January 2016 Deer Committee meeting, representatives from the Apple Canyon Lake Property Owners Association explained that after having completed an initial aerial count of the deer in the resort, they have adopted an ongoing driving count system. In order to provide a reference point for trying to answer the question - "How many deer are there in Galena?" - a program for driving around town and counting the deer has been created. The following methodology has been established to eliminate as many variables as possible:

- Beth Baranski and Bill Grosshans have agreed to conduct the driving counts together in order to ensure consistency and to confirm each other's deer sightings. Beth is a member of the Deer Committee, and Bill is a regular audience member at Deer Committee meetings and follows the proceedings closely.

- The same route is driven through Galena each time. The route takes about an hour and 30 minutes.

- As deer are spotted, the number of deer is marked on the appropriate map location and circled. If Beth and/or Bill feel there is any question that deer may have moved and might be double-counted, they are not included in the total.

- The count is conducted only when both Beth and Bill are available, either during the morning or evening twilight. The morning counts are begun about 5-10 minutes after morning civil twilight and the evening counts are started about one hour and thirty-to-thirty-five minutes before the end of evening civil twilight (referencing times at sunrisesunset.com).

- The date, time of start and finish, deer count, and any comments are recorded on the map and signed by both Bill and Beth.

This regular count is being conducted with the thought that it may help frame the general number of deer in town, could help us understand seasonal changes, and also may help identify specific locations that tend to have more deer than others. It will be interesting to see how the driving counts done as winter approaches compare with a winter aerial count (if one is conducted).

Appendix D: Survey Regarding Wildlife in Galena

1. Do you see deer in your yard? ____Yes ____No

2. Do the deer cause damage to the landscaping and/or gardens on your property? ____ Yes ____No

3. Are current levels of deer damage tolerable? ____ Yes ____No

4. What measures have you taken to "deer-proof" your property?
   a. Fencing
   b. Deer-resistant plants
   c. Repellents/sprays
   d. Visual repellents
   e. Motion-detection sprinklers
   f. Other *Describe* _____
   g. None

5. Would you support controlled, safe, bow and arrow culling of deer inside Galena city limits?

   ___Yes ___No

6. What other wildlife do you see on your property? *Types* _____

7. Do such wildlife cause damage to your property? *Describe* _____

8. Which Galena Precinct do you vote in?
   ____East Galena
   ____Rawlins
   ____West Galena I
   ____West Galena II
   ____West Galena III

9. Other comments?

_____

Appendix E: Ordinance to Deal With Feeding Deer Inside the City Limits

The 2015 Deer Committee (committee) has discussed the issue of the difficulty of enforcing an ordinance on feeding deer with the police department and the City Attorney. It is clear that there are difficulties in enforcement of the statute of the State of Illinois related to illegally feeding deer. It seems that the problem is proof of intent to feed the deer.

The committee hereby recommends that the City Council discuss with the City Attorney under its police power authority using Chapter 95 of the City Code of Ordinances entitled Nuisances. Specifically, the committee recommends that Section 95.01 of the code be amended to add the following paragraph thereto:

> **(K) To knowingly, purposefully or intentionally disburse food on the ground, at any feeding station, in a feeding device, or in a container of any kind, or provide a salt or mineral lick, or by any other means provide food to deer on any public or private property. A person shall be deemed to have knowingly, purposely or intentionally fed deer, cause deer to be fed or provided food to deer, if the person places, or allows to be placed, wheat, pellets, livestock feed, corn in any form, fruit, vegetables, hay or alfalfa, human food scraps, any form of wildlife seed, birdseed or livestock feed, or any other edible matter that deer will consume on the ground or within the reach of deer. "Within the reach of deer" shall be defined as having been located less than five (5) feet above the ground unless such items are screened or protected in a manner that prevents deer from feeding on them.. This prohibition shall include allowing residue that deer will consume to remain underneath a birdfeeder. This prohibition shall not include live vegetation such as ornamental landscaping, flowers, trees, vines, vegetable gardens, edible matter located either in an enclosed building or stored in a securely sealed package, or unmodified commercially purchased bird feeders or their equivalent when placed out of the reach of the deer.**

The committee further recommends that the Council amend Section 95.99 (A) to add the following language following the word "misdemeanor" therein:

"except that Section (K) thereof shall be punished as provided in Section 10.99." (This section authorizes a fine of up to $750).

It is the view of the committee that publication of the suggested amendments to the Nuisance ordinance will lead to stopping any feeding of deer within the city limits.

Appendix F: Sample Annual Report for Galena Deer Management Plan

Updated information should be provided to the Galena City Council each year as a reference for deer management decision-making.

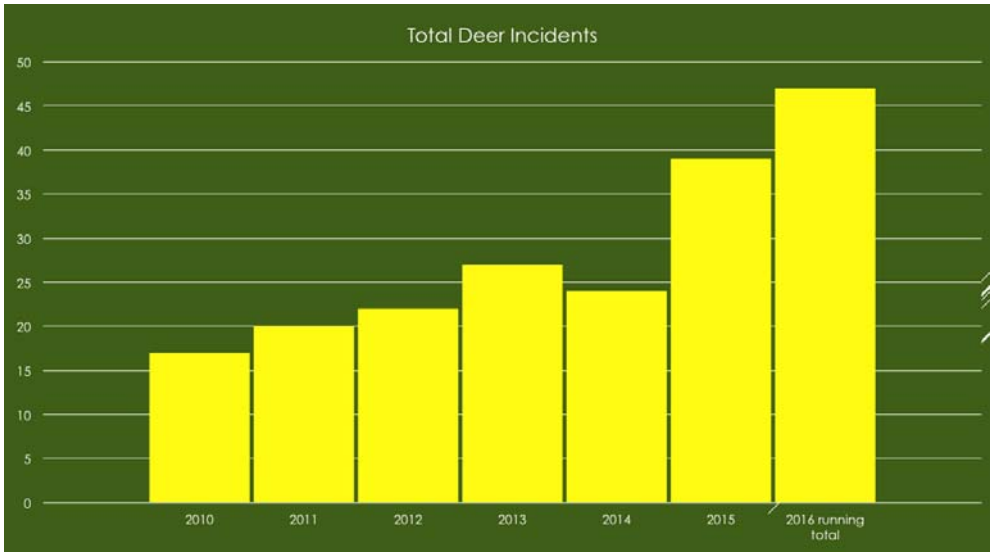
Number of Deer

(Date:_____) Aerial Deer Count: _____

Driving Deer Counts, April 18 - December 5, 2016: 6-30 deer counted.
Number of deer per square mile = 1.5 to 7.5 (6 deer/4 sq. miles and 30 deer/4 sq. miles)

Deer Incidents

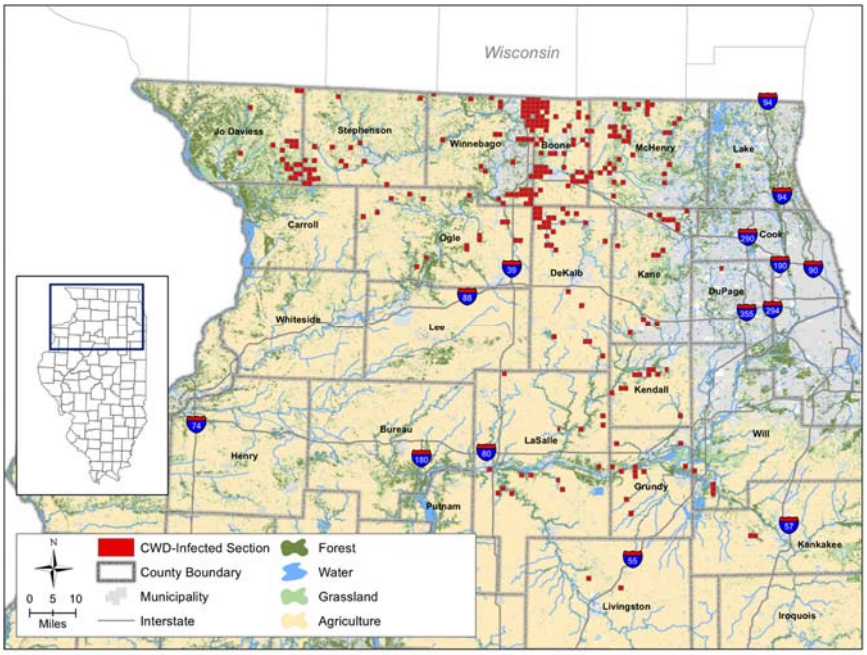
2016	Accident with report	Accident w/ no report	Reported dead/ found dead	Reported injured Put down	Reported injured Ran away	Reported injured Unable to locate	Total
January	1	1	2	3	1	2	10
February	1	2	1	1	1		6
March	3	1	1				5
April		1	2				3
May	1				2		3
June	1		3	1	1		6
July		2			1		3
August							0
September	1	1	2	1	1		6
October			2	1			3
November	1			1			2
December							
Total							



Chronic Wasting Disease Update

Table 1. Number of CWD-positive deer identified in each county by year.

	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	Total
Boone	9	25	13	15	13	11	9	14	7	5	4	5	6	11	147
DeKalb	-	4	1	5	6	8	4	3	7	5	7	8	8	3	69
DuPage	-	-	-	-	-	-	-	-	-	-	1	-	-	–	1
Grundy	-	-	-	-	-	-	-	-	2	5	3	3	5	3	21
JoDaviess	-	-	-	-	-	-	-	-	1	-	1	4	7	9	22
Kane	-	-	-	-	-	-	-	-	4	7	4	5	7	8	35
Kankakee	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2
Kendall	-	-	-	-	-	-	-	-	-	-	1	4	6	6	17
Lake	-	-	-	-	-	-	-	-	-	-	-	1	-	–	1
LaSalle	-	-	-	-	1	-	-	-	3	-	1	2	6	5	18
Livingston	-	-	-	-	-	-	-	-	-	-	-	-	2	–	2
McHenry	2	2	4	4	4	-	4	3	3	3	3	7	6	8	53
Ogle	-	-	-	2	-	-	1	-	4	2	3	1	2	6	21
Stephenson	-	-	-	-	-	1	-	1	1	2	3	4	6	10	28
Will	-	-	-	-	-	-	-	-	-	-	-	2	1	1	4
Winnebago	3	20	13	25	18	18	12	16	10	7	5	13	8	1	169
Total	**14**	**51**	**31**	**51**	**42**	**38**	**30**	**37**	**42**	**36**	**36**	**59**	**71**	**72**	**610**



Illinois Cumulative CWD-Infected Sections - July 19, 2016

Citizen Survey

Number of surveys received: _____

Number of "Yes and "No" responses to the following question:

Are current levels of deer damage tolerable? ____ Yes ____No

The following 2015 Deer Committee members hereby certify their consensus in support of the findings and recommendations included in this report.

Dated this 6th day of December, 2016.

John W. Cox, Jr.

Carmen Ferguson

Kirk Foecking

Beth Baranski