

Community Based Deer Management Proposal

For the Village of River Forest

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We have studied and considered the facts and our community's needs related to deer for well over a year now. The result is this proposal to support a multi-faceted, long-term Community Based Deer Management (CBDM) Program.

Our proposed approach to deer management is threefold:

1. Introduce targeted, cost-effective, long-term solutions to residents' deer-related concerns as identified in the Deer Survey results. You will see these in **bold blue type** throughout our proposal.
2. Educate residents regarding issues identified in the Deer Survey results, thereby empowering them to effectively safeguard their property and health. A substantial number of the complaints and concerns related to deer in our community could be quickly addressed by something as simple and inexpensive as education. Suggestions for active education in the form of seminars and passive education in the form of improved Village website content are included throughout this proposal.
3. Measure progress regularly and adjust the above program accordingly through the establishment of a permanent Community Based Deer Management (CBDM) program.

THE COMMUNITY DEER SURVEY

The 2020 Deer Survey responses provided the template for this proposal and various topics from the survey are addressed here. The response to the survey was 18% which is considered a strong response rate. The survey results represent the bulk of local information we have on the topic of deer.

Important Omissions

The survey omitted any detail related to the tax-payer cost and safety implications of culling. At the insistence of the pro-cull group within the Deer Committee, no price tag or even price range related to culling was included in the survey. A price of \$200,000 for the first 5 years was detailed in the Village's 2019 IGA contract, so the cost was not an unknown. It is true that the yearly amount paid to the FPDCC could theoretically go down if fewer deer than expected were culled, but it is also true that culling would need to continue for well more than 5 years and that on-going cost has never been discussed publicly by the Village. Also, the \$200k figure does not include the **substantial additional costs required for the Village to secure the entire perimeter of the Forest Preserve area on the nights that shooting would take place and the surrounding days.** Costs should be considered for police overtime, signage, street closure, etc. since this would be the responsibility of the Village and would increase the overall tax payer price tag significantly.

Here is the wording in the IGA the Village was planning to move forward with in 2019:

Par 4 - Village Responsibilities: The Village shall be responsible for providing funding for the management of white-tailed deer, providing support for planning, implementation, and monitoring of projects and assistance with law enforcement and site security as needed.

The cost-related wording that *was* included in the survey, which you can see in the chart below, stated only that deer management would be done “with use of public funds.” This is potentially misleading since River Forest taxpayer money, i.e. “public funds”, already support the FPDCC and its annual \$1,000,000 culling budget. Many of those who answered the survey could have easily assumed that “public funds” meant the tax dollars they already pay to the FPDCC. In fact, River Forest’s culling costs would be entirely incremental to that so would need to come at the expense of some other Village service. There is no precedent for this kind of arrangement in Cook County: an adjacent town paying in full for culling on FPDCC land, over and above their tax commitment to the FPDCC.

As far as the safety ramifications of culling, those were also left out of the survey. There was a single reference to “professional sharpshooting” in the survey, and there was resistance within the Deer Committee to even acknowledging that guns would be used. Many resident comments both for and against culling indicated a preference for culling by archery or relocating deer or the use of contraceptives. These residents mistakenly thought these were options when they are not. The many safety risks associated with culling are described in more detail later in our proposal.

The Importance of Community Buy-In

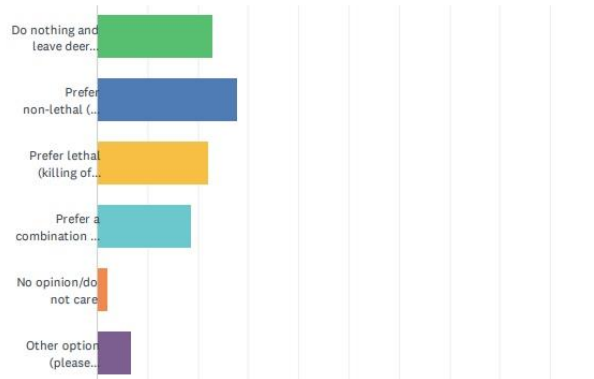
Despite the survey’s lack of information related to the cost and safety issues related to culling, the results still leaned clearly in favor of **not** culling. **There is no mandate to cull.** Here are some key results:

- **22% prefer culling only** (332 responses, 4% of the adult residents of River Forest)
- **19% prefer a combination of approaches** (280 responses, 3% of the adult residents of River Forest)
- **51% prefer leaving deer alone or using non-lethal methods only to address deer issues** (764 responses, 9.4% of the adult residents of River Forest)

River Forest Deer Management Committee Questionnaire

Q13 What kind of deer conflict management program is acceptable to you
(with use of public funds)?

Answered: 1,509 Skipped: 13



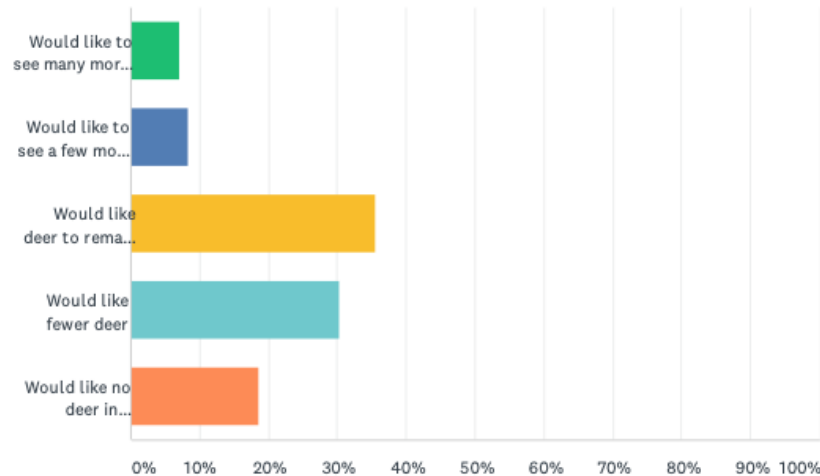
ANSWER CHOICES	RESPONSES	
Do nothing and leave deer alone	22.80%	344
Prefer non-lethal (no killing of deer) options only (i.e. more traffic signs, education)	27.83%	420
Prefer lethal (killing of deer via professional sharpshooting) option only *Note: The number of deer to be killed under this option would be limited by the number of deer that has to approved by Illinois Department of Natural Resources based upon local needs.	22.00%	332
Prefer a combination of both options above for managing issues	18.56%	280
No opinion/do not care	2.19%	33
Other option (please specify)	6.63%	100
TOTAL		1,509

Additionally, many residents in our community actually like deer. Question 14 in the survey specifically asked how residents feel about the number of deer in our community and **the majority (51%) want the same or even more deer.**

River Forest Deer Management Committee Questionnaire

Q14 How do you feel about the current number of deer in your neighborhood?

Answered: 1,488 Skipped: 34



ANSWER CHOICES	RESPONSES	
Would like to see many more deer	7.06%	105
Would like to see a few more deer	8.40%	125
Would like deer to remain at present numbers	35.48%	528
Would like fewer deer	30.38%	452
Would like no deer in residential areas	18.68%	278
TOTAL		1,488

Any decision to cull requires the support of the community and that is not apparent here. The situation in River Forest is especially tenuous since culling would take place so close to people's homes.

Proposed Solutions

DECREASE RISK OF TRAFFIC ACCIDENTS

367 out of 1509 respondents to the Deer Survey indicated that deer-auto collisions or near misses were a "very important" deer-related concern. These residents were not reporting actual accidents, but their fear of accidents. President Adduci has also listed the risk of car accidents as a reason to cull deer.

Actual Incidence of Accidents in River Forest

Please see Appendix A, the Illinois Department of Transportation's (IDOT) Summary Crash Report for River Forest. The Appendix includes the most recent data available, from 2016-2018. In 2018, there were a total of 256 accidents reported in River Forest, 2 of which involved animals (type of animal not specified). These animal related accidents had 0 injuries whereas

non-animal related crashes had 92 reported injuries that same year. The 2017 Summary Crash Report shows 187 car crashes in River Forest with 0 related to animals. Other types of car crashes caused 57 injuries that year. 2016 shows 166 accidents. There was 1 involving an animal, but that one had no injuries. Other types of car crashes caused 50 injuries and 1 death that year.

We believe that further reducing the *risk* of any kind of traffic accident is a worthwhile effort, but focus should be on addressing why so many *actual* car accidents are happening in River Forest and how to prevent them. There was a 54% increase in traffic accidents and an 84% increase in related injuries in River Forest from 2016 to 2018, entirely unrelated to deer. **We strongly recommend that the Board address this serious risk to the entire community before more of our residents are hurt.**

Deer Vehicle Crash (DVC) Facts

From 2017-2020, 32 calls were made to report some form of deer related vehicle accident, and police responded to investigate. None of those incidents recorded human injuries, only 2 mentioned damage to the vehicle, and most had comments by responding personnel of no deer even found at the scene. From 2017-2020, a total of 11 DVCs resulted in requiring Public Works to remove a dead deer or euthanize an injured deer, averaging 2.75 collisions yearly of that magnitude. This statistic is not high enough to warrant a deer population control program. See Appendix B. Reducing the risk of cars making contact with deer, or DVCs, is still worthwhile, however, especially as there are many relatively simple ways to do so. The vast majority of DVCs occurred on Thatcher Avenue, between Greenfield Street to the North and Chicago Avenue to the South.

DVC Reduction Strategies

Three general strategies to reduce DVCs are to modify driver behavior, modify deer behavior, or reduce the number of deer. The following approaches include targeted solutions and community education opportunities. Regarding measuring progress, traffic accidents in general are already monitored by IDOT and the RFPD. The Village should also continue collecting location data on DVCs so that once targeted solutions are put in place, their effects can be measured annually.

#1 Modify Driver Behavior

Education – On a macro-level, DVCs tend to be seasonal: those involving white-tailed deer peak in October and November during the breeding season, and a secondary peak occurs in May and June as yearling deer disperse from their birth areas. According to data provided by the Illinois Department of Transportation and Illinois Department of Natural Resources (IDNR), there were 16,213 crashes in 2019 involving deer in Illinois. Of those, nearly all resulted in property damage, 604 people were injured and four people were killed. More than 40% of crashes involving deer in Illinois occurred in October, November and December, with November being the highest-risk month, officials said. More than 70% occurred at twilight or nighttime.

That being said, because there are so few DVCs in River Forest, our data does not match this macro-level data. All of our DVCs took place during daytime hours. The most likely accident month was November, followed by July, so there may be a connection to breeding season but not

to yearling season. The take-away is that because we average less than 3 DVCs a year, it is difficult to see a pattern. Still, some recommendations are universal. IDOT and the IDNR publish the following reminders for lowering the risk of deer-related car accidents:

- Be aware of your surroundings, especially in areas with deer crossing signs.
- Scan the sides of the road for eye shine – the reflection of headlights in their eyes.
- Slow down if you see a deer. They travel in groups, so more are likely nearby.
- Prepare for the unexpected. Deer may stop in the middle of the road or double back.
- Deer are adaptable and can flourish in rural, suburban and urban environments.
- If a collision is inevitable, try to glance your vehicle off the deer and avoid swerving into opposite lanes of traffic.

We recommend educating the public regarding how to minimize the risk of deer-related traffic accidents via the Village's electronic communications as well as focused seminars. It should be noted that an education program would also benefit the many residents with second homes in rural Michigan, Wisconsin and Indiana, where deer-related car accidents are common.

Signage - There are standard, yellow signs to alert drivers of deer on Thatcher Avenue. Currently there are **two** signs facing southbound traffic and **one** facing northbound traffic, at the exact same location between Greenfield Street and Division Street. However, studies have found that standard passive signs are unlikely to have any effect and the data suggests they are not preventing DVCs along Thatcher Avenue. One study showed that even lighted signs had no effect on DVCs. More effective in a study were large warning signs with battery-powered flashing amber lights that were lit only during peak migration seasons. In areas with such signs, DVCs dropped by 50% in the spring and 70% in the fall migration compared with three previous years. **We recommend installing deer warning signage with flashing warning lights in high-risk areas along Thatcher Avenue. We also recommend moving the mobile message sign to this area periodically to warn drivers of deer.**

Increasing the Visibility of Deer - The sooner a driver sees a deer on or approaching a roadway, the better the chance of avoiding a crash. Visibility of deer can be improved through roadway lighting, clearing of roadsides, or enhancement of drivers' nighttime vision. Regarding roadway lighting and nighttime vision, in River Forest there are very few DVCs to begin with and in 2020 all were in the daytime, between 6:25am and 5:00pm. Lighting does not appear to be a significant local causal factor of DVCs. In Illinois as a whole, however, the most important landscape or topographical feature predicting high DVC sites was the distance between the roadway and forest cover. **Therefore, we recommend cutting back vegetation on both the East and West sides of Thatcher Avenue as essential for lowering the risk of DVCs.** This would have to be done annually.

Lowering and/or Enforcing Speed Limits – We have 25 mph speed limits along Thatcher Avenue, but they are not enforced and drivers regularly travel at 40mph and above. **The length of road without any speed controls, stop signs or stop lights is over a mile. We recommend adding stop signs, traffic lights, or speed bumps along Thatcher Avenue, details to be determined by the Traffic & Safety Commission, to reduce the risk of deer-related and other accidents.**

#2 Modify Deer Behavior

Fencing – Reviews of DVC control methods during the past 20 years has concluded that properly designed and maintained fencing, used together with appropriate underpasses, overpasses, and one-way deer gates, is the most effective method for reducing DVCs. Factors to consider are cost, aesthetics, and maintenance requirements, but it should be noted the cost would be significantly less than culling and unlike culling, fencing is semi-permanent. Fencing that is sufficiently high, strong, long, and well-anchored, with no gaps or tunnels, will prevent deer from crossing a road section. Several studies have found 7.8 ft. (2.4 m) fencing to be effective, but white-tailed deer will jump a 7.4 ft. (2.2 m) fence in search of food. Fencing must extend far enough along a roadway to discourage deer from detouring around the ends of the fenced section. The necessary length depends on deer movement patterns. **Fencing is a possible solution along Thatcher Avenue in the most accident-prone areas. It could also be a deterrent for deer entering River Forest.** It is used elsewhere on FPDCC property, including along Cumberland and Irving Park Road.

#3 Reduce the Number of Deer

The only herd reduction strategy that would stop all DVCs would be to eliminate all deer, which is not possible, nor is it ecologically desirable in the Cook County Forest Preserves. In areas where culling has been used for the purpose of reducing car accidents and DVCs, the starting number of collisions is typically in the hundreds or even thousands. With the average number of DVCs in River Forest being fewer than 4 per year, it would require at least 10 years of data from culling, costing hundreds of thousands of dollars, to even determine the effectiveness of such a program on such a small number of accidents. Additionally, the few DVCs that happen in River Forest are in highly concentrated areas, whereas culling is a broad, untargeted approach. Directing the solutions at the location of the problem makes the most sense.

MINIMIZE GARDEN & PROPERTY DAMAGE

President Adduci is on record stating that, “We would never cull deer because of landscaping.” However, the survey results clearly show that garden damage and relatedly, deer feces in yards, are the most prevalent complaints from residents. In response to these survey results, we propose solutions specific to the root causes of the majority of garden conflicts: plant choice and habituation to specific routes to access food.

In our community survey, when asked what deer-related issues residents had in the past 12 months (Question 8), 730 residents indicated that they experienced garden damage. In a follow-up question (Question 9), when asked if they had taken any actions to alleviate their deer issues, 50% of these same respondents answered “No.” In response to a separate question regarding property damage (Question 12), 287 out of 687, or 42% said their problems were acceptable or very acceptable. See Appendix C.

Deer/Garden Education

Public education is critical for engaging the community to learn about deer habits and what types of vegetation deer prefer and avoid. Education can empower residents to make gardening decisions that protect their property from deer. **We propose that the village host deer-resistant gardening workshops for residents, similar to the Healthy Lawn/Healthy Family webinar that was recently sponsored by the VRF. These workshops would be hosted by an expert who could also offer scheduled site visits to homes for private consultations. The Village could subsidize the cost with residents who are highly targeted by deer.** We expect that personalized, expert attention to deer/garden issues could likely resolve many or even most of the issues that are causing some residents to complain to the Village. Many of us in this group have successfully helped our neighbors modify their gardens and yards to make them more deer resistant. Please see Appendix D.

Do Not Feed the Deer

Another important topic that requires community education is the feeding of deer. It is against the law in Illinois to feed deer, yet 50 survey respondents listed “neighbor feeding deer” as an issue. Also, 407 respondents listed “too tame deer” as a problem. This is often directly related to people feeding the deer. Each home actively luring deer with food is leading these same deer through proximate yards. Hundreds of homes are possibly being impacted by the decisions of a couple dozen residents, resulting in this possibly being the largest contributor to garden deer damage in our community. Because deer are habitual, they will follow the same route past the same homes seasonally or even year-round. Culling will not have a notable impact on this, since even one deer can cause damage if it is habituated to browsing at a specific location. We need to educate the feeders, especially about the fact that they are actually putting the animals they think they are helping at risk. **A mechanism to report a neighbor feeding deer should be available on the Village website. Follow-up would be essential, so a Village staff member would then contact the resident who has been feeding the deer and inform them of the many negative consequences of that act. Pamphlets could be designed to distribute to residents. In the**

unlikely case that a resident continues to feed deer even after being contacted by the Village and also receiving a pamphlet, they should receive a ticket from the Village. Repeat offenders should receive fines.

Lead by Example with Village Plantings

Our Village should promote deer-resistant flowers and ornamental species in our community landscaping. Outdoor Village floral displays should contain pollinator-friendly, deer-resistant species so that our community can see that our Village is serious about helping residents live in harmony with wildlife and minimize deer conflict. The River Forest Sustainability Committee is working to create pollinator gardens. Plants that attract pollinators are often naturally unpalatable to deer, making it even more important for us to educate the public about them and promote their use within River Forest. **We propose a collaboration between the Sustainability Committee and the Deer Committee to create deer-resistant pollinator gardens throughout the Village.**

If it were possible to do so on FPDCC land, it would be informative to set up study plots to measure which plants deer browse and which plants they avoid. This could be an educational project for the local elementary schools, middle schools, high schools and even colleges. These study plots could serve as an opportunity to learn how to garden defensively. Students would learn problem-solving skills and how to live in harmony with wildlife.

Empower Residents by Making Relevant Garden Information Easier to Find

There is deer-related information on the Village website, but it is very difficult to find, even for those actively looking for it. **We propose that the Village of River Forest website add a prominent, easy-to-find link on the home page that directs residents to deer information and an updated FAQ document.** This link would take residents to multiple resources regarding deer, including deer-resistant plant lists, recommended repellents, scare-based products, and fencing options. Notably, many of the survey respondents with garden damage indicated they had found means for successfully addressing it. Their insights, which in many cases were included in their survey responses, could be helpful to other residents if included on the Village website.

Continue to Collect Garden Data from the Community

The Village web site should be used to collect additional garden-related data from the community. There should be an easily discoverable form on the site that residents can submit to report deer-related garden issues. Importantly this data needs to be collected as a means to measure whether the various deer deterrent measures are working. Currently, complaints are submitted to the Village leading to frustration when they go unanswered and unresolved. **We recommend that the Village have an established, permanent Community Deer Management Committee to respond to deer related concerns not limited to property damage.**

DECREASE THE RISK OF LYME DISEASE

Lyme disease is a serious illness and deer are one of many possible hosts for the ticks that carry it. However, Lyme disease is not on the rise in River Forest. Of the survey respondents who want to cull deer, only 25 respondents, listed this as an issue. Regardless, in River Forest where the risk of contracting Lyme disease is very low, the best way to minimize that risk is not through culling but through education, specifically regarding tick checks after possible exposure. **We recommend the Village host annual or bi-annual education seminars on the topic of Lyme disease and prevention. We also recommend adding signage instructing residents about tick checks at the starting point of paths into Thatcher Woods.** See Appendix E.

MINIMIZE OTHER CONFLICTS

Active and Passive Education

Active education efforts in the form of targeted seminars could be repeated annually or bi-annually according to demand. Deer Management, specifically culling, has been discussed by the current Village government since at least 2015, yet only one community information session was ever held on the topic, on June 24th, 2019. This single seminar was of limited benefit because it was structured around the polarizing question of cull or don't cull, as opposed to being broadly educational and inclusive. The key to any educational seminar would be keeping it on-topic and informative while avoiding divisiveness. Limiting questions to those submitted in advance is a good approach. Follow-up questions could be submitted via email after each seminar.

The Village website offers many opportunities to improve passive education. Deer-related content should be easy to find via a link on the home page. The current deer FAQs should be corrected and adjusted to make the content better reflect the issues indicated by the survey results.

Spiked fences

Multiple residents listed deer being impaled on spiked fences as an issue, either because they owned the fences in question or they had to witness a deer impaled on a neighbor's fence. To address this, **we propose the Village sponsor a program to assist residents with the cost of cutting off these spikes, capping, or topping them with a flat rail.** Perhaps a 50/50 split as the Village does with repairing sidewalks adjacent to homes. Iron fences and railings can be altered without incurring the cost of removal and replacement. Any resident who does not wish to remove those spikes should be notified that they are responsible for the cost of removing injured and dead deer from their property. **If a home has more than one incident of a deer being impaled on a spiked fence, the homeowner should be required to remove the spikes or cap them with a rail. Also, the Village Code should not allow spiked fences to be installed in the Village in the future.**

CONCLUSION: Culling should be a last resort, not the first resort, for addressing River Forest's deer situation

Our proposal focuses on the issues of highest concern in our community. We have researched and found that culling does not resolve these issues without great expense and even then, has failed in other urban and suburban environments. There are many inexpensive, effective, safe, immediate ways to address River Forest's deer situation. The experience of other communities suggests that if we do some or most of these things, we can likely resolve the vast majority of residents' concerns. **No deer management efforts have even been attempted yet in River Forest.** Jumping directly from doing nothing to culling - the most expensive, divisive, long-term and dangerous response available - is irresponsible at best.

Culling Introduces Serious Health and Safety Issues

No significant health or safety issues have been documented related to deer in our community. The deer-human conflicts that do exist would be more effectively dealt with via means other than culling, at modest cost. This might allow River Forest to be an example of a community that is engaged and working together to resolve deer issues and co-exist with deer. Some members of the Village Board already composed an IGA with the FPDCC that would fund the use of high-powered rifles in Thatcher Woods over several nights a year into the foreseeable future, only a block or two from homes. **The decision to cull would *introduce significant health and safety issues where they did not previously exist.***

This newly imposed risk would affect surrounding communities as well. Thatcher Woods is surrounded on all sides by dense residential and commercial areas, making it more like a park than a traditional Forest Preserve. It is accessible from all sides and people can simply walk into it without needing to follow a road or path. One can easily see the clearing at the center of the woods from the front yards of homes on Thatcher Ave. When the Will County Forest Preserve culls in its preserves, to ensure safety, it closes them for days at a time. Here is their description:

Preparations for the Deer Management Program begin in November, but the preserves selected for the program will not close early until December. Preserves involved in the program will close at 3 p.m. on Monday through Thursday to protect preserve users. Normally, the preserves would close at sunset, which is around 4:20 p.m. in December. Because winter has the shortest days of the year, the inconvenience to preserve users is somewhat mitigated. While signs posted at the preserves read that the program will continue through March, typically the program ends in February. The program can extend into March depending on weather conditions and the number of deer being culled in a particular year. Individual preserves return to normal hours based on when the desired number of deer are culled.

No one has ever publicly discussed how River Forest would manage the containment of Thatcher Woods to make it safe for multiple nights of shooting. How would we ensure that no one from any surrounding community enters the woods during specific season of the culling season, which could last several months? Many people from neighboring areas enter Thatcher Woods regularly. Who is liable if someone enters the woods and is injured or even killed? What is the risk that a stray bullet will hit a passing car or force deer onto the busy streets that surround the Forest Preserve? In the current version of the IGA there is no indemnity clause that would protect the Village from being sued.

The list of health, safety, and liability concerns is extensive and highly concerning, yet at least in public, none of this is even being addressed by our Village government.

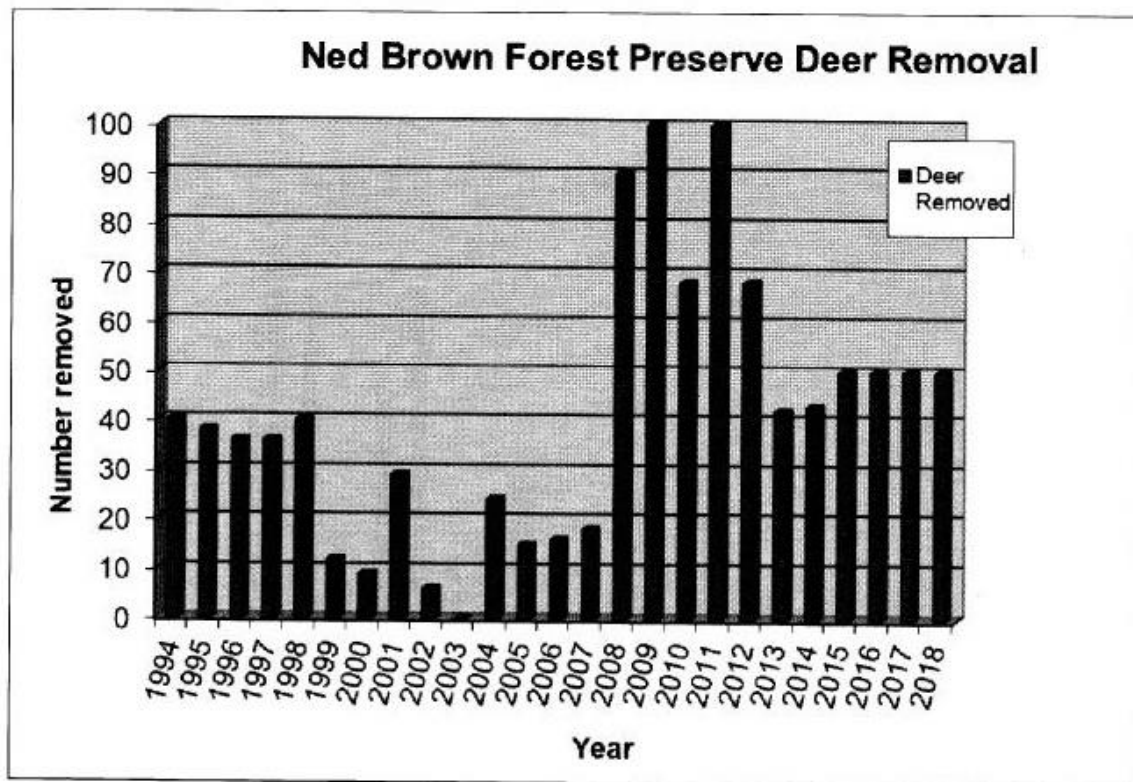
Culling is Never Finished

Reproduction and migration are forever, and so is culling. The Forest Preserves own culling programs reinforce this. They stop one year in one preserve and the population increases again. Experts, including those at the IDNR, emphasize that deer management is a long-term commitment. The long-term implications of this approach are especially relevant given both the safety issues detailed above and the budget implications, neither of which was sufficiently described in the Deer Survey. Using the IGA created by Village Board Members last year as a starting point, you would need to budget for \$40k annually, so \$400,000 over ten years and then more beyond that to maintain a culling program. Yet the Village proposes treating the initial year of culling as a one-off expense. Arguing the VRF can simply exit the contract is true but it is also illogical, since if this is meant to be a one-year plan, *all* monies spent would be wasted as the deer population would quickly recover. The following is from Dr. Paul Curtis, an Extension Wildlife Specialist in the Department of Natural Resources at Cornell University. He has coordinated the Wildlife Damage Management Program during the past 29 years:

“Once a community decides to manage deer, you will need to plan for a 10-20 year time horizon and have consistent funding for the program efforts. It is better to do nothing than waste resources on a program that would likely fail.”

Dr. Curtis is willing to speak to the Board and the Village on this topic.

As an example of the long-term commitment of culling, the FPDCC has been culling in Ned Brown Forest Preserve since at least 1994, so for 27 years. You can see on the graph below that while there is annual variation, there is no downward trend. The numbers have stayed between 40 and 100 deer culled annually since 2008. Notice that they culled fewer deer in the early 2000s only to see numbers skyrocket for several years after that.



Legal Description for Ned Brown Forest Preserve

Elk Grove Township sections 16-21 and 28-31. T41N, R11E.

Culling Should be the Responsibility of the FPDCC

If the FPDCC wanted to cull in Thatcher Woods as part of a serious forest restoration effort, they could submit their own application to the IDNR, as they do for 7 other preserves annually. This would not resolve the safety issues detailed above, but it would resolve the financial ones. The FPDCC has a generous \$1,000,000 budget committed to annual culling that they can apply as they like, so suggestions that River Forest needs to pay for this because the FPDCC cannot are misleading.

The FPDCC has **never** applied to cull in Thatcher Woods. They even indicated in writing that they have not done so because they do not like to cull in residential areas. They do cull regularly in 7 other Forest Preserves, where they also actively manage forest restoration programs, unlike in Thatcher Woods. If they wanted to, they could manage their culling efforts the way Will County does, by rotating which preserves are the focus. You can see Will County's approach below. There is nothing to prevent the FPDCC from doing this if they actually believed they had a real vegetation and deer issue in Thatcher Woods.

Table 1. Summary of deer taken from each preserve per season and in total

Preserve	Number Removed each Season									Total
	2010/11	2011/12	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	
Romeoville Prairie Area	0	5	10	0	20	14	8	14	5	76
Lockport Prairie Nature Preserve	10	8	5	10	15	10	8	15	4	85
McKinley Woods Preserve-Four Rivers Education Center	75	16	63	40	30	25	30	15	35	329
Kankakee Sands Geologic Area	0	21	41	41	45	0	30	28	30	236
Lockport Prairie East	0	0	0	0	0	6	0	0	0	6
Goodenow Grove Nature Preserve	0	39	30	30	20	20	0	35	19	193
Hickory Creek Preserve	0	0	60	60	60	60	35	35	35	345
Raccoon Grove Preserve	0	0	17	20	10	12	19	15	0	93
Thorn Creek Woods Nature Preserve	0	0	0	0	0	33	19	15	18	85
Prairie Bluff Preserve	0	0	0	0	0	20	13	0	0	33
Total	85	89	226	201	200	200	162	172	146	1481

If the FPDCC was committed to forest restoration in Thatcher Woods, before culling even began they would need to pursue other active and annual restoration efforts including thinning the forest canopy, actively removing invasive plants, holding controlled burns, and actively reintroducing native plants. They invest in all of these things annually in some of their preserves, but not in Thatcher Woods, which ranks 9th out of 13 preserves in terms of restoration priority. **Therefore, the notion that the Village of River Forest should pay for a culling in Thatcher Woods as part of a holistic forest restoration effort is highly misleading.** Without regular, annual investments in other restoration activities, there is no reason to believe notable forest improvements would spontaneously happen. In fact, according to the National Institutes of Health, culling deer without doing these other forest restoration activities risks creating a vacuum resulting in the proliferation of invasive species, since fewer deer would browse them.

If there was an issue with deer health, i.e. Chronic Wasting Disease, in Thatcher Woods then the FPDCC and the IDNR would cull deer at their own expense. The IDNR regularly tests deer throughout Illinois for Chronic Wasting Disease and the condition has in fact been on the decline here over the past several years. There is also no indication of deer starvation in or near our area.

SUMMARY

The ad hoc deer committee was created due to community outrage at the decision to proceed with a cull. The backing of the community is imperative to the success of a long term CBDM program.

We must acknowledge the results of the survey conducted on deer related conflict. More than half answered they want to see the same or more number of deer in their neighborhood. 51% of all responders answered that they do not want to cull, while 41% prefer culling or a combination of tactics. More than half the respondents answered that they do not have any issues with the deer. Of those that answered that they are having issues, more than half of them admitted that they have not done anything to address their issues.

The ad hoc committee was given a list of 4 goals to accomplish:

1. Researching alternative ways to manage or reduce deer conflict.
2. Drafting a community survey and analyzing the results
3. Planning at least one forum to educate residents on the importance of a CBDM.
4. Preparing a written report with the committee's findings and recommendations to the Village President and Board of Trustees regarding deer management strategies to use in the Village.

The only tasks that the committee accomplished were creating the survey and evaluating the results. The results were in fact ignored in the development of a proposal from the committee. The survey did not mention the cost to taxpayers. In addition, the proposal does not address any additional cost that would be incurred, safety issues, nor the fact that a culling program would likely need to extend well beyond 5 years.

The authors of this alternative proposal resigned from the ad hoc deer committee to focus on creating a proactive CBDM, which may or may not result in culling, but for certain should postpone population management until other actions are attempted.

Imperative to a successful plan are steps taken to ensure reduction of deer conflicts. The size of the deer population is not relevant. The plan to cull a specific number (up to 50 per year) has no bearing on addressing the concerns of our residents. Cornell University has provided a successful template to follow. All experts stress that culling programs are long term and doomed to fail if instituted hastily without community support.

Appendix A

City Summary Crash Report

1/1/2016 to 12/31/2016

City : River Forest | *See Notes at End of Report.

Page : 1 of 18

River Forest	Number Of Crashes						Injury Severity				
	Total	Fatal	Injury	Property Damage	Total Vehicles	Total Killed	Total Injured	A	B	C	O
WEATHER CONDITION											
Clear	140	1	31	108	273	1	46	5	27	14	289
Cloudy/Overcast	6	0	0	6	14	0	0	0	0	0	19
Rain	12	0	2	10	23	0	3	1	2	0	30
Snow	7	0	1	6	12	0	1	0	1	0	9
Unknown	1	0	0	1	1	0	0	0	0	0	1
TOTALS	166	1	34	131	323	1	50	6	30	14	348
TYPE OF CRASH											
Angle	27	0	8	19	55	0	10	2	3	5	66
Animal	1	0	0	1	1	0	0	0	0	0	1
Fixed Object	17	1	0	16	18	1	1	1	0	0	21
Head On	4	0	0	4	8	0	0	0	0	0	15
Other Object	1	0	0	1	1	0	0	0	0	0	1
Parked Motor Vehicle	26	0	3	23	58	0	3	0	2	1	26
Pedalcyclist	3	0	3	0	3	0	3	0	3	0	5
Pedestrian	3	0	3	0	3	0	5	3	2	0	3
Rear End	39	0	9	30	83	0	14	0	8	6	101
Sideswipe Opposite Direction	2	0	0	2	4	0	0	0	0	0	5
Sideswipe Same Direction	16	0	0	16	32	0	0	0	0	0	38
Turning	27	0	8	19	57	0	14	0	12	2	66
TOTALS	166	1	34	131	323	1	50	6	30	14	348

City Summary Crash Report

1/1/2017 to 12/31/2017

City : River Forest | *See Notes at End of Report.

Page : 1 of 19

River Forest	Number Of Crashes							Injury Severity			
	Total	Fatal	Injury	Property Damage	Total Vehicles	Total Killed	Total Injured	A	B	C	O
WEATHER CONDITION											
Clear	149	0	36	113	308	0	45	3	31	11	348
Cloudy/Overcast	10	0	2	8	22	0	3	0	1	2	18
Fog/Smoke/Haze	1	0	0	1	2	0	0	0	0	0	2
Rain	22	0	8	14	50	0	9	0	4	5	55
Severe Cross Wind	1	0	0	1	2	0	0	0	0	0	2
Sleet/Hail	1	0	0	1	2	0	0	0	0	0	4
Snow	2	0	0	2	3	0	0	0	0	0	3
Unknown	1	0	0	1	2	0	0	0	0	0	2
TOTALS	187	0	46	141	391	0	57	3	36	18	434
TYPE OF CRASH											
Angle	37	0	9	28	74	0	12	1	10	1	90
Fixed Object	13	0	3	10	13	0	6	0	4	2	11
Head On	3	0	0	3	8	0	0	0	0	0	12
Other Non-Collision	2	0	0	2	4	0	0	0	0	0	4
Other Object	2	0	0	2	2	0	0	0	0	0	3
Parked Motor Vehicle	22	0	2	20	48	0	2	0	2	0	32
Pedalcyclist	2	0	2	0	2	0	2	0	1	1	2
Pedestrian	2	0	2	0	2	0	2	1	1	0	2
Rear End	53	0	18	35	123	0	20	0	10	10	151
Sideswipe Opposite Direction	1	0	0	1	2	0	0	0	0	0	2
Sideswipe Same Direction	16	0	1	15	37	0	1	0	1	0	44
Turning	34	0	9	25	76	0	12	1	7	4	81
TOTALS	187	0	46	141	391	0	57	3	36	18	434

City Summary Crash Report

1/1/2018 to 12/31/2018

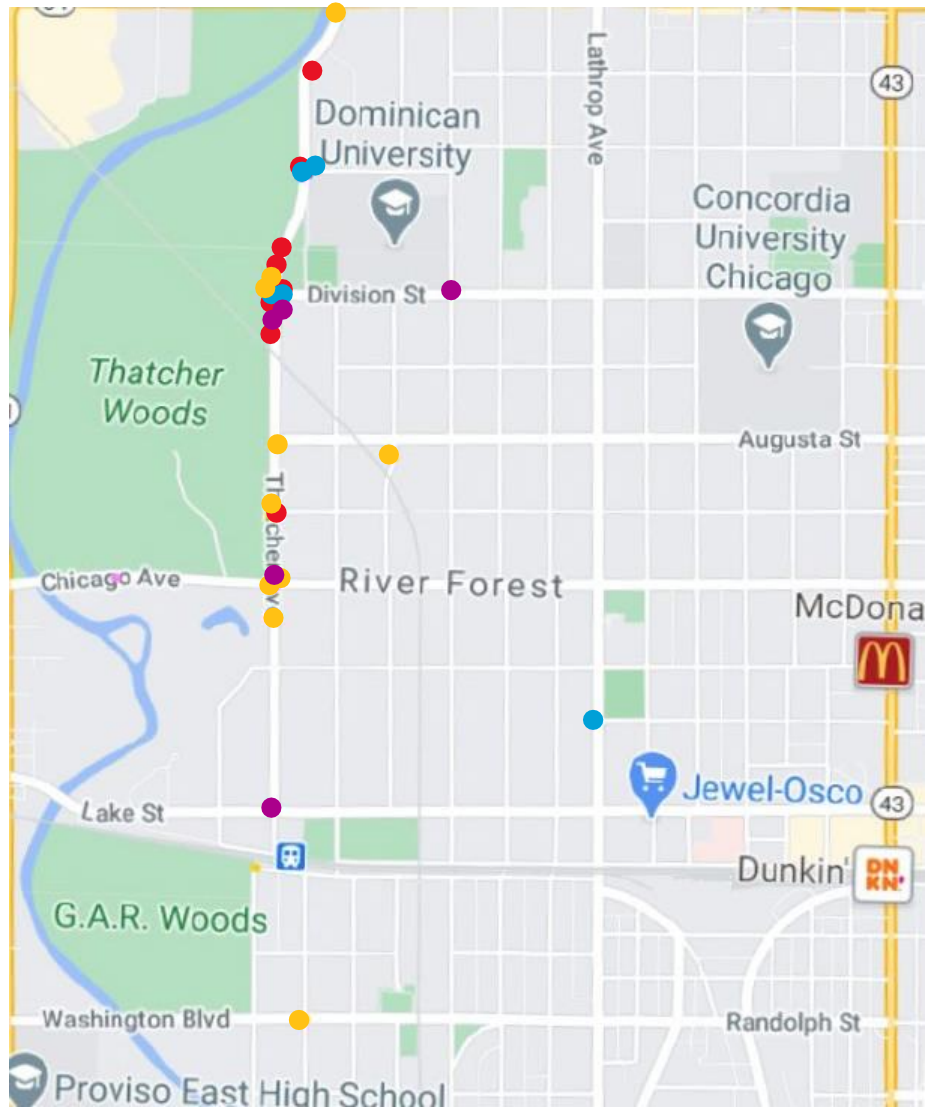
City : River Forest | *See Notes at End of Report.

Page : 1 of 19

River Forest	Number Of Crashes						Injury Severity				
	Total	Fatal	Injury	Property Damage	Total Vehicles	Total Killed	Total Injured	A	B	C	O
WEATHER CONDITION											
Clear	200	0	53	147	403	0	70	1	42	27	433
Cloudy/Overcast	19	0	5	14	37	0	9	0	3	6	37
Rain	24	0	7	17	41	0	12	0	8	4	39
Snow	9	0	1	8	17	0	1	0	0	1	22
Unknown	4	0	0	4	8	0	0	0	0	0	4
TOTALS	256	0	66	190	506	0	92	1	53	38	535
TYPE OF CRASH											
Angle	59	0	17	42	119	0	27	1	17	9	129
Animal	2	0	0	2	2	0	0	0	0	0	3
Fixed Object	22	0	5	17	23	0	6	0	6	0	21
Head On	1	0	0	1	2	0	0	0	0	0	3
Other Object	1	0	0	1	1	0	0	0	0	0	1
Parked Motor Vehicle	32	0	3	29	66	0	5	0	4	1	35
Pedalcyclist	3	0	3	0	3	0	3	0	2	1	3
Pedestrian	1	0	1	0	1	0	1	0	1	0	1
Rear End	64	0	26	38	142	0	38	0	13	25	159
Sideswipe Opposite Direction	2	0	1	1	4	0	1	0	1	0	3
Sideswipe Same Direction	24	0	3	21	51	0	3	0	2	1	69
Turning	45	0	7	38	92	0	8	0	7	1	108
TOTALS	256	0	66	190	506	0	92	1	53	38	535

Appendix B

HOT ZONE: Thatcher Ave between Greenfield and Chicago



2020 (red) - 8 deer related accidents, 7 in the hot zone

2017 (purple) – 10 DVCs, 8 in hot zone

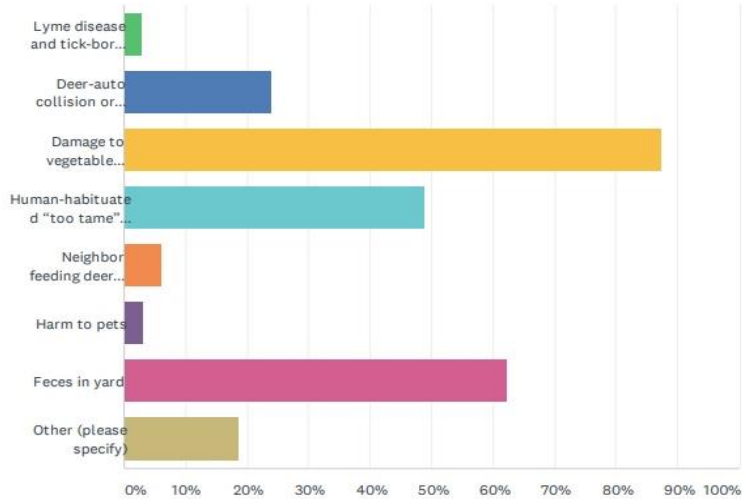
2019 (blue) – 6 deer vehicle collisions, 5 in the hot zone

2018 (yellow) – 11 deer vehicle collisions, 8 in the hot zone

Appendix C

**Q8 What deer-related issues have you experienced in the last 12 months?
(Check all that are applicable)**

Answered: 836 Skipped: 686

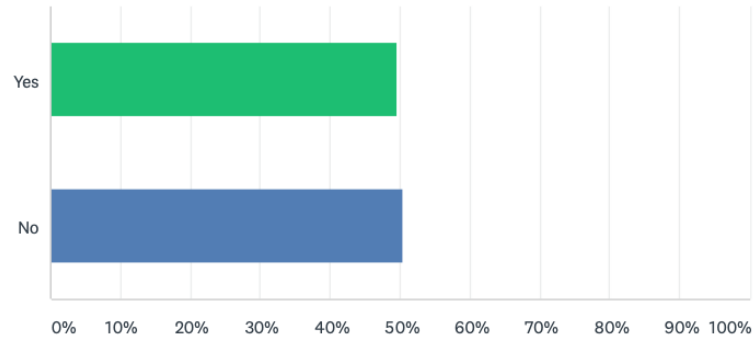


ANSWER CHOICES	RESPONSES	
Lyme disease and tick-borne infections	2.99%	25
Deer-auto collision or near miss/dangerous distraction	23.92%	200
Damage to vegetable gardens / flowers / lawn / shrubs / plants	87.32%	730
Human-habituated "too tame" deer	48.68%	407
Neighbor feeding deer and attracting them to my yard	5.98%	50
Harm to pets	3.11%	26
Feces in yard	62.08%	519
Other (please specify)	18.54%	155
Total Respondents: 836		

River Forest Deer Management Committee Questionnaire

Q9 Have you taken any actions to alleviate the deer issues? If no, please skip Question 10.

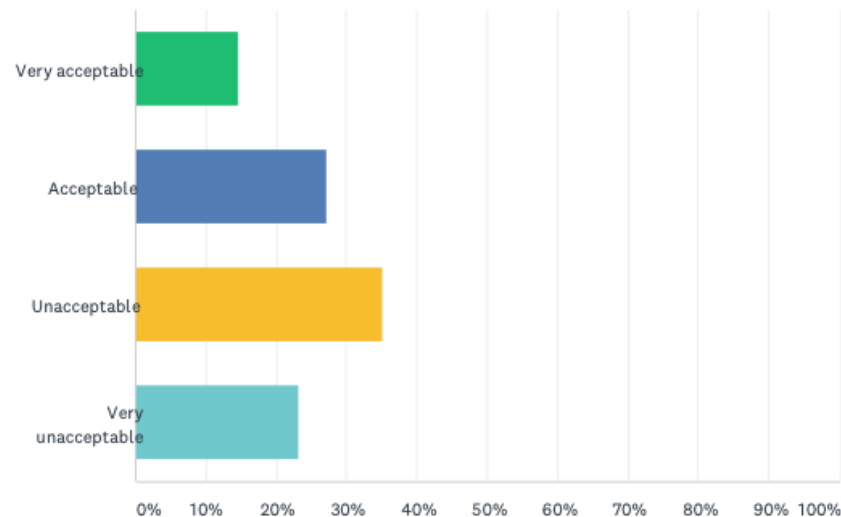
Answered: 993 Skipped: 529



ANSWER CHOICES	RESPONSES	
Yes	49.65%	493
No	50.35%	500
TOTAL		993

Q12 If you have had property damage, can you share if your experience was one of the following?

Answered: 687 Skipped: 835



ANSWER CHOICES	RESPONSES	
Very acceptable	14.56%	100
Acceptable	27.22%	187
Unacceptable	35.08%	241
Very unacceptable	23.14%	159
TOTAL		687

Appendix D

MANAGING DEER IN YOUR GARDEN

DEER IN THE GARDEN

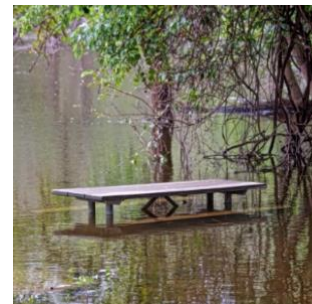
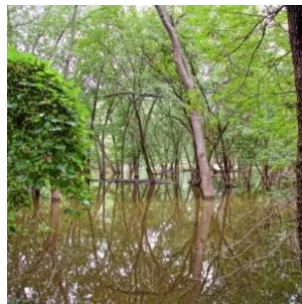
Spring is when deer are particularly destructive, devouring tasty new shoots with single-minded passion. At this time, the does are either pregnant or are nursing fawns, and the bucks are growing antlers (about half an inch each day) and trying to regain lost weight. To winter-weary deer, your borders and beds in the spring are like salad bars, temptingly full of tender fresh produce.

Deer are most comfortable feeding during the low-light hours—dawn and dusk—on the fringes of woods and in gardens that border dense trees. Deer are highly selective eaters, and they focus on whatever plants or plant parts are currently most nutritious. Especially in the spring, deer view gardens as ways to replace nutrients lost over a winter of eating twigs.

Typical diet, but ... “Deer will attempt to eat almost anything if they are running out of food. That happens most often in times of drought or near the end of a colder-than-normal winter.” Scott Aker, horticulturist, U.S. National Arboretum, in his “Digging In” column, Washington Post.

Why Deer Leave the Forest

Thatcher Woods represents a cross-section of the Des Plaines River Valley and supports remnant floodplain forest, savanna and prairie. The area is one of the only remaining examples of quality floodplain forest left in the Northeastern Morainal Division of Illinois. Numerous times in the past few years, the Des Plaines River seriously overflowed its banks. Here are some images of a flooded Thatcher Woods.



Due to the change in our climate, we have seen more rain than ever before. Thatcher woods has been flooded worse than it has ever been. The flood waters are making the deer's habitat smaller and even encroaching on the town. **When they leave to seek food, it is not because they want to, it's because they have to. The flood waters are taking away their food and they**

have to look elsewhere. Hence, they seek food in yards and gardens. Below is the projected flood risk for 2021 in River Forest/Thatcher Woods.



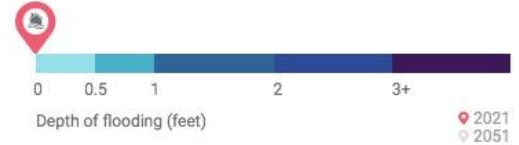
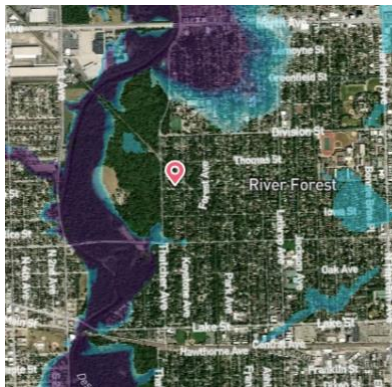
Select a projected flood risk for 2021:

More likely to occur →

Flooding likelihood	0.2%	1%	5%	20%
Water to building	0 ft	0 ft	0 ft	0 ft

← Higher depths of flooding

In **2021**, it is **0.2%** likely that **0 ft** of water will reach the largest building on this property.



WHICH PLANTS DO DEER LIKE TO EAT

Deer Resistant Plants

The heaviest browsing by deer will occur from October through February. That said, there are plants that are much less palatable to deer. So, we want to grow plants that are not the deer's top choice on the menu. A deer-resistant garden includes herbs and flowers with strong aromas. They also include prickly plants, plants with fuzzy leaves and bitter tasting plants.

Note that even "resistant" varieties can be vulnerable in the first few weeks after planting, when their leaf tissue is especially nitrogen-rich. If you have major deer problems, the recommendation is spraying new plants with a deer-repellent for 3 to 4 weeks after planting to prevent them from being nibbled on and damaged. Even if they are feasted on, as long as the root systems of the plants are not damaged, the plants should survive.

Some plants qualify as "Deer Candy". Avoid planting narrow-leafed evergreens, especially **arborvitae** and **fir**. Deer also show a particular preference for **hostas**, **daylilies**, and **English ivy**, according to researchers from the University of Rhode Island, who have studied white-tailed deer damage to nurseries. Interestingly, several participants in the study noted that deer seem to prefer plants that have been fertilized to those that haven't.

Not surprisingly, deer tend to stay away from poisonous plants. **Daffodils**, **foxgloves**, and **poppies** are common flowers with a toxicity that deer avoid.

Deer also tend to turn their noses up at fragrant plants with strong scents. Herbs such as **sages**, **ornamental salvias**, and **lavender**, as well as flowers like **peonies** and **bearded irises**, are just "stinky" to deer.

Deer do not like prickly plants.(unless they're desperate). Plants such as **lamb's ear** are not on their preferred menu.

Deer-Resistant Plants for Shade

Some favorite deer-resistant perennials include the **Bleeding Heart** (*Lamprocapnos spectabilis*, aka *Dicentra spectabilis*).

Astilbe are also deer-resistant plants that grow well in shade. **Astilbe** '**Bridal Veil**', '**Visions**', and '**Fanal**' make a nice mix.

Deer-Resistant Plants for Sun

Coreopsis verticillata 'Zagreb' attracts butterflies but not deer and offers a long season of bloom from May through September.

Liatris spicata 'Kobold' or **Blazing Star** is also a sun-loving perennial that isn't a popular choice on the deer buffet.






Echinacea purpurea is a favorite native flower and a magnet for pollinators!

Another sun-lover is **Salvia x sylvestris** or **Wood Sage**.

Finally, the popular **Leucanthemum x superbum** 'Becky' is a popular variety of **Shasta Daisy** that deer do not favor.



Planting Zone for 60305

Some Favorite Deer Resistant Plants			
Marigolds (Planting zones 2-11)	Marigolds come in an array of bright colors and flower over a long season.	Their strong fragrance deters browsing by deer, so planting them around your garden can create a natural deer resistant border.	
Foxglove (Hardy in zones 4-10)	Foxgloves thrive in full sun to partial shade to full shade. They are self-sowers and will bloom year after year.	This plant is poisonous to deer.	
Daffodils (Growing zones 3-8)	Daffodils are winter hardy in growing zones 3-8 and will return to bloom year after year.	Daffodils are toxic and fully deer-proof.	
Oriental Poppies (Growing zones 5-9)	A subtle blending of sizzling orange and yellow tones shines forth from large ruffly, ripply blooms perched on stiff, 3-foot-tall stems.	Poppies are common flowers with a toxicity that deer avoid.	
Agapanthus Headbourne/Lily of the Nile (Growing zones 7-11)	Agapanthus Headbourne hybrids, or African lily, bears large drumstick heads of flowers from midsummer on. They can be grown in a pot or tub. Attractive to butterflies and features flowers in a range of light and dark blue shades.	Often used as a border plant, agapanthus is classified as deer-resistant.	

Vegetables & Small Fruits Deer Don't eat

Onions and Garlic

Some herbs, such as rosemary, parsley, fennel, mints, sages

27 Deer-resistant Flowers

1. Daffodil
2. Bleeding Heart
3. Peony
4. Lily-of-the-Valley
5. Moss Phlox
6. Hardy Orchid
7. Garden Pinks
8. Stella d'Oro Daylily
9. Siberian Iris
10. Red Hot Poker
11. Lavender
12. Salvia
13. Beardtongue
14. Rose Campion
15. Daisy
16. Allium
17. Butterfly Weed
18. Blazingstar
19. Threadleaf Coreopsis
20. Blanket Flower
21. Lamb's Ear
22. Yarrow
23. Russian Sage
24. Goldenrod
25. Spotted Mint
26. Sweet Autumn Clematis
27. Ornamental Grasses

CONTROL AND PREVENTION

How To Deter Deer From Coming Into Your Garden There are many techniques you can try to deter deer from munching on your plants. Try some of these methods for your garden:

Spray flowers and shrubs with a deer repellent that contains a mixture of dried bovine blood, sulfured eggs, and garlic. These repellents are available at most home and garden stores. They will not harm your plants and are usually effective in deterring deer.

For another natural deer repellent, combine 1 raw egg, ½ cup of milk, 1 tablespoon of dish detergent, and 1 gallon of water. Lightly spray the mixture over plants. Respray after rain. Or, mix two tablespoons of Tabasco sauce to a gallon of water and spray the foliage and fruit. If it rains, reapply.

Use scare tactics. Try putting several metal posts 4- to 5-feet-tall around the garden. Attach a metal pie tin to the top of each pole with twine. The least bit of wind makes the pine tins clack with a noise that the deer don't like.

Put a transistor radio in your garden and keep it on all night. Switch the station when you think of it. The noise will keep deer away.

Set up an inexpensive motion detector in your garden. When a deer triggers it, the noise will scare the deer back into the woods.

Drape fabric netting over plants and (most) deer will stay clear.

Vinegar: Deer, as well as other animals, "including cats, dogs, rabbits, foxes and racoons, [don't like] the scent of vinegar even after it has dried. [To keep these pesky] visitors out of your garden [soak] several rags in full-strength white vinegar and place them on stakes around [the] garden, particularly around areas such as vegetables and flower beds. Re-soak the rags every 7-10 days."

Fencing

Fencing, the construction of a barrier between the crop and the deer, is the most effective long-term solution to deer damage. The basics of fencing apply to both electric and non-electric fencing. It is important to understand that deer can easily jump a fence 10 feet high, but much prefer not to. Deer prefer to go under or through a fence than to jump it if at all possible.

Once deer have gotten inside and discovered the crop, it will be harder to keep them out. No gaps should exist in the fence. To be effective, fences should be 8 feet tall. There are two styles to consider: smooth wire strands or mesh. The mesh can be either woven wire or plastic mesh, both will work well.

<https://ag.umass.edu/vegetable/fact-sheets/preventing-deer-damage>

MENARDS

Deer Fence - Deer Barrier protects lawn and garden plants from hungry deer and birds This strong, yet lightweight netting has a 1/2" black plastic mesh preventing the smallest animals from getting through.
7' x 100' - \$17.79

<https://www.menards.com/main/building-materials/fencing/utility-fencing/7-x-100-deer-fence/1721210/p-1465233505729.htm>




COMMERCIAL REPELLENTS

Repellents


Repellents are advertised to reduce deer damage by making the target crop taste or smell unpalatable to deer. For most problems they do not work. All repellents are billed to reduce, not eliminate, deer damage. To achieve this reduction, they must be consistently applied and

reapplied as directed. If applied after deer damage has occurred, repellents likely will not repel deer from something they have already eaten.

EVERY YEAR DEER CAUSE MILLIONS OF DOLLARS IN LANDSCAPE DAMAGE... **DAMAGE THAT CAN BE PREVENTED.**



DEERPRO®
WINTER ANIMAL REPELLENT



DEERPRO®
SPRING AND SUMMER

- **Now Looks Better Than Ever! Learn more about our NEW and Improved Low Residue Formula**
- **Now available in Southern states:** professional applicators in the southern USA can now use DeerPro Winter thanks to our new label update.
- **Michigan State University 2018 Study:** DeerPro-treated Arborvitae performed better than other leading winter deer repellents!
- **One spray in the Fall lasts all Winter long!** DeerPro can provide up to six months of protection from deer.
- **EPA-Approved** DeerPro is the longest-lasting professional-strength deer repellent on the market.
- Provides anti-desiccant protection from winter burn.
- DeerPro is preferred by leading plant care companies and has proven effective for over 40 years.
- DeerPro will not clog sprayers. Our Thiram-based spray is specially formulated to stay in suspension longer and give consistent coverage.

- DeerPro Spring & Summer: the most effective, long-lasting warm weather professional deer repellent
- Each application provides four to six weeks of protection that is not degraded by rain or irrigation and delivers what others only promise: Reliable, long-lasting, professional strength protection.
- It not only protects plants from deer, it helps to hold moisture in the plant, reducing the need for water, and increasing drought resistance during the hot summer months.
- DeerPro Spring & Summer is a slow-release smell deterrent that protects treated plants as well as the new growth, while not being offensive to the homeowner.

BEST OVERALL: Deer Out 32oz Concentrate Deer Repellent

RUNNER UP: Ortho Deer B Gon Deer & Rabbit Repellent Concentrate

LONGEST LASTING: Bobbex Concentrated Deer Repellent

ALSO CONSIDER: Enviro Pro 1025 Deer Scram Repellent

Home Depot, Walmart and many nurseries carry deer repellants.

<https://www.washingtonpost.com/news/capital-weather-gang/wp/2017/08/14/want-to-keep-the-deer-out-of-your-garden-heres-what-works/>

DEER RESISTANT PLANTS THAT ATTRACT POLLINATORS

Quite a large number of flowers, herbs, and even vegetables are deer resistant pollinator plants.

Gardeners and farmers who struggle against deer damage know how difficult it is to grow flowers, fruits, and vegetables with these voracious browsers about. At the same time, growers depend on bees, flower flies, butterflies and hummingbirds to pollinate farm and garden crops. If you select carefully, you can have both together: plants that attract pollinators and are also unpalatable to deer.

A pollinator-friendly garden includes a succession of plants that provide pollen and nectar throughout the season. This includes fragrant flowers, brightly colored blooms, native

wildflowers, clusters of flowers grown together and pesticide-free plants. A deer-resistant garden includes, herbs and flowers with strong aromas, prickly plants, plants with fuzzy leaves and bitter-tasting plants.

While plants with these characteristics deter deer, be aware that no garden without a high fence can be completely deer proof. Deer are browsers. This means they may sample almost anything, especially young tender shoots.

Please see the link below for a more complete guide to deer resistant pollinator plants.

<https://bcfarmsandfood.com/deer-resistant-pollinator-plants/>

More Helpful Sites to Help with Deer in your Garden

<https://www.almanac.com/pest/deer>

https://njaes.rutgers.edu/deer-resistant-plants/?fbclid=IwAR1BAe_6aSxPuSOft1HdqjhMmW1UIUPXFO1AdfMrwq8fAYGyx8RdMBmTT6Q

<https://www.prairienursery.com/> - Prairie Nursery as a great selection of plants that are easily shipped to River Forest.

<https://deerproprofessional.com/>

Appendix E



Sources of information in this Appendix include the U. S. Centers for Disease Control and Prevention (CDC), the Illinois Department of Public Health (IDPH), other state health agencies, and scientific papers and selected news articles. Additional sources include two books on the subject of Lyme disease -- Conquering Lyme Disease: Science Bridges The Great Divide, B. Fallon and J. Sotsky (Columbia University Press, 2018); and Lyme Disease: The Ecology of a Complex System, R. Ostfeld (Oxford University Press, 2010).

Lyme disease in the mid-west is caused by a bacterial infection transmitted by the bite of infected black-legged ticks. **There are known cases of diagnosed Lyme disease (and reports of other cases) among River Forest residents. Although it may not be known in some (or most) of these cases where the infection was contracted,** the negative effects of untreated Lyme disease can be significant and it has been argued that culling deer in Thatcher Woods is appropriate to respond to resident concerns about Lyme disease and to address the risk of Lyme disease in the Village.

In fact, scientific research indicates that culling deer, as has been proposed, will not be effective in reducing any risk of Lyme disease. To the contrary, it may actually increase the risk.

A group of experts has reviewed the various studies of the effect of culling deer on Lyme disease risk. **They found that deer culling is not generally effective to reduce tick populations.** They also found that evidence showing that culling deer reduces Lyme disease is lacking. Numerous other Lyme disease experts have reached the same conclusion -- culling deer short of complete or near complete elimination is not effective because it takes very few deer to sustain a tick population, there are many alternative reproductive hosts, and a great many animals carry ticks.

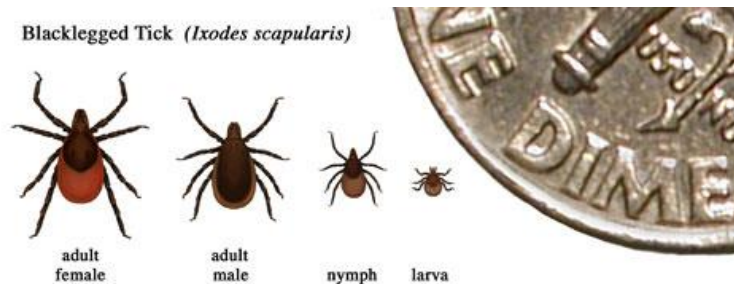
Other studies further indicate that, rather than reducing risk, deer removal often actually increases the number of infected ticks and can increase the risk of human infection. **Deer do not transmit bacterial infection to ticks, so reducing the number of deer causes ticks to feed instead on other animals that do transmit infection resulting in a greater number of ticks that carry the disease. It also results in a greater number of ticks seeking alternative hosts, such as humans.**

Cause of Lyme Disease

The cause of Lyme disease in the United States is bacteria, *Borrelia burgdorferi* and *Borelia Mayonii*, that is transmitted by the bite of an infected black-legged tick, *Ixodes scapularis*.

Ticks are not born infected. They become infected with bacteria by feeding on infected small animals at the larval or nymph stage of life. Ticks feed once at each life stage. After becoming infected, they can then transmit the infection to a human when feeding at the next life stage.

A black-legged tick usually must be attached and feeding for 36-48 hours to transmit Lyme disease. (CDC, *Lyme Disease Transmission*, 2020; American Lyme Disease Foundation, *Lyme Disease*, 2020) However, some research indicates that shorter periods (24 hours or less) may be sufficient in 5%-7% of cases. (*About Ticks and Lyme Disease*, lymedisease.org, 2020)



Symptoms, Effects and Treatment of Lyme Disease

The most common presenting symptom of Lyme infection is an oval rash that generally appears within 2-30 days and often looks like a bull s-eye, although not everyone develops such a rash.

Other common early symptoms or effects of Lyme disease are fever, fatigue, body aches, headaches, neck stiffness and swollen lymph nodes. (Mayo Clinic, *Lyme Disease Symptoms and Cause*, 2020)

If diagnosed and treated early with antibiotics, [Lyme disease] is almost always readily cured." (American Lyme Disease Foundation, *Lyme Disease*, 2020) People usually recover rapidly and completely . . ." (CDC, *Lyme Disease Treatment*, 2020)

Reservoir Hosts

Animals that carry a heavy level of *Borellia* bacteria in their blood and infect ticks are called "reservoir hosts." **White-footed mice are the most common reservoir host**, and they are a highly competent reservoir host (meaning that they very effectively produce infection in ticks).

Many other animals, including chipmunks and ground feeding birds such as Robins, carry ticks and are also competent reservoir hosts.¹

White-Tailed Deer and Other Reproductive Hosts

White tailed deer are not competent reservoir hosts". (T. Levi, *et al.*, *Deer, Predators and the Emergence of Lyme Disease*, PNAS, 2012) **They do not contract Lyme disease or infect ticks because their blood carries enough antibodies by volume to prevent infection.**

In fact, deer may help to reduce the rate of infection in ticks, or the prevalence of infected ticks. Deer can dilute tick infection rates by serving as a host that does not infect

ticks and limiting the number of ticks that find other hosts that do infect them with Lyme disease. (K. Kugeler, R. Jordan, K. Griffith, T. Schultz, and P. Mead, *Will Culling White-Tailed Deer Prevent Lyme Disease?*, Zoonoses Public Health, 2016)

The role that white-tail deer play is that of a “reproductive host” for black-legged ticks. White-tail deer are a primary “reproductive host” for black-legged ticks. In the past, this led many to call these ticks “deer ticks”, but that is a misnomer. Despite their role as a primary “reproductive host”, reducing the number of deer in an area often does not result in a decline in ticks because a sufficient number of adult ticks can crowd onto a small number of deer to sustain a tick population. In one study, for example, as deer density declined 4-5 fold, the adult female tick infestation on deer was found to have increased to the same degree. (K. Kugeler, *et al.*, *Will Culling White-Tailed Deer Prevent Lyme Disease?*)

Illinois and Suburban Cook County: Low Incidence Areas For Lyme Disease

Illinois is a low incidence state for Lyme disease based upon CDC data. (CDC, *Lyme Disease Maps: Most Recent Year, 2020*) The rate of confirmed and probable cases for 2018 was 1.5 cases per 100,000 people. The three-year average for 2016 -2018 was slightly higher, 1.7 per 100,000. (*Id.*)

Illinois is not in the top 15 states for Lyme disease risk based upon cases per 100,000 people. It ranks 20th. (CDC, *Lyme Disease Data Tables: Historical Data, 2020*)

In addition, while the number of reported cases of Lyme disease in Illinois has increased significantly since 1999, the number of cases may have leveled off in recent years; it has declined from a reported high of close to 350 cases in 2013 to fewer than 300 cases in 2018, and has been between 200 and 300 cases in each of the years from 2014-2018. (IDPH, *Lyme Disease Data, 2020*)

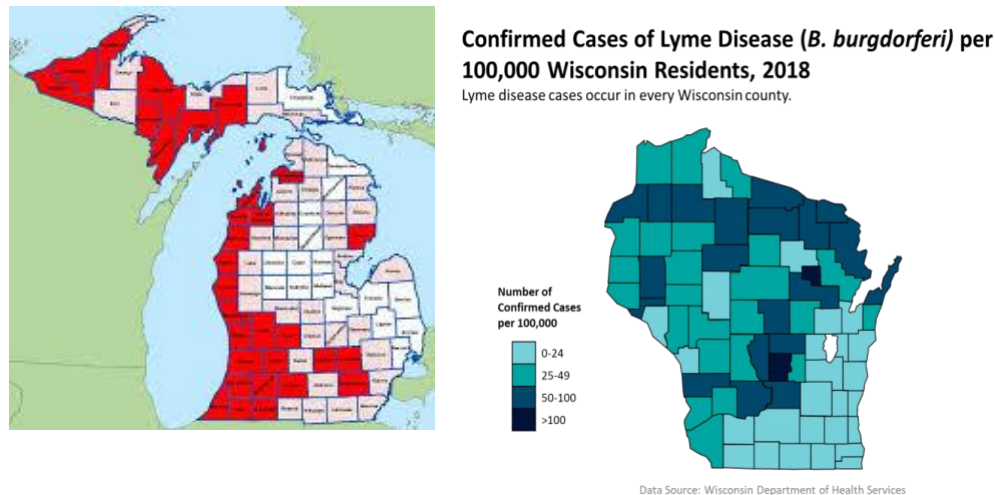
Suburban Cook County is also a low incidence area for Lyme disease based upon reporting by the IDPH. The occurrence rate was 1.4 per 100,000 people for 2018, and an average of 2.0 per 100,000 for the three years, 2016-2018. (IDPH, *Reported Lyme Disease cases and rates per 100,000 population by County, 2020*) ²

Southwest Michigan and Wisconsin

Many River Forest residents have summer homes in Michigan and Wisconsin. Educating the public about risk and prevention are critical in the prevention of Lyme Disease.

Illinois ranks far behind Wisconsin, which had a 2018 infection rate of 25.4 per 100,000. (CDC, *Lyme Disease Data Tables: Historical Data, 2020*) This is more than 10 times the rate for suburban Cook County. (IDPH, *Lyme Disease Data, 2020*) And areas of central and northern Wisconsin have even higher rates that are approximately 30 to possibly 100 times higher than suburban Cook County based upon 2018 data. (WDHS, *Lyme Disease Wisconsin Data, 2020*)

Some parts of southwest Michigan also have higher rates of Lyme disease than suburban Cook County. Berrien County Michigan, for example, had a 2016 infection rate that is 10 times higher than the rate for suburban Cook County based upon 2016 data. (Michigan Department of Health and Human Services, *Disease Mapper, 2016 Local Lyme Disease in Humans by County*, 2020, and Berrien County population data; IDPH, *Reported Lyme Disease cases and rates per 100,000 population by County*, 2020)



Lyme disease is a serious problem throughout large parts of the Country, but we can effectively address the risk of Lyme disease in River Forest by measures other than annually killing all but a few of the deer in Thatcher Woods and hoping that this will produce some effect.

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