ADVOCATES FOR MICHIGAN WILDLIFE – POSITION STATEMENT SUMMARY

Local government should not implement the publicly divisive use of firearm sharpshooters to cull deer to reduce deer vehicle crashes (DVCs) without using a community-based deer management process, having a sound scientific and factual basis, reviewing the long-term high cost and using primarily effective nonlethal measures to resolve the deer conflict.

Suburban community residents tend to be equally divided on the issue of whether deer should be killed in an attempt to reduce deer conflicts with residents. Residents will either tolerate the presence of deer as valued wildlife and enjoy observing them, or they perceive deer as merely an intolerable nuisance with no intrinsic value. No other public issue will likely cause such divisiveness among residents as their opposing views on a local government's decision to lethally reduce a community's deer population to decrease deer conflicts, such as DVCs.

When faced with the issue of whether to cull deer, a local government will typically implement an internal administrative process used to resolve noncontentious community issues. This process is inadequate to effectively prevent significant divisiveness among residents on this public issue. To achieve an amicable resolution of this issue, a local government should use community-based deer management protocols which involve active participation by residents. Hunting during the yearly regulated hunting season may not be an acceptable or effective solution to significantly reduce a suburban deer population to decrease deer conflict issues. If so, a local government must attempt to resolve their community's deer conflict situation by first using nonlethal measures before the DNR will approve a Damage and Nuisance Animal Control Permit (Nuisance Permit) for the use of firearm sharpshooting to reduce a local deer population.

Effective nonlethal measure options are available to local government to implement to reduce deer vehicle crashes. DVCs are not random and can be avoided. Scientific studies support the use of effective temporary deer crossing warning signage at DVC road hotspots. Public education and awareness programs are routinely used by Michigan's traffic safety agencies to reduce vehicle crashes caused by other factors affecting a motorist's ability to drive safely.

The DNR promotes the use of firearm sharpshooting, if hunting is not acceptable or feasible, but does not support its position with reliable research studies that are based on rigorous scientific methodology. In addition, the use of firearm sharpshooters to sufficiently reduce a local deer population will be very costly and must be continuously repeated on an annual basis for more than a decade.

For a local government to make a rational decision on how to reduce DVCs in its community, it should consider implementing the following recommendations:

1. Use community-based deer management protocols and have a fair representation of residents who advocate nonlethal measures to participate on a task force to reduce DVCs.
2. Implement the use of effective nonlethal traffic safety measures to change motorists' behavior to reduce DVCs in the community prior to any consideration of lethal methods.
3. Not implement the use of firearm sharpshooting to reduce the deer population in an attempt to decrease DVCs if not supported by a sound scientific and factual basis.
4. Determine the significant cost of the long-term annual use of firearm sharpshooters.

POSITION STATEMENT DISCUSSION

The DNR recognizes that in suburban communities, when the local government is pursuing the option of killing the deer to reduce deer conflicts with residents, such as deer vehicle collisions (DVCs), the use of lethal measures becomes "highly politicized"[1], and its "community members often have highly polarized views and values regarding deer management."[2] Local governments typically request the technical advice of the DNR's staff to assist in the resolution of their deer conflicts with its residents. The DNR recommends first and foremost the use of recreational archery hunting, and secondarily the use of firearm sharpshooters, pursuant to a DNR Damage and Nuisance Animal Control Permit (nuisance permit), to kill deer to reduce DVCs in urban and suburban communities.[3] When hunting is not socially acceptable, legally allowed or logistically feasible in a community to significantly reduce a deer population, a local government may apply for a DNR nuisance permit for firearm sharpshooters to kill deer if the use of nonlethal measures has not resolved the resident-deer conflicts.

During their presentations and consultations with local governments, DNR staff will also discuss the pros and cons of, but not recommend, the nonlethal deer population control methods of the sterilization and immunocontraception of female deer.[4] However, the DNR staff does not discuss or recommend traffic safety related effective nonlethal measures to reduce DVCs which do not involve deer population control methods. Also, the DNR does not collaborate with traffic safety agencies or have staff members who are subject matter experts on traffic safety.

A local government typically uses its internal administrative process to resolve what becomes a contentious public issue when the planned solution is to kill deer to reduce DVCs. This process does not involve a committee or task force including resident-members, with opposing views on the use of lethal measures, who actively participate in the development of recommendations to resolve resident-deer conflicts. The administrative staff will typically only review resident deer complaints, conduct opinion surveys, have public meetings and receive technical advice on lethal measures from DNR subject matter experts, but not from traffic safety experts if the issue is deer vehicle crashes. Instead, a local government's internal administrative process results in the development and issuance of its staff's recommendations to the local governing body for its approval to implement. The DNR does not require a different process.[5] The local government's officials and staff may not even be open and transparent with the community's residents concerning its deer culling program. For example, the City of Lansing has

---

[1] DNR Wildlife Division, Urban White-Tailed Deer Conflict Management Policy and Procedures, Page 1.
[2] 2016 Michigan Deer Management Plan, at page 26.
[3] 2016 Michigan Deer Management Plan, at page 27.
[4] Urban Deer Management: Biology, Process, and Options presentation by Chad Stewart, DNR Deer Management Specialist, in Southfield, Michigan. (September, 2022)
[5] DNR Wildlife Division Urban White-Tailed Deer Conflict Management Policy and Procedures (2016) at page 2.

had a deer management plan, since 2017, to reduce the deer population.[6] One of the major reasons for its plan was deer-vehicle accidents. In January of 2023, the city conducted a secret nighttime deer culling by firearm sharpshooters in several public parks without first receiving any public comments or discussion or informing its residents when or where the deer culling would occur.[7]

An inclusive deliberative process using community-based deer management protocols is necessary for stakeholder agreement to amicably resolve deer conflicts with residents.

A local government's internal administrative process does not include the necessary elements for a constructive and deliberate process to effectively address residents' concerns and diametrically opposing views. And this internal process does not have the potential to amicably resolve the issue on whether to use lethal measures to reduce resident-deer conflicts. The DNR should require a structured and defined deliberative process which establishes a community-based task force for a municipality seeking to manage residents' conflict with deer. The task force should have a fair representation of residents who advocate the use of only nonlethal measures and residents who believe lethal control methods should be used for the reduction of conflicts with deer. The determination of who the members of the task force should be should be a well thought out process based on relevant guidelines. The successful management of the conflict between stakeholders having differing points of view will require a qualified neutral facilitator, or even more effective - a mediator, to assist the committee to resolve the management of the community's conflict on this issue. The task force should receive the advice from subject matter experts especially a traffic safety expert.

In the U.S. Northeast, cities have successfully developed and used "community-based deer management" (CBDM) principles to guide other communities to reach an agreeable resolution between residents, with opposing views, on the contentious issue of using lethal measures to resolve resident-deer conflicts while avoiding the devaluation of deer as pests. Decker et. al (2004) provides an excellent resource, "A Practitioners' Guide: Community-Based Deer Management", for guidance for local governments to apply the following essential elements of CBDM to constructively address a contentious public issue such as the management of a community's resident-deer conflicts:

- Inclusion of multiple perspectives
- A structured process for making community decisions
- Universally acceptable ground rules
- Shared understandings among stakeholders
- A shared, comprehensive information base
- Disclosure of stakeholder goals
- Belief within a community that generally acceptable goals and solutions are worth seeking

[6] City of Lansing website. Go to link at: https://www.lansingmi.gov/1054/Deer-Management
[7] WLNS 6 News (2023) Go to link at:
https://www.wlns.com/news/residents-upset-after-lansing-secretly-culls-deer/

- An understanding that community-based deer management is an ongoing process, not a onetime event
- Commitment to systematic evaluation of the decision-making process and subsequent management program

See Note 1 for an explanation of each essential element.

For example, the policy turnaround by the City of Rochester Hills to terminate the use of lethal measures to reduce DVCs is instructive on why the application of CBDM principles are critical to the successful resolution of this divisive public issue. In 2009, the city initially used its internal administrative process which resulted in a very publicly divisive use of firearm sharpshooters to kill deer. The city then subsequently transitioned to incorporating CBDM decision making elements to implement a publicly agreeable use of effective nonlethal measures prior to using lethal options again.

At its November 17, 2008 meeting, the City Council voted, based on the recommendation of the City's administrative staff, to adopt a deer management policy which included the commencement of a deer culling operation, using law enforcement sharpshooters on only City owned property, to reduce the deer population. The usual administrative process was used to establish a deer management plan to reduce resident-deer conflicts within the city. Staff employees conducted their own research on the subject and consulted with DNR subject matter experts to determine the parameters of the plan. Residents were only allowed to express either their complaints concerning deer conflicts with the staff and the mayor's office or with City Council members during their regular council meetings prior to the Council's approval of the deer management plan.

The City's decision created significant divisiveness between residents against culling and residents for culling the deer.[8] The City's decision also resulted in organized protests against the culling and a lawsuit against the city to stop further culling. The killing of only approximately twenty deer by sharpshooters was conducted on city owned property in January of 2009. On February 9, 2009, the City Council decided to immediately halt the deer culling operation. City Councilman James Rosen stated at the Council meeting that "in the more than 20 years that he had been involved in Rochester Hills government, he has never seen an issue more divisive."[9]

During their February 9th meeting, the City Council then established the Deer Management Advisory Committee (DMAC) with seven citizen/resident members, having a balanced representation of both sides of the lethal-nonlethal issue and two Council members. The committee would also have two administrative staff members from the City's Parks and Forestry Department. The DMAC was charged by the City Council with the following responsibilities:

1. Review of the City's 2008 Deer Management Policy and the development of recommendations for inclusion or modification;

[8] In a subsequent 2019 public opinion survey, Rochester Hills residents were evenly split on the issue of whether they considered the deer a problem in the city: 47% replied "yes", 45% replied "no" and 8% were uncertain. Rochester Hills 2019 Public Opinion Survey, at page 46. Go to link at: https://www.rochesterhills.org/mayor/ResidentSurvey.pdf

[9] City of Rochester Hills, February 9, 2009 City Council meeting minutes at page 32.

2. Review vehicle/deer crash statistics and the annual deer count surveys to evaluate effectiveness of the current controlled culling operation;
3. Gather and review metrics and data from all available sources and statistics for possible guidelines and inclusion in the Deer Management Policy;
4. Investigate and recommend any potential funding sources for implementation of the Deer Management Policy.

After numerous DMAC meetings, beginning on April 7, 2009, Jim Kubicina, the DMAC Chairperson, presented the DMAC's 2010 recommendations to the City Council on October 26, 2009. The City Council accepted the DMAC recommendations. See Appendix One for its full report. The DMAC's nonlethal recommendations have been followed for the past 14 years. According to an independently conducted 2020 public opinion survey, 71% of residents agreed with the nonlethal methods to manage deer conflicts and/or issues with residents. See Note 2.

Scientific studies have shown that the use of temporary seasonal deer crossing warning signage will effectively reduce the incidence of deer-vehicle collisions.

Temporary seasonal deer warning signage has been found to be effective in reducing deer vehicle crashes. Sullivan et al. (2004) evaluated the effectiveness of temporary prominently displayed signage on reducing motorist excessive speed and the number of DVCs during the mule deer migration in three western states. They used signs which had reflective flags and solar-powered flashing amber lights with the message "DEER MIGRATION AREA NEXT 3 MILES". Based on their study, they concluded that "temporary signing prominently displayed only at high-risk times resulted in an estimated 50% reduction in DVCs, although with wide confidence bounds." The researchers observed the following:

> "Signs used in this study were prominent and designed to command attention. They were expected to increase motorist alertness to presence of deer, manifested in part by lower vehicle speeds. Our results indicated that signs reduced the likelihood of high vehicle speeds, but some evidence from 2 sites suggested that the effect diminished over time. Thus, signs in the same location may lose their effectiveness over time. However, effects of signs on DVCs did not diminish. If effects were diminished, the percentage of DVCs that occurred in the treatment area relative to the control area would be expected to increase in the second year, and this did not happen."

Hardy et al. (2006) determined that seasonal wildlife advisory messages on portable dynamic message signs (DMSs) were effective, especially during dark conditions, in reducing motorist speed, thus reducing the safe stopping sight distance. They recommended the guidelines for enhanced animal advisory signs. See Note 3. The researchers also encouraged agencies "to use monitoring programs to assess how well enhanced signs may be reducing speeds or [animal vehicle collisions]. Hardy et al. (2006) also recommended driver surveys and driver simulator studies[10] to provide useful insight into understanding how drivers perceive and respond to such advisory signs."

[10] Stanley, L. Driver Responses to Enhanced Wildlife Advisories in a Simulated Environment. In Transportation Research Record: Journal of the Transportation Research Board*, No. 1980*, Transportation Research Board of the National Academies, Washington, D.C., 2006, pp. 126-133.

The Virginia Transportation Research Council[11] (VTRC) conducted a research study by Donaldson and Kweon (2019) to determine the effectiveness of temporary seasonal deer warning signs to reduce DVCs, in cooperation with the U.S. Department of Transportation Federal Highway Administration.[12] The VTRC designed a scientifically rigorous study on a 16.7 mile segment of I-64, an interstate highway in Virginia, by posting deer advisory messages on changeable message signs during three 2-month periods of peak deer activity. The researchers studied the difference between the number of deer carcass removals when deer advisory messages were posted versus when the deer advisory messages were not posted to determine whether DVCs were reduced by using the advisory sign messages. They had the following findings:

> "In an analysis of [carcass removals] for the three 2-month deer advisory posting periods for the entire 16.7 mile study area, [carcass removals] were 51% lower when deer advisories were posted than when they were not posted, and this difference was statistically significant. In the control segment that had no deer advisories, there was no statistically significant reduction of [carcass removals] during those same posting /non-posting time segments."
>
> "In a comparison of vehicle speeds during the posting of [changeable message signs] messages, speeds during deer advisories were 1.2 mph lower on average and up to 2.8 mph lower at individual sensor stations than speeds during periods other than periods of deer or fog postings. These reductions were statistically significant and equated to an average reduced stopping distance of up to 18 ft."[13]

The researchers concluded that deer advisory messages on temporary message signs along an interstate can be an effective DVC mitigation tool.

The Virginia Department of Transportation (VDOT) in collaboration with the Virginia Tech Transportation Institute (VTTI), conducted another research study to evaluate the reliability of a buried cable animal detection system (BCADS) wirelessly linked to activate a flashing deer warning sign to alert and slow down motorists based on the detected presence of a deer along a road segment with a relatively high rate of DVCs. Druta and Alden (2019)[14] determined that the BCADS was reliable in detecting deer crossing on or near the public roadway no matter what the traffic or weather conditions were, even with two feet of snow, during a 11-month period (November 2017 to September 2018). The study also ascertained that the animal detection and warning sign system had a significant impact on driver behavior. Approximately 80% of drivers, in response to the activated flashing warning sign, reduced their speed which indicated that the

---

[11] The VTRC is a partnership of the Virginia Department of Transportation and the University of Virginia since 1948.

[12] Donaldson and Kweon (2019) Effectiveness of Seasonal Deer Advisories on Changeable Message Signs as A Deer Crash Reduction Tool, found at: http://www.virginiadot.org/vtrc/main/online_reports/pdf/19-r8.pdf

[13] Donaldson and Kweon (2019) at Pp.16-17.

[14] Druta and Alden (2019) Implementation and Evaluation of a Buried Cable Roadside Animal Detection System and Deer Warning Sign, found at https://www.virginiadot.org/vtrc/main/online_reports/pdf/19-r28.pdf

sign was effective. Based on the positive results of this study, the VDOT will determine in a subsequent related study the effectiveness of the BCADS to reduce a sufficient percentage of DVCs on a road segment to offset the installation and maintenance cost of the BCADS.

A messaging program to educate motorists on the factors that put them at risk for a deer vehicle crash will allow motorists to modify their driving behavior to prevent DVCs.

Research has been conducted in Michigan to determine the most effective messaging to motorists to prevent DVCs. The MDOT funded three research projects concerning the issue of how to reduce deer vehicle collisions by changing motorists' beliefs about such collisions and educating them how to avoid having a collision with deer in southeastern Michigan. In the first study, Marcoux et al. (2005) observed the following:

> "Educating drivers about the specific factors that put them at a greater risk for involvement in a DVC (e.g., hourly, monthly, and seasonal timing of DVCs; speed; and reduced visibility) will give them the choice to modify their driving behavior therefore reducing their risk of involvement in a DVC. Based on our data, information directed towards motorists should focus on raising awareness of when they need to be driving more cautiously with deer in mind. These timing characteristics should include time of year: the risks of DVCs increases markedly in fall, with a peak in mid-November."

And the researchers concluded that future research is necessary: "All drivers should be educated about the risk factors that make an occurrence of a DVC more likely. Drivers can lower their risk of being involved in a DVC by using more caution, slowing their speed, and remaining alert and aware in areas and at times associated with increased DVC risk. Drivers fitting the 'at risk' gender and age profile should use extra caution at all times. Future research should focus on specific approaches for most effectively getting this information to drivers."

In a second study conducted by Riley and Marcoux (2006), the researchers surveyed drivers in Oakland, Washtenaw, and Monroe Counties in southeast Michigan. Based on their research, they recommended:

> "how education and communication campaigns aimed at reducing the frequency of DVCs can be improved. Education messages should:
>
> - Be aimed at middle-aged to older drivers in addition to initial messages taught in typical drivers education to teens
> - Increase driver knowledge of how to recognize areas where deer are likely to be crossing
> - Encourage proper driving behavior – mostly to slow down and stay alert – to reduce risk of DVC involvement
> - Communicate situations that provide the greatest risk, so drivers can be aware of and adjust driving behaviors accordingly to control their individual risk levels
> - Be delivered by a cooperation between the Department of Transportation, the Office of Highway Safety Planning, the Department of Natural Resources, the Secretary of State, and individual insurance agencies to insure acceptance from a larger range of drivers
> - Be implemented as a test initially to evaluate the effectiveness of any information and education campaign"

In the last study, concerning drivers' knowledge, beliefs and attitudes about deer vehicle collisions in Oakland, Washtenaw and Monroe counties, Marcoux and Riley (2010) stated that

based on their research, the most important communications to drivers should be that DVCs are not random and can be avoided: "Conveying this message may enhance the probability of drivers' behavioral changes, which could lead to fewer DVCs." See Note 4.

These research learnings should be used to determine the most effective educational materials and key media messaging for local governments to impact motorist behavior to reduce deer-related crashes especially during the critical months of October through December when the frequency of DVCs is the highest. The campaign should be modeled after the yearly traffic safety programs currently being implemented by the Office of Highway Safety Planning (OHSP).

Pursuant to the Michigan SHSP, the OHSP has a budget of millions of dollars overall and designated staff for each campaign to implement the following 2022/2023 fiscal year traffic safety and enforcement campaigns[15] with paid social media ads, news releases and fact sheets:

- Teen Driver Safety Week (10/16-22/22)
- Pedestrian Enforcement (10/29-11/4/22)
- Elective Impaired Driving Enforcement (11/21-27/22)
- Speed Enforcement (12/1/22-2/28/22)
- Older Driver Safety Awareness Week (12/5-9/22)
- Drive Sober or Get Pulled Over (12/16/22-1/1/23, 7/1-7/30/23, 8/10-9/4/23)
- Distracted Driving Awareness Month (4/1-30/23)
- Click It or Ticket (5/15-6/4/23)
- Bicycle Safety Enforcement (8/7-13/23)
- Child Passenger Safety Week (9/17-23/23)

While the OHSP has no budget for paid media to promote traffic safety related to DVCs, it has posted messaging of "Don't Veer for Deer" on its Twitter account to reduce DVC related fatalities and serious injuries:

> "A reminder to drivers: Firearm deer season starts tomorrow and continues through Nov. 30. There will be increased activity by hunters and movement by deer across many areas of the state. Please be alert on the roadways! Don't Veer for Deer. More at bit.ly/3StC9rF"
> Tweet November 14, 2022.

The reference to "More" directs the Twitter reader to the Michigan State Police website "Deer-Vehicle Crashes" which allows the reader to access a copy of the OHSP's brochure titled "Don't Veer for Deer". See Attachment 2. The updated brochure correctly notes for motorists to notice where deer crossing signs are and to slow down to better prepare to stop if a deer crosses the road.

The City of Ottawa, Canada conducted a benchmarking successful extensive integrated media and public relations campaign titled "Speeding Costs You Deerly," during the fall time periods from 2006 through 2009. The number of DVCs was successfully reduced by 38% from a three-year average of 344, prior to the program, to 213 DVCs during the months of October and November over the four-year program.[16] The program encouraged motorists to be more alert for deer activity, to scan the roadway, to reduce speeds to increase reaction time and to never swerve

[15] Michigan OHSP FY2023 Traffic Safety Campaigns
[16] 2009 Ottawa Roads Safety Results report

if an accident with a deer is unavoidable. See Note 5 for description of the successful program.

The campaign received an environmental award from the Ottawa-Carleton Wildlife Centre, and the Road Safety Achievement Award from the Ontario Ministry of Transportation. The campaign used billboard advertising, television interstitial ads (short duration commercials between two programs or ads of a longer duration), articles in community newspapers, variable message signs displaying "DEER ALERT - REDUCE SPEED" along roadways with high incidents of deer collisions, police enforcement of zero tolerance of speeding on the same roadways and motorist informational cards.

Observational studies, which concluded using firearm sharpshooters to kill deer is effective to reduce DVCs, do not provide a reliable scientific basis to justify a suburban deer culling.

The DeNicola & Williams (2008) observational study has been referenced by Chad Stewart, Michigan DNR Deer Management Specialist, in his presentations to communities on the issue of whether the use of sharpshooters to reduce a local suburban deer population over a several year period is effective to reduce DVCs.[17] In his presentation, he did acknowledge that, "Data linking deer herd reduction with reduced deer collisions is sparse."

The authors of that observational study conducted a winter sharpshooting program from 2 to 6 years in three cities, Iowa City, Iowa, Princeton Township, New Jersey and Solon, Ohio, within geographic areas of 6, 16 and 20 square miles respectively. They attempted to have at least 30 to 100 bait sites, depending on the geographic size of the city, or approximately three (3) bait sites per square mile to attract and shoot the deer. In this observational study, deer density in the three cities involved were estimated, pre and post multiyear lethal management programs, based on accepted wildlife management practices. They summarily concluded, without reference to any data, that they "found no indication that there was any significant level of immigration of deer into the communities from outside areas or emigration out of the communities."

DeNicola & Williams (2008) only concluded that there was a correlation, <u>but not a proven causation</u>, between a percentage reduction of the deer density in a community and percentage reduction of the number of DVCs. The observational study reported that a significant reduction of the deer population by 54 to 76%, by sharpshooting in the three suburban communities, resulted in a reduction of DVCs by 49 to 78%. Their observational study does not provide a scientific basis to conclude there exists a linear causation between a community's obtainment of a certain percentage reduction of a local community's deer population and a corresponding percentage reduction of DVCs over consecutive years of killing deer.

[17] See slide titled "Example: Hopewell Valley, NJ", discussed during Urban Deer Biology and Management Options 2021 presentation by Chad Stewart, DNR Deer Management Specialist, in Farmington Hills, Michigan.

The DeNicola & Williams (2008) observational study, and other studies of similar deer population reduction protocols resulting in DVC reductions, fail to follow the appropriate design for scientific research studies for which the conclusions may be relied upon. Therefore, these studies will have a high level of uncertainty and a low strength of inference as to the effectiveness of DVC mitigation if the study design does collect critical data before, during or after the enabling measure, does not compare control sites to sites where the enabling measure is implemented or lacks replicate sites. (See Roedenbeck et al. 2007). There are significant limitations for the application of their observational study results to other communities, because the researchers failed to use a rigorous scientific method to produce reliable knowledge and failed to present relevant data about its deer population reduction program in their study.

1. No use of the accepted scientific method which includes (a) the generation of a research question, (b) the development of a hypothesis, (c) the formulation of predictions, (d) the design and implementation of research to collect data, (e) the evaluation of whether their predictions are consistent with the collected data, and (f) the drawing of inferences based on their evaluation;
2. No geographic mapping of the kill sites of several thousand deer removed over multiple years of the firearm sharpshooting in the communities;
3. No geographic mapping of the DVC hot spots on the roadways in the communities before or after the firearm sharpshooting took place;
4. No determination of deer density near the DVC road hot spots in the three cities;
5. No indication of whether the culling of the deer took place on public or private properties;
6. No indication of the number of female and male deer which were killed in each city;
7. No factual basis provided for the assumption that there was not any significant level of immigration of deer into or emigration of deer out of the communities involved;
8. No control sites used of other municipalities where no culling occurred which had similar deer densities, number of DVC road hot spots and number of overall DVCs for comparison purposes with the cities where the deer culling did occur.

In summary, without the implementation of the accepted scientific methodology and sufficient detailed critical information about the implementation of sharpshooting in the study's three communities, the observational study's conclusions are scientifically unreliable. Decision makers in another community will not be able to reasonable rely on their study and determine if a firearm sharpshooting management plan will be feasible or successful in their community to significantly reduce DVCs.

A local government's use of firearm sharpshooters to reduce a its community's deer population will be very costly and must be continuously repeated on an annual basis.

Cities have commonly contracted with USDA APHIS Wildlife Services or White Buffalo, Inc. for their firearm sharpshooting services to reduce the deer populations in their communities. The City of Solon, Ohio contracted most recently with USDA APHIS Wildlife Services. The City's cost to use their firearm sharpshooters to kill and process no more than 100

deer, during the 2023-2024 season, was $73,960 or $740 per deer killed.[18] The City of Princeton, New Jersey contracted with White Buffalo, Inc. to use their firearm sharpshooters to kill up to 115 deer, during the City's 2023 culling and with John Zampini, a local hunter, to process, remove and dispose of the resulting deer carcasses, for a combined cost of $78,230 or $680 per deer killed.[19]

In the three cities, Iowa City, Iowa, Princeton, New Jersey and Solon, Ohio, where White Buffalo conducted its culling program, their sharpshooters killed 950 deer, 1,455 deer and 1,002 deer respectively. Based on the current cost, of $680 per deer, charged by White Buffalo to kill deer, the cost to the three cities would be the following: $646,000 over three years for Iowa City, $989,000 over six years for Princeton Township and $681,000 over two years for Solon. The yearly average White Buffalo deer culling cost for the three local governments was $240,000, or a range of $165,000 to $341,000 per year depending on the yearly number of deer culled.

Local governments have continued their controlled hunting or sharpshooting programs to reduce their deer population over 10 or more years to sustain their deer management objectives.[20] The City of Solon, Ohio has reported to use firearm sharpshooters to reduce their deer population for 10 out of 12 years (2004-2016)[21] and continue to currently use sharpshooters to cull deer. In Rapid City, South Dakota, the city has conducted its "urban deer management program" to shoot between 100 - 300 deer per year for 18 out of the past 20 years.[22] Numerous other cities which started a deer population reduction program, and have continued for more than 10 years.[23]

Deer have a high reproductive rate. As a deer herd is lethally reduced, the remaining does produce additional fawns due to an increase of food for the remaining female deer, which creates a "rebound" in the population, also referred to as the "compensatory reproductive response".[24] The DNR recognizes that, "Deer productivity will increase as population is reduced."[25] According to Kugeler et al. (2016), "In most settings, a large proportion of the deer population must be removed each year to lower overall density. Lethal control methods that reduce deer populations below the local biological carrying capacity may be counteracted by increased immigration and higher reproductive capacity in areas with reduced density (Conover, 2002;

---

[18] Memo to the Safety and Public Properties Committee of the City of Solon, dated August 21, 2023, from William J. Drsek, Public Works Commissioner for the 2023-2024 Deer management Program.

[19] City of Princeton City Council Resolutions 22-340 and 23-64 (and Exhibits) approved September 27, 2022 and January 23, 2023 respectively.

[20] See for example, "Fifteen Years of Urban Deer Management: The Fontenelle Forest Experience" S. E. Hygnstrom et al. (2011) Wildlife Society Bulletin 35(3):126–136 (Majority of hunters were archers).

[21] See City of Solon, Ohio, Historical Deer Data 1994 – 2006, page 16, Deer Management Plan – Revised July 2014.

[22] Rapid City website. Go to link at www.rcgov.org

[23] Go to link at: www.deerfriendly.com/deer-population-control/perpetual-cull

[24] See Richter and Labisky (1985)

[25] Brent Rudolph and Dan Kennedy (June 7, 2011). DNR Wildlife Division. "Deer Management in Local Communities" presentation at the Meridian Township Board meeting.

Keyser et al., 2005).” A municipality’s sharpshooting culling program is clearly not a quick fix, but is probably a long-term costly commitment of 10 to 20 years to attempt to resolve human-deer conflicts in a suburban community.

The DNR’s approval of a Damage and Nuisance Animal Control Permit to kill deer without a previously determined deer density or count in a community is scientifically unsound.

In an application for a Damage and Nuisance Animal Control Permit, a municipality does not have to provide the DNR with a deer density estimate or count within its borders.[26] According to its Michigan Deer Management Plan (2016), the DNR “has shifted their management strategy from developing population estimates and goals to monitoring multiple trends [such as antlered harvest, crop damage permits, deer vehicle collisions, and habitat impacts] that reflect the direction a deer herd is changing and the impacts associated with those trends.”[27] Based on its new management strategy, the applicant does not have to present evidence to the DNR that there even exists an over abundant deer population in the community. In the application, the DNR requires a discussion “of the number of deer to be removed including supporting information for that recommendation.” The DNR also requires a description of the municipality’s “long term objectives of the sharp shooting plan” and “long term management plan.”

If the city doesn’t have to determine how many deer are present, then the city certainly is not able to decide on a percentage reduction of the deer population which would effectively result in an acceptable reduction of DVCs. Waber et al. (2013) had the following relevant observation: “Crucially, when enhanced culls have reduced numbers from an unknown high, to an unknown lesser level, the subsequent control level needed to constrain impacts within desired bounds is unknown, unless population assessment is undertaken. Consequently, deer management often proceeds based on guesswork.”

Without a deer count or an estimation of the deer density in the community, the city’s determination of how many deer need to be removed is nothing more than guesswork based on an arbitrary number. Without an understanding of an approximate density of deer within the city limits, the community would not be able to provide the DNR with supporting information for its decision to remove such an arbitrary number of deer. Therefore, the DNR would not have an objective or a sound scientific basis, based on a factually baseless arbitrary number of deer to be removed, for the approval of a nuisance permit.

Conclusion

Local government officials should understand that the community-based deer management process, and not the usual internal staff administrative process, is essential to achieving an amicable resolution among residents on the divisive public issue of whether lethal measures should be used to kill deer to reduce DVCs. There is a significant issue of whether there exists a reliable scientific basis that a long term and very costly deer culling program will effectively reduce DVCs in a local community.

---

[26] DNR Wildlife Division, Urban White-Tailed Deer Conflict Management Policy and Procedures, 2. Sharp Shooting, a.(i.)4a. at page 6.

[27] 2016 Michigan Deer Management Plan, at page 13.

In addition, the DNR's policy to only promote lethal measures to reduce statewide deer vehicle crashes has clearly not been effective to decrease DVCs during the most recent five-year period versus the previous five-year period. Average yearly 55,328 DVCs (2019 through 2023) were a 11.2% increase over average yearly 48,795 DVCs (2014 through 2018).[28] And DVCs per 100 million vehicle miles traveled (VMT) increased by 16.1% from 48.8 to 57.7 during these two sequential five-year periods. See Note 6 for the ten-year historical trend of the number of yearly statewide crashes and DVCs per 100 million vehicle miles traveled.

The governing local officials should first implement effective nonlethal traffic safety measures to reduce DVCs before deciding to implement the divisive use of firearm sharpshooters to attempt to significantly reduce the local deer population. Local governments typically request the technical advice of the DNR's staff to assist in the resolution of the deer conflicts with its residents. Unfortunately, the agency has a clear institutional bias for only the use of lethal methods. The DNR does not collaborate with Michigan's traffic safety agencies and has no expertise whatsoever on the use of nonlethal traffic safety measures to reduce DVCs.

This Position Statement is authored by:

Gary Granader, President
Advocates for Michigan Wildlife
Michigan Non-Profit
Updated: 8/18/24

NOTES

[28] According to the Michigan Traffic Crash Facts (MTCF) publication (Reports and Fact Sheets) for the Office of Highway Safety Planning produced by the University of Michigan Transportation Research Institute. Go to link at: https://www.michigantrafficcrashfacts.org/

Note 1:

Decker et. al (2004) provides the following detailed explanation of each essential element of CBDM in the "A Practitioners' Guide: Community-Based Deer Management":

> **Inclusion of multiple perspectives.**
> Deer problems evolve into public issues because a controversy develops over the problem. The root of controversy usually is a clash of values and the differing perspectives that arise from these values. Addressing the perceived needs of only one stakeholder group in a situation where a deer problem has risen to become a community concern will rarely result in resolution of the issue. What is needed to resolve community-based wildlife management issues is a process that includes multiple perspectives, encourages constructive interaction among people with diverse view points, and leads to new understandings and acceptable solutions.
>
> **A structured process for making community decisions.**
> Step-by-step decision-making processes that logically move a community from problem definition toward a mutually acceptable solution seem to be an essential element of successful problem resolution. An agreed upon, structured sequence of activity facilitates collective understanding of what is going on. Such a process imparts confidence in the effort and willingness to participate without injunction.
>
> **Universally acceptable ground rules.**
> Stakeholders should establish firm ground rules to guide their interactions in addressing a deer issue. Ground rules can be simple agreements about how people will interact. These can be as simple as respecting one another's point of view, agreeing to disagree without being disagreeable, deciding that decisions will be made based on consensus (or some other rule), and agreeing that decisions can reflect both scientific fact and stakeholders' values. In certain situations, it may be necessary to develop fairly complex ground rules to govern the process and ensure that all parties are treated fairly.
>
> **Shared understandings among stakeholders.**
> Reaching shared understandings of a community-based deer management situation typically requires stakeholders to expand their perspectives beyond personal viewpoints. This is a natural outcome of dialogue and deliberation, and can be aided and abetted by expert facilitation.
>
> **A shared, comprehensive information base.**
> Recent articulations of the wildlife management process (e.g., Decker et al. 2002) underscore the importance of an information base that includes biological and human dimensions information and insights. Such an information base is developed from scientific research, systematic evaluation, and professional experience. However, stakeholders' values, experiences, and local knowledge also are components of an information base. A robust information base is useful only to the extent that it is shared among those seeking solutions to community-based deer issues.

Disclosure of stakeholder goals.
A good starting point in community-based deer management is acknowledging that differences in initial goals may exist, and disclosing them in the spirit of collaboration. A potentially harmful move would be to oversimplify such differences. Facilitators should avoid this contrivance because the consequences almost certainly will be negative.

Belief within a community that generally acceptable goals and solutions are worth seeking.
Finding solutions with which most stakeholders will be content is not an easy task. In most local deer management controversies, quick and easy solutions are not in the offing. However, solutions can be found, and community commitment to finding generally acceptable solutions is a requisite for success. This may require creativity and inventiveness, tinkering with the details, or developing packages of actions. The vital ingredient in this recipe is a willingness to look at consequences from multiple viewpoints.

An understanding that community-based deer management is an ongoing process, not a onetime event.
This guide focuses on the process leading to a decision to undertake some management action. Professional wildlife managers and community members need to recognize from the outset that decision making is likely to be an ongoing activity. That is, even with a course set for management actions, the need persists for evaluation of progress and for fine-tuning. Treating decision making as an ongoing process is part and parcel of an adaptive impact management approach (Riley et al. 2002) to community based deer management. Engagement in community-based, collaborative decision making involves continuous learning at the community level.

Commitment to systematic evaluation of the decision-making process and subsequent management program.
As described above, the process of community-based deer management, and of capacity building to enable that activity, is an ongoing process. Adopting an evaluative approach to community-based deer management is vital to (1) practicing adaptive impact management, (2) developing communities' capacity for sustained involvement, and (3) increasing knowledge of community based management for the benefit of the profession.[29] Decker et al (2004)

Note 2.
Insight Institute, a nonprofit organization, conducted, in March, 2020, a public opinion survey of

[29] See also A Practitioners' Guide: Human-Wildlife Conflict Management (2002), Daniel Decker, T. Bruce Lauber and William Siemer, Human Dimensions Research Unit, Cornell University; Understanding and Managing Conservation Conflicts (2013); Steve Redpath et al., Trends in Ecology & Evolution, Vol. 28, No. 2.; and Environmental Conflict Resolution: Evaluating Performance Outcomes and Contributing Factors (2009), Kirk Emerson, Patricia Orr, Dale Keyes and Katherine McKnight, Conflict Resolution Quarterly, Vol. 27, No. 1.

a random sample of adult Rochester Hills residents on deer management issues in an urban setting. The following questions were asked with the corresponding answers:

> "9. The Deer Management Advisory Committee was created by the Rochester Hills City Council to make well informed recommendations to the City Council on the City's policy to manage deer conflicts and/or issues with residents. The committee is made up of seven residents, two city council members and city staff.
>
> 9A. Do you support or oppose the use of this resident led committee to make well informed recommendations to the City Council on how to manage deer conflicts and/or issues with residents?
>
> 74% Support 8% Oppose 10% Unsure 8% Don't Know
>
> 9B. Do you support or oppose the Deer Management Advisory Committee's regular recommendation to the City Council for the use of only nonlethal methods to manage deer conflicts and/or issues with residents?
>
> 71% Support 15% Oppose 6% Unsure 8% Don't Know"

Note 3:
Hardy et al. (2006) recommended the following guidelines for enhanced animal advisory signs:

- "If a DMS is used to deliver animal advisory messages, follow the guidelines on message construction provided by Dudek and Ulmann [(2001)] and Dudek [(2002)].
- If enhanced standard signs are used, use formats that are larger than usual; and consider the inclusion of flashing lights, bright flagging, and reflective backing.
- Apply signs only where there is documentation of concentrated animal movements or AVCs, understanding that driver responses will be the greatest over shorter distances [0.3 to 0.6 mi (0.5 to 1.0 km)] after they pass the signs. Enhanced signs may be used alone in high-risk areas or in conjunction with other mitigation measures, such as at the ends of animal fencing, where clusters of animal movements and AVCs may occur.
- Apply or activate signs when animal movements and AVCs peak, typically at night during the fall months. Examine data on animal movements and AVCs to confirm when the risk of an AVC is the highest at the site in question. Remove enhanced signs when this peak period of high risk has passed.
- Consider the characteristics of the driving population and favor the use of enhanced signs in areas where local motorists may be more aware of AVCs and animal movements.
- Consider the application of enhanced signs in conjunction with education outreach or public relations campaigns advising drivers of the risks of AVCs.

Note 4.
Marcoux and Riley (2010) further stated that,
"Efforts to reduce or mitigate DVCs require effective information and education programs aimed at changing driver behaviors (Stout et al. 1993, West 2008). Previous studies suggested education as a means for reducing DVCs (Allen and McCullough 1976, Groot Bruinderink and Hazebroek 1996, Romin and Bissonett 1996). Our data indicate, however, that communication planners will need to overcome underlying beliefs about DVCs before driver behaviors can be expected to change; the most important of these beliefs is about the perceived randomness of DVCs.

Communication that informs drivers that DVCs are not random events and that enables drivers to recognize environmental and other characteristics factors associated with DVCs may help them identify areas of greater risk and lead to safer driving behavior. Although participants in our study held themselves, as opposed to an agency, responsible for preventing DVCs, most also believed DVCs were unavoidable because they also believed DVCs occurred randomly. That is, drivers believe there was not much that could be done to avoid them. Most research (e.g., Finder et al. 1999, Hubbard et al. 2000, Nielsen et al. 2003, Sudharsan et al. 2009) to date within the range of white-tailed deer, however, indicates that DVCs do not occur randomly. Conveying this message may enhance the probability of drivers' behavioral changes, which could lead to fewer DVCs."

Note 5.

According to Ottawa's awareness campaign website, "Wildlife/Vehicle Collision Prevention: be alert, reduce speed, stay in control", the messaging for the program was the following*:*

"Be alert

- Scan, side-to-side, the roadway and its shoulders
- Use your high beams where possible
- Look out for light reflection from an animal's eyes
- Take notice of yellow wildlife warning signs

Reduce your speed

- This increases your time to safely react
- This decreases the distance to stop
- This decreases the possibility or severity of personal injury, should a collision be unavoidable

If wildlife crosses your path, stay in control

- Brake
- Sound your horn
- Never swerve suddenly

If you lose control, you can suffer a far greater consequence – such as a head-on collision with another vehicle.
Your best [defense] is slowing down. So, remember, Speeding Costs You . . . Deerly!"[30]

"As reported in the campaign submission to the Ontario Ministry of Transportation for the Road Safety Achievement Award, the "Speeding Costs You . . . Deerly" program, in its first year, had the following results in raising awareness of DVCs and how to prevent the crashes:

Both through earned media and advertising, the campaign created almost 28,000,000

[30] Go to link at:
https://ottawa.ca/en/parking-roads-and-travel/road-safety/road-safety-action-plan/safer-roads-ottawa-program/awareness-campaigns

possible impressions. Radio created 20,000,000 impressions and, due to frequency of four ads per day on three stations, television created 6,930,000 impressions while earned media generated almost 500,000 impressions.

A Decima Research assessment of *Speeding Costs You . . . Deerly* found that 62% of Ottawa residents recalled the campaign, and the key messaging resonated with 71% of those respondents. The survey also helped to determine how the residents received the campaign messaging. Television rated 48%, radio and the Ottawa Citizen recorded 43%, while community papers were at 16 % and the billboards had a 14% rating. Such recall is even more impressive considering in our early consultations with Decima, that considering the dollar value of the campaign's resources, staff were advised to expect a 10% or less recall. However, the survey surpassed those expectations with 43 per cent of the residents - who drive - clearly recalling the campaign. In addition, 71 per cent clearly recalled the main message to reduce speed to avoid deer collisions. And, 53 per cent of those respondents considered deer/vehicle collisions a risk on Ottawa's roadways." [31]

Note 6.
Ten-year historical trend of yearly crashes and DVCs per 100 million vehicle miles traveled:

	Statewide VMT (in Billions)	Statewide Crashes	Crashes per 100 million VMT	Statewide Crash Fatalities	DVCs	DVCs per 100 million VMT	DVC Fatalities
2014	99.1	298,699	319.8	876	45,690	46.1	6
2015	97.8	297,623	303.4	963	47,002	48.1	11
2016	99.2	312,172	315.3	1,064	46,870	47.2	12
2017	101.8	314,921	309.4	1,028	50,949	50.0	17
2018	102.4	312,798	305.1	974	53,464	52.2	14
5 year ave.	**100.1**	**307,243**	**307.1**	**981**	**48,795**	**48.7**	**12**
2019	102.2	314,376	307.6	985	55,531	54.3	12
2020	86.3	245,432	284.4	1,083	51,103	59.2	5
2021	96.7	282,640	292.3	1,131	52,218	54.0	10
2022	95.9	293,341	305.9	1,123	58,984	61.5	11
2023	98.3	287,953	292.9	1,095	58,806	59.8	19
5 year ave.	**95.9**	**284,748**	**297.0**	**1,119**	**55,328**	**57.7**	**11**

OTHER LITERATURE CITED

Allen, R. E., and D. R. McCullough. 1976. Deer–car accidents in southern Michigan. Journal of Wildlife Management 40:317–325.

Conover M. 2002. Resolving Human-Wildlife Conflicts: the Science of Wildlife Damage Management. Boca Raton: Lewis Publishers.

[31] Ottawa Police Service, "Speeding Costs You…Deerly!" A campaign to Reduce Collisions with Wildlife on Ottawa's Roadways. Submitted to the CCMTA Police Partnership Award (3/22/07).

Decker, D.J., T.B. Lauber and W.F Siemer. 2002. Human-Wildlife Conflict Management: A Practitioner's Guide. Cornell University Agricultural Experiment Station https://ecommons.cornell.edu/bitstreams/2ea4e382-2856-4f5c-9be2-9e5f5b8b4eb0/download

Decker, D.J., D. Raik and W.F. Siemer. 2004. A Practitioners' Guide: Community-Based Deer Management (2004), The Northeast Wildlife Damage Management Research and Outreach Cooperative

DeNicola, J. A. and S.C. Williams. 2008. Sharpshooting suburban white-tailed deer reduces deer-vehicle collisions. Human-Wildlife Conflicts 2(1): 28-33.

Donaldson, B.M. and Y. Kweon. 2019. Effectiveness of Seasonal Deer Advisories on Changeable Message Signs as A Deer Crash Reduction Tool. Virginia Transportation Research Council. http://www.virginiadot.org/vtrc/main/online_reports/pdf/19-r8.pdf

Dudek, C. L., and G. L. Ullman. 2001. Guidelines for Changeable Message Sign Messages: Annotated Bibliography. FHWA report. National Technical Information Service, Springfield, Va.

Dudek, C. L. 2002. Guidelines for Changeable Message Sign Messages. FHWA report. National Technical Information Service, Springfield, Va.

Finder, R. A., J. L. Roseberry, and A. Woolf. 1999. Site and landscape conditions at white-tailed deer/vehicle collision locations in Illinois. Landscape and Urban Planning 44:77–85.

Groot Bruinderink, G. W. T. A., and E. Hazebroek. 1996. Ungulate traffic collisions in Europe. Conservation Biology 10:1059–1067.

Hardy, A., S. Lee, and A. F. Al-Kaisy. 2006. Effectiveness of Animal Advisory Messages on Dynamic Message Signs as a Speed Reduction Tool Case Study in Rural Montana. Transportation Research Record: Journal of the Transportation Research Board, No. 1973, Transportation Research Board of the National Academies, Washington, D.C., pp. 64–72.

Hubbard, M. W., B. J. Danielson, and R. A. Schmitz. 2000. Factors influencing the location of deer–vehicle accidents in Iowa. Journal of Wildlife Management 64:707−713.

Huijser, M., C. Mosler‐Berger, M. Olsson and M. Strein. 2015. Chapter 24, Wildlife Warning Signs and Animal Detection Systems Aimed at Reducing Wildlife-Vehicle Collisions. Handbook of Roadside Ecology, pp. 198-212.

Keyser P.D., D.C. Guynn, Jr, H.S. Hill, Jr. 2005. Density dependent recruitment patterns in white-tailed deer. Wildlife Soc. Bull. 33:222–232.

K. J. Kugeler, R. A. Jordan, T. L. Schulze, K. S. Griffith and P. S. Mead. 2016. Will Culling White-Tailed Deer Prevent Lyme Disease? Zoonoses Public Health Aug;63(5):337-45.

Marcoux, A., A.G. Hicking, S. Riley and S. Winterstein. 2005. Situational and Driver Characteristics Associated with Deer Vehicle Collisions in Southeastern Michigan Proceedings of the 11th Wildlife Damage Management Conference. (D.L. Nolte, K.A. Fagerstone, Eds).

Marcoux, A. and S. Riley. 2010. Driver knowledge, beliefs, and attitudes about deer-vehicle collisions in southern Michigan. Human-Wildlife Interactions 4(1):47-55.

Nielsen, C. K., R. G. Anderson, and M. D. Grund. 2003. Landscape influences on deer–vehicle accident areas in an urban environment. Journal of Wildlife Management 67:46−51.

Richter, A.R. and R.F. Labisky. 1985. Reproductive Dynamics among Disjunct White-Tailed Deer Herds in Florida, The Journal of Wildlife Management, Vol. 49, No.4.

Riley, S. J., D. J. Decker, L. H. Carpenter, J. F. Organ, W. F. Siemer, G. F. Mattfeld, and G. Parsons. 2002. The Essence of Wildlife Management. Wildlife Society Bulletin 30:585–593.

Riley, S.J. and A. Marcoux. 2006. Deer–vehicle collisions: an understanding of accident characteristics and drivers' attitudes, awareness and involvement. In: Report No. RC-1475. Michigan Department of Transportation Construction and Technology Division.

Romin, L. A., and J. A. Bissonette. 1996. Deer–vehicle collisions: status of state monitoring activities and mitigation efforts. Wildlife Society Bulletin 24:276–283.

Stout, R. J., R. C. Stedman, D. J. Decker, and B. A. Knuth. 1993. Perceptions of risk from deerrelated vehicle accidents: implication for public preferences for deer herd size. Wildlife Society Bulletin 21:237–249.

Sudharsan, K., S. J. Riley, and H. Campa III. 2009. Relative risks of deer–vehicle collisions along road types in southeast Michigan. Human Dimensions of Wildlife 14:1–12.

Sullivan, T.L., A.F. Williams, T. Messmer, L. A. Hellinga and S.Y. Kyrychenko. 2004. Effectiveness of Temporary Warning Signs in Reducing Deer-Vehicle Collisions during Mule Deer Migrations. Wildlife Society Bulletin (1973-2006), Vol. 32, No. 3, pp. 907-915.

Wäber, K., J. Spencer and P.M. Dolman. 2013. Achieving Landscape-Scale Deer Management for Biodiversity Conservation: The Need to Consider Sources and Sinks. Journal of Wildlife Management 77(4):726-736.

West, B. C. 2008. Echinacea and deer whistles: science and trust in the wildlife arena. Human–Wildlife Conflicts Vol. 2, No. 1, 7–8.

ATTACHMENT ONE

City of Rochester Hills Deer Management Implementation Plan for 2010

City of Rochester Hills

DEER MANAGEMENT IMPLEMENTATION PLAN for 2010

October 2009

2010 RECOMMENDATION #1
FEEDING BAN ORDINANCE

The Rochester Hills City Council passed an ordinance in September 2008 preventing the feeding of wild animals other than birds. This feeding ban is intended to reduce the current travel patterns of deer from their natural habitat into subdivisions where feeding stations and bait piles were provided.

The supplemental feeding of wildlife is disruptive to their natural feeding habits. While some residents enjoy recreational viewing of deer; this action is detrimental to the animals, attracts predators and nuisance species (raccoons, coyotes, rats, etc.); and can draw deer seeking food to cross heavy traffic areas, causing deer-vehicle accidents. This ban is to continue for 2010.

Safety Issues

The implemented feeding ban should help reduce the concentration of deer at any single location, help prevent nose-to-nose contact resulting in the spread of disease (i.e. bovine TB, Lyme disease), and possibly reduce the number of deer-vehicle collisions in Rochester Hills.

Costs

Clerical and ordinance enforcement costs related to answering complaints for noncompliance and staff time related to the prosecution of repeat violators. No overtime hours are currently anticipated, but total time would be entirely dependent on the volume of incidents.

Effective Herd Reduction

There may be a small decrease in the fawn birthrate as available food becomes limited to surrounding habitat. Potentially, a small increase in the actual existing herd could be realized due to lessening of the deer mortality rate by fewer accidents.

City Commitment

The city will continue to educate residents of the need and purpose of the new ordinance through various sources: cable TV, Hills Herald publication, notes on water bills, etc.; publicly defend the feeding ban as a means of reducing deer-vehicle accidents, property damage, and potentially lowering the birthrate; send public reminders to residents to ensure awareness of the ordinance; and strongly enforce the ban to ensure compliance.

2010 Action Plan

An article is scheduled to appear in the Fall Edition of the Hills Herald, information on the ban will be shown on Channel 55/10 and placed on the city's

website, and a note will be put on water bills to remind residents of the city's deer feeding ban. Any reports of deer feeding within the city will be investigated and enforced by Ordinance Enforcement.

2010 RECOMMENDATION #2
EDUCATIONAL COMPONENT

The city will expand the information and programs available to residents on the deer problems in our city and provide additional information on fencing, plants rarely damaged by deer, deer repellents, as well as offer other suggestions, references, and guidelines to homeowner associations and individual residents on effective means to limit the nuisance deer and damage to their property and on avoiding deer-vehicle accidents.

- The city will target their educational focus on the peak deer activity months of September through December and the hours of dawn and dusk.
- The city will designate October as "Deer Awareness Month."
- The city will offer more homeowner tactics, seminars, and programs on dealing with the city's deer population.
- The Parks & Forestry Department will report to the Mayor and City Council in June 2010 on the status of the educational components, aerial flyover results, and SEMCOG deer/vehicle crash (DVC) data.
- The city will disseminate updated deer information on its website and cable station and provide a range of deer resources for residents. The website will provide a link to SEMCOG's "*Don't Veer for Deer*" program.
- The city will continue to seek developing information on deer/vehicle crashes and deer count surveys.
- The city staff will keep a log of deer calls/complaints and include that information in future reports.

Safety Issues

There are no safety issues associated with increased education of the issues.

Costs

- City staff time during normal working hours for classes, presentations, or inquiries as well as video production time for cable programs or DVDs on effective deer deterrents and general information.
- Printing and mailing costs for brochures on Deer Management (estimate: $6,700).

Effective Herd Reduction

Educating the public on all the measures of the city's deer management plan could be the most important factor in reducing deer complaints, property damage, and deer-

vehicle collisions. Following and maintaining all these measures over the years will help to attain the goal of increasing the "social carrying capacity" of Rochester Hills' residents toward the deer.

City Commitment

The city will continue an ongoing program informing residents of deer management procedures, and offer helpful recommendations. The city will provide further information through programs, cable programming, on its website, on its cable channels, etc. The Administration and City Council should also show unified support for this Deer Management program and its various components and continue to monitor its effectiveness and make any appropriate modifications. *(See: Additional Recommendations for 2010, Citizens Resource Group, page 9.)*

2010 Action Plan

The Mayor and City Council have designated October as "Deer Awareness Month." The city's website placed a link to SEMCOG's "Don't Veer for Deer" information. The EEC is compiling a master list of volunteers and will dispatch 2-3 volunteers to talk with homeowners that call with deer complaints. After appropriate city training, these volunteers will provide information, suggestions, and samples of repellents to those residents who are having problems with deer in their yards. All resident calls on deer (nuisance deer and dead deer) will be documented and forwarded to the EEC. Dead deer on county roadways will be forwarded to the Oakland County Road Commission for resolution. Dead deer on private property remain the responsibility of the property owner, while dead deer on city roadways will be forwarded to and handled by the Department of Public Service.

2010 RECOMMENDATION #3
IMPROVED SIGNAGE AND ROADSIDE DETERRENTS

Improving the signage on city and county roads warning motorists of deer crossing areas could potentially reduce deer-vehicle collisions. The city will continue to examine current signage and countermeasures to identify any needed modifications and could test new cutting-edge innovations or deterrents. The change to higher visibility signs in hot spot areas was completed by mid-October 2009.

In addition,

- The city should identify areas alongside major roads where high growth brush clearing would be helpful to increase visibility and notify the property owners with recommendations on how they could improve the sites and reduce DVC's.

- The city should identify areas alongside major roads where deer fencing could be an effective deterrent to DVC's and notify property owners on how that could help reduce accidents. This could possibly be a good program for donations or grants.
- The city should identify high deer/vehicle crash areas and increase public awareness of these areas.
- The city will consider emphasizing deer signage during the peak deer/vehicle crash months of September through December and will consider using flashers (similar to school crossing signs), lights, or flags during the peak times of 5-8 am and 5-8 pm to make them more effective. This could also be a good idea for a grant or study program.
- The city should continue to partner with Oakland University to consider brush removal along the high deer/vehicle crash areas adjacent to their property.

Safety Issues

MDOT and RCOC regulations for sign placement and construction would be followed. All policy recommendations should go through the Advisory Traffic and Safety Board for comments, questions, and concerns.

Costs

- Costs per sign multiplied by the number of signs plus the costs of installation would range from $250 - $3,000 per sign.
- MDOT, RCOC, grants, and SEMCOG could share some or all of the costs on roads under their jurisdiction.

Effective Herd Reduction

Although it would not cause an actual reduction in the deer population, this component could help reduce the number of deer-vehicle collisions in our city.

City Commitment

The city would construct, install, and maintain the signs placed along the city's major roadways. City staff would also assess any newly tried signage or countermeasures for their effectiveness.

Other state and county agencies are encouraged to upgrade their existing signage or try innovative countermeasures to reduce accidents on roadways under their jurisdiction as well.

2010 Action Plan

Engineering Division is working with the Oakland County Road Commission to bring in portable signs and we will determine the best locations for placement based on the most recent deer-vehicle crash data. These movable signs will warn

motorists during the fall rut to be on the lookout for increased deer activity and to remind them to be cautious and to drive with care. The city will continue to work with Oakland University and other landowners to identify and modify areas of excessive brush along major roads to increase visibility and reduce deer-vehicle crashes.

2010 RECOMMENDATION #4
RECREATIONAL AND PROFESSIONAL BOW HUNTING BAN

The city will continue to ban recreational bow hunting in Rochester Hills. In addition, the city will not permit qualified bow-hunting businesses on public or private property in 2010.

Safety Issues

There are no safety issues associated with continuing the bow hunting ban for 2010.

Effective Herd Reduction

There would be no impact on the deer herd numbers in Rochester Hills if the ban is continued.

2010 Action Plan

Information on the recreational and professional bow hunting ban will be placed on the city's website and on Channel 55/10.

2010 RECOMMENDATION #5
AERIAL DEER COUNT SURVEYS

In an effort to monitor the deer population in the city, annual aerial deer count surveys should be continued. These surveys aid in evaluating the effectiveness of the city's Deer Management program as well as contribute valuable data for future decision-making regarding this program. The data from the aerial surveys will be available for review by an outside agent.

Safety Issues

There are no safety issues associated with continuing the aerial deer count surveys for 2010.

Costs

Previous surveys have cost the city around $725 - $825. With current higher fuel prices, these costs could rise. Costs would also be greater if more acres are surveyed.

Typically we join in with Oakland County; they set up the bid process and select the company. Approximately 12 hours of park staff time would be required for each survey.

Effective Herd Reduction

The surveys would not be directly responsible for any deer herd reductions, but would be used as a tool for evaluating the implementation of the various deer reduction methods.

2010 Action Plan

The EEC will work with Oakland County to coordinate an aerial deer count survey of the same parcels as last year for comparison. The information will be given to the Deer Management Advisory Committee for review and to note any trends.

2010 RECOMMENDATION #6
MONITORING DEER-VEHICLE COLLISIONS

Monitoring the number, locations, and time of deer-vehicle collisions is an important step in obtaining qualitative information needed to evaluate the effectiveness of the various components of the Deer Management program. Tracking this information can be used for comparison purposes with previous years to determine which components were most effective. The city should continue monitoring the deer/vehicle collisions as provided by SEMCOG and encourage more timely reports even if the data is only preliminary numbers. The final audited (by Michigan State Police) report should be included in the Parks report to City Council in June 2010.

Safety Issues

This information can contribute to the safety of city motorists by identifying accident hot spots and making motorists aware of these locations so extra caution can be used.

Costs

This monitoring would require minimal cost to the city since members of SEMCOG can access this information free of charge. City staff time would be needed to compile this data, but this task should be completed during normal working hours.

Effective Herd Reduction

This would not be a deer herd reduction tool, but would aid in the decision-making process regarding the effectiveness of deer reduction methods used.

City Commitment

The city would need to remain a SEMCOG member ($9,250 membership fee) to access their data and would need to commit staff time to compile this data.

2010 Action Plan

The EEC will work with SEMCOG to obtain information on deer/vehicle collisions in Rochester Hills. This information will be given to the Deer Management Advisory Committee to note any trends and will be shared with Engineering to assist with determining which roads should have portable signs placed.

ADDITIONAL CONSIDERATION – SHARPSHOOTING

A proposal in 2008 offering assistance from the Oakland County Sheriff's Office (OCSO) to remove deer was adopted and a limited program was implemented in the winter of 2009. A sharpshooting program, when successful, is an effective means of immediately removing deer from the population. However, due to the apparent reduction of the deer herd identified by the January 2009 flyover and recent SEMCOG DVC data, the city will not use sharpshooters or any other lethal culling methods in 2010 to reduce the deer herd in Rochester Hills. The city should continue to monitor SEMCOG's deer/vehicle accident rates with the understanding that if the trend increases and reaches the 200 annual DVC number and if the previous annual aerial survey trends up by 20% or more, the city should seriously reconsider the use of lethal methods or reassess solutions to reduce the deer population and implement a plan accordingly.

2010 Action Plan

No lethal methods of culling will be used in Rochester Hills in 2010 to decrease the deer herd. This option will be reviewed after the deer/vehicle collision numbers and aerial count surveys are received. This option will be reconsidered for 2011 if deer/vehicle collisions exceed 200 and if the aerial deer count survey trends up by 20% or more.

ADDITIONAL RECOMMENDATIONS FOR 2010

Deer Management Advisory Committee

City Council has expressed interest in continuing the Deer Management Advisory Committee in 2010 to meet prior to the June Report to review the numbers of deer/vehicle crashes and aerial counts and make any recommendation to City Council for future modifications to the Deer Management Plan. The purpose and charge of this committee for 2010 will be to review all current data and make recommendations for 2011 Deer Management Plan action items.

Citizens Resource Group

The city will form a Citizens Resource Group of qualified volunteers to assist residents in implementing helpful practices for dealing with landscaping problems due to nuisance deer. Interested volunteers will need to attend a brief training session prior to assisting with the Citizens Resource Group. The EEC will keep a master list and will dispatch 2-3 volunteers to individual home locations to share with homeowners "best practice" information, websites, and free samples provided by suppliers of deer deterrents. Follow-up questionnaires will be used to track the impact and satisfaction levels of this 2010 program.

Regional Wildlife Management Committee

The Mayor's office and the Parks & Forestry Department will initiate contact with the surrounding member communities, Oakland University, and other wildlife management agencies to indicate their level of interest in forming a standing regional Wildlife Management Committee to help coordinate suburban wildlife management policies throughout the area and to make "best practices" information available to our residents. The goal will be to maintain a healthy and diverse wildlife and wildlife habitat that can be sustained and to instruct residents on how best to live with the existing wildlife found throughout our region.

ATTACHMENT TWO

OHSP website page “Deer-Vehicle Crashes”

MSP

Deer-Vehicle Crashes

Nearly 2 million deer make up Michigan's deer herd. Deer are most active from April through June and from October through December. During those months, most vehicle-deer crashes take place, although such crashes are a year-round problem.

In 2021, more than 50,000 vehicle-deer crashes occurred across Michigan in rural, suburban, and city settings. About 80 percent of those crashes were on two-lane roads. Because deer are most active at dawn and dusk, it is not surprising that most traffic crashes involving deer happen from 5 a.m. to 8 a.m. and 5 p.m. to 10 p.m.

Avoiding Deer

A vehicle crash with a large animal can be just as destructive as one with another vehicle. The most serious vehicle-deer traffic crashes occur when drivers veer to avoid the animal and hit another vehicle or a fixed object such as a tree or the vehicle rolls over.

- Stay alert, awake, aware, and sober, and drive at safe speeds.
- Notice where deer crossing signs are posted, which alert drivers of the possible presence of deer.
- Be aware of your surroundings, and be prepared for deer to dash out in front of you.
- Scan the roadside while driving, especially woodlots, fencerows, field edges, and areas near water, which deer use for feeding.
- Slow down. Be prepared to stop if deer are near the road. If a deer stops and stays on the road, do not try to go around it.
- Deer typically follow one another in single file, so if you see one deer, there are likely more nearby.
- Use high-beam headlights and additional driving lights to see the road better.
- Look for the reflection of headlights in a deer's eyes and deer silhouettes on the shoulder of the road.

Motorists

- Always wear your seat belt, and make sure your passengers wear their seat belts.

If a crash is unavoidable…

- Do not veer! It is instinct to do this, but trying to avoid a deer may cause a loss of control of the vehicle and a more serious traffic crash.
- Brake firmly, and try to stay in your lane.
- Hold the steering wheel with both hands, and bring your vehicle to a controlled stop.

Motorcyclists

- Cover the brakes to reduce reaction time.
- Avoid riding at night and during dawn and dusk, the peak hours of deer movement.
- If riding in a group, spread out in a staggered formation. If one rider hits a deer, it will lessen the chances that other riders will be involved.
- A rider's best response when approaching a deer is to use both brakes for maximum braking. Keep your eyes and head up to improve your chances of keeping the bike upright.

If a crash is unavoidable…
- Use both brakes progressively, and come to a quick complete stop. If stopping is not an option, then without using brakes, swerve in the opposite direction the deer was heading, and slow down or come to a complete stop.

What to Do if You Hit a Deer

Motorists
Turn on your emergency flashers, stay buckled up, and move your vehicle to the shoulder of the road if you can. If you cannot drive your vehicle, carefully exit it, and stand at the side of the road out of the way of oncoming traffic.

Motorcyclists
If you can, remove your bike from the road. Get yourself to a safe place away from the road and oncoming traffic.

Motorists and Motorcyclists
Call the police to report the vehicle-deer crash. Be prepared to tell them:
- Your location.
- If there are any injuries to you and/or your passengers.
- If other vehicles have also been involved.
- If you think the deer is alive or dead and if it is blocking the road.
- Stay away from the deer. A wounded, frightened deer could be dangerous.
- After help arrives and if possible, document the incident, damage, and injuries in photographs.
- Do not assume your vehicle is safe to drive. Look for damage. Be prepared to call for a tow truck.
- Call your insurance company to report the vehicle-deer crash. You may need a police report number to start your claim.

Remember to buckle up. Seat belts are motorists' best defense in the event of a crash.

Deer brochure available
The OHSP has produced a brochure titled "Don't Veer for Deer," with helpful information about deer-vehicle crashes and how to avoid them.