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City of Mentor

MENTOR CITY COUNCIL WORK SESSION January 31, 2012

The meeting was called to order by Council President Marn at 5:30 P.M. immediately followed by the Pledge to the Flag.

ROLL CALL:

Carolyn P. Bucey, Ward 2 Councilwoman
Janet A. Dowling, Councilwoman-at-Large
Ray Kirchner, Councilman-at-Large
John A. Krueger, Ward 4 Councilman
Bruce R. Landeg, Ward 3 Councilman
Scott J. Marn, Councilman-at-Large
Robert M. Shiner, Ward 1 Councilman

ALSO PRESENT:

Elizabeth A. Limestahl, Clerk of Council
Kenneth J. Filipiak, City Manager
Anthony Zampedro, Assistant City Manager
Matt Schweikert, Public Works Director
Lorne Vernon, Public Works Supervisor
David Malinowski, Finance Director
David Swiger, City Engineer
Daniel Llewellyn, Police Chief
Richard Harvey, Fire Chief
Abe Bruckman, Grants Coordinator

GUESTS:

James Bissell, Cleveland Museum of Natural History
Rick Tyler, Cleveland Metroparks
John Grantham, Lake Metroparks

The Clerk of Council confirmed that notice of the meeting was given in conformity with the Ohio Revised Code Section 121.22.

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DEER MANAGEMENT:

Mr. Filipiak submitted a report to Council which outlines the need for deer management in the community, wildlife in general, the goals of any program the City would establish and options for deer management. The Administration continues to receive comments for and against a management program.

Dr. James Bissell, Coordinator of Natural Areas, Cleveland Museum of Natural History – Mentor Marsh is one of 30 nature preserves they oversee. There is a deer problem everywhere. In 1986, they noticed that wildflowers were disappearing. There are no shrubs left in the understory, which takes out a lot of birds. Butterflies are also disappearing. Once you are far along in the process, it is difficult to bring the forest back. Twinsburg used to have the worst problem, but Mentor is rivaling that and Avon and Solon. They recommended to Hunting Valley in the 1990s that they should do something. They initiated a hunt immediately. There is always controversy. You should not be able to see through woods as you do around here. They allow people to hunt on their preserves. Last year, 67 deer were taken off their preserves. Private hunters have come into some preserves to hunt. This city is in disaster mode at this point. The preserve is being hurt.

Councilman Kirchner asked what caused this all of a sudden. Dr. Bissell noted that deer were removed from the State of Ohio and were on the verge of being extricated. They came back in the 1920s and were possibly reintroduced intentionally. Natural predators (mountain lions and wolves) were controlled and taken out as well. The main predator of deer now is an automobile. The only good control is intervening through deer management. Twinsburg initiated a program 5-6 years ago and have been successful. Mentor deer have become runts due to starvation.

Councilman Kirchner asked if the numbers now are higher than they should be. Dr. Bissell answered yes. Carrying capacity is 12 deer per square mile. Mentor's average is 33 per square mile. Presque Isle began control in 1989. A response was seen in the form of endangered species recovering. Biodiversity is being threatened here.

Councilwoman Dowling asked if residents feeding deer in neighborhoods could lead to more automobile accidents as they are drawn closer to the roads to feed. Dr. Bissell noted his expertise is as a botanist, but once the disaster is created, it only takes a few deer to maintain the disaster. Once the native shrubs, wildflowers and grasses are removed, the deer numbers need to be taken down below the average number to bring it back. They spent a lot of money building fences on preserves in an attempt to preserve the biodiversity.

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Councilman Shiner noted that Mentor is 26 square miles and asked how the 12 per square mile average is derived and does that number differ from rural to residential areas. Mr. Filipiak said that the research conducted has shown that a number between 10-15 is the number that any natural habitat can support on an ongoing basis. The number tends to be lower in urbanized areas. Deer will move around within their range to feed.

Rick Tyler, retired from Cleveland Metroparks as a Natural Resource Manager – They began working with deer in 1981 in the western parks when buildup of social family groups and browse lines were noticed. Five years ago, 30 deer per square mile was average for deer control. Once you have damage, recovery is another system. Deer management for Cleveland Metroparks includes vegetation impacts by deer and deer biology. There are 14 reservations in the Cleveland Metroparks, but they only cull in 8 of those based on contiguous forest tracks. Deer browse and deer impacts have completely shut off forest succession in 6 of the 8 reservations.

Councilman Shiner asked if we should just be looking at our parklands to get a density figure for the whole city compared to reviewing 26 square miles. Mr. Tyler said that number is applied uniformly across the park districts. That applies to developed and undeveloped areas. Mr. Filipiak said the flyover is the only hard data we have. He would recommend that City focus efforts on areas suspected to have more habitat and more likely to have the biggest herds. While the flyover is good data, that is only a snapshot in time. Deer tend to move and could be overcounted. Good counts need to be derived for the entire City. The City's ability to obtain a permit to engage in any activities require that data. That does not apply to opening up certain sections of the City for hunting during the regulated season, but any initiated efforts or culling by the City require good information.

John Grantham, Chief of Park Operations, Lake Metroparks – Veteran's Park is 100 acres with 32 of that being water. In 2002, the average deer density was 150 deer per square mile. This year it was nearly 270. They have been watching this situation for a long time. It is not a new issue, but is very controversial and emotional. They looked into a culling program this year and have done a lot of legwork.

Councilman Kirchner asked about the venison. Mr. Grantham said community food banks will accept the meat. A local processor can process the meat at a reduced rate.

Councilwoman Dowling indicated a resident told her that meat is not USDA approved for donation to a food bank. That has not been the experience according to Mr. Grantham.

Mr. Filipiak said the Cleveland Metroparks and the City of Solon have current culling programs. There has not been a problem with distribution of the meat according to representatives. One deer can feed up to 200 people.

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Councilman Shiner asked about the fees for processing the meat. Mr. Filipiak said that is an estimate cost based on one group they have contacted. Solon put the process out to bid. They pay for it based on the number of pounds processed.

Councilman Landeg noted that the deer population in Mentor is about half the size of healthy deer. A resident told him that deer were imported and raised on a farm in the Headlands.

Councilwoman Dowling indicated that the Sawyer Farm used to raise Korean deer. After Mr. Sawyer's passing, the deer were relocated and did not remain in Mentor.

Mr. Bissell noted he has watched the deer decrease in size as the herd grew and they had to compete with one another for food.

Mr. Filipiak noted there are several communities in the region that allow for hunting during the regulated hunting season. In order for Mentor to engage in that, Council would need to allow hunting in the City limits during bow season, which runs from September through early February. To the best of his knowledge, no one is doing rifle hunting other than through the two culling programs noted. Solon utilized a private company of sharp shooters for several years. This year, they are going with of program through the United States Department of Agriculture. Solon spent approximately \$500 per deer during their early culling program. The cost has gone down in recent years. It is hard to gauge Mentor's problem compared to Solon because the historical data is not available. In 2005, Solon removed as many as 600 deer. Those numbers and costs come down annually as the herd is reduced. They averaged \$150,000 a year over a five year period using the professional sharp shooters. The contract with the USDA this year is around \$130,000. The Administration feels that if Mentor were to move on with a culling program, in-house resources (Mentor Police Department sharp shooters) could be utilized as the lowest risk option. The primary costs would be in additional training and manpower costs associated with the program. They would look at areas of easy access, large tracts of land that could be easily closed off and restricting access. They would anticipate cooperation of the Natural History Museum to gain access to their property for the same effort. Sharp shooters would aim from elevated positions with all shots directed groundward for low chance of variance. Fragmented ammunition would be used to avoid ricochet possibilities. Tracking equipment would be used to follow any wounded deer. Harvested meat would be directed to regional food banks. Any type of plan would need to be clearly outlined in a deer management plan that supports a deer management control permit issued by ODNR, who must be satisfied that the community is prepared and has the expertise in place to manage a program. The program would include more than just a culling effort. It includes identifying the objectives of the program and goals, a demonstration of the need in the community and a timetable for implementation among

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other supporting documents. It is not an easy process, but it is very thorough.

Councilman Shiner asked how a program is established to help the majority of the City while not hurting portions of the City. Mr. Filipiak said you cannot take a deer count from one area of the City and apply those numbers to the remainder of the City because deer tend to stay around their home range. The City needs to have good information by identifying areas of concern through different counts, complaints, the most property damage, browse lines and loss of native species. There are multiple ways to count and different costs are associated with each. More information needs to be collected before the City can gain approval for any type of culling effort. This is a long term process. If the City moves forward with a deer management program that includes herd reduction, it must be continued. Culling is the most tried and true method of deer control. Council may choose to open up portions of the City to hunting for the purposes of managing herd size once the herd is reduced. In order to maintain an appropriate count, it is estimated that the herd must be reduced by 30% annually once the point at which you are comfortable is achieved.

Councilman Kirchner said he understands that study is needed, but this is not new. Council has been looking at options for years. He suggested doing something now in the interim in areas where there are known problems, while other areas are being reviewed. The public has overwhelmingly supported actions. There are no natural predators and deer have become accustomed to humans. He recommended that it be illegal to feed the deer (or any wild animals) in Mentor. That can be done in tandem with a program. He does not want to hold off on doing something and take the risk of a serious injury due to a car accident with a deer.

Council President Marn asked if the program were to start in a few different park areas, how do you control the residential areas. Mr. Filipiak said if the herd is successfully reduced in size, then those deer in residential areas will (over time) move back into the places they should be. The key is to begin the process of habitat restoration in areas where deer are expected to be so they leave the neighborhoods.

Council President Marn asked if the annual costs are anticipated to drop. The funds allocated to deer management could be spent on road work and additional police officers, so he asked how the program evolves in the future. Mr. Filipiak said that the City is able to act and do some things now. It should be understood that this is a big commitment. The process is not as simple as making a decision to move forward. The permitting process is significant. The City can discuss traffic management issues and other options and the City can open up the City to hunting during the regular hunting season. While that is not the best way to reduce the herd, it may be a place to start. The culling process

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is a more difficult hurdle. The application process for the permit for culling can begin now. Culling programs typically run the same time frame as the hunting season, which begins in the Fall. He has a sample ordinance prohibiting the feeding of deer and undomesticated animals that Council can consider as well. It is all part of a comprehensive program to deer management.

Councilman Shiner said he feels that verification of deer count throughout the City should be done before culling in just one portion of the City. This is not about one ward in the City, it's about the whole City.

Councilman Krueger said Ward 4 residents have been waiting for years for something to be done on this. The figures given represent Ward 4 at this time. He agreed with Dr. Bissell in that once the biodiversity is restored, the proper limit is reached. That may not be figured out at this point. He does not want to jump into anything too quickly, but he does want to jump start something at least in Ward 4. Mr. Filipiak said he is unsure if the information currently collected is enough to support getting the permit. This is all good information, but Council must first authorize the application to start the process.

Councilman Krueger said the statements of the professionals brought in this evening indicate that something must be done.

Councilwoman Bucey asked what type of time commitment is necessary for a program, when are benefits seen after a program is started, how quickly do negative aspects return if a program is stopped and ideally where should deer be located within a community. Mr. Filipiak reported that data from Solon's efforts does not indicate changes to the biodiversity, but in 2005, they removed 602 deer and 400 deer in 2006. Numbers dropped significantly in following years. In years leading up to the culling efforts, they had 165 deer/vehicle related accidents. In 2005, when the program started, that dropped to 119. The second year of the program, it dropped to 85 and went as low as 45 in 2009. The ratio of deer per square mile was 45 before the program started, dropped to 37, 24 and stayed in the low 20s until 2010. They took a two year hiatus from the culling efforts and the numbers bounced back up to 34 and 35. They are resuming efforts this year. The only thing that controls the population is mortality as there are no known natural predators in environments such as Mentor. The deer herd in Ohio is around 750,000 right now, with one third of that culled through hunting programs and/or accidents. Mr. Tyler added that culling is a program that should be continuous. There is no termination point. Herd health can return to normal after culling efforts. Deer are a part of the forest ecosystem and should be there, but there is a point where the balance can be lost.

Councilman Landeg noted that the Metroparks and the Natural History Museum are landowners; therefore, they are stakeholders in this process and partnerships with the City need to be maintained.

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Mr. Filipiak stated they work cooperatively with these organizations on the restoration of the Mentor Marsh to its natural habitat. Progress is slow, but steady toward grant funding. If the sources of contamination (salt) and phragmites could be removed, the deer problem would still exist.

PERSONS BEFORE COUNCIL:

Janet Pruzinsky, 4850 Orchard Road – Asked that something at least be started.

David Lowe, 4695 Wake Robin Road – Something has to be done. There is no room for deer in residential areas. Property values are declining. Residents cannot grow any plants. It should be City Council's responsibility to take care of it and protect residents' property.

David Legg, 4747 Orchard Road – Echoed previous comments. Need laws against feeding deer. Deer do not need to be fed by humans. He has no sympathy for the deer. People will start taking things into their own hands, which can be dangerous.

David Bower, 6175 Hopkins Road – 20 year resident. Deer cause damage to plants and car accidents. The safety of the residents needs to be addressed. The deer are surviving because of people's yards, but it is not a healthy herd. Disease is possible. The City needs to protect people first. Permits can be sold to bow hunters to raise funds.

Earl Lauridsen, 5959 S. Shandle Blvd. – 25 year resident. Lives behind the golf course and near wetlands. On his third effort at landscaping. Neighbor at 5969 S. Shandle corn feed the deer daily. There is a cost and aggravation attached to the deer problem. His neighbor has been involved in two accidents involving deer in the past several months. There needs to be an ordinance against feeding deer in the City. He has raised his bird feeders 12 feet to keep them out of reach of the deer.

Lee Homyock, 8937 Lake Overlook Drive – Was in Park Resource Management for 30 years and is the Park Manager for Painesville. Hit a deer the other day. They have had to take their bird feeders down due to the 12 deer they have in their yard regularly. New Jersey had this same problem in the 1980s. They use a bow hunting approach and sold permits. He suggested a continuous culling program.

Carole Clement, 8371 Villa Marina Court – Commended City Manager on the facts and figures presented and his solution of using the Police sharp shooters and not exporting jobs. There is a terrific problem here needing serious and drastic steps to solve. She noted that a sizeable portion of Mentor residents are behind the City.

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Mr. Filipiak said it would be helpful to start a database of complaints and property damage concerns that are brought forward. He presented a map of the City outlining areas of more than 5 acres to give a sense of where hunting would be allowed if permitted by Council. The areas are well distributed throughout the City and do not include heavily developed areas.

Mr. Bruckman announced that the City is working with NOACA in getting Federal funds for transportation related projects and programs. NOACA conducted a survey in a five county area that looked at animal/vehicle collisions. Mentor ranked number one in animal/vehicle accidents over a three year period. The City is working with NOACA to prepare an application for funding assistance for a pilot technology program in the State. Specific areas of concern were identified as Hopkins Road and Lakeshore Boulevard. The technology includes battery operated sensor devices that utilize beams to emit a sound and flashing lights to deter deer. The cost to install the equipment is between \$10,000 - \$20,000 per linear mile. The project area for Hopkins and Lakeshore is approximately 1.5 miles.

Councilman Shiner asked if there are any devices that would warn a driver of deer presence. Mr. Filipiak said alert lights or message boards are available.

Mr. Filipiak stated that much of what the Administration wants to do requires legislation by Council.

MOTION BY COUNCILMAN KIRCHNER, second by Councilwoman Bucey to adjourn.

Meeting adjourned at 7:41 P.M.

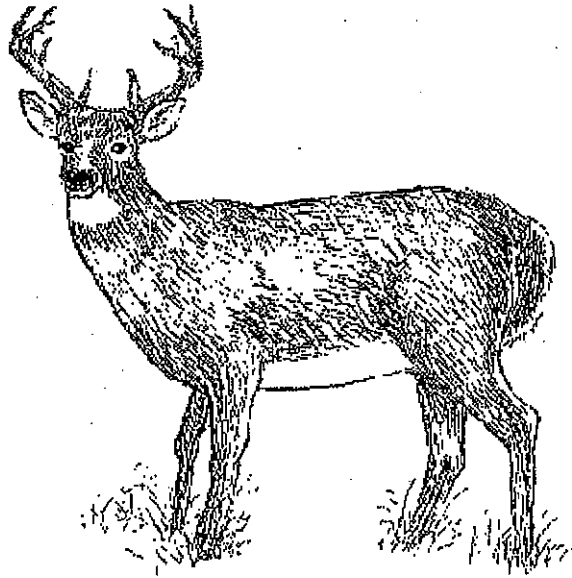
President of Council

ATTEST: _____
Clerk of Council

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**A Report to Mentor City Council on
Considerations for a Deer Management Program**



Submitted by Kenneth J. Filipiak, Mentor City Manager

January, 2012

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INTRODUCTION

Nearly everyone living in Mentor, Ohio has paused to enjoy the beauty and grace of the wildlife among us. There is perhaps no better example of this than watching one or more white-tailed deer make their way through the trees. Such opportunities to coexist with nature are without a doubt a significant element in the quality of life enjoyed by our residents. However, in recent years there has been a growing sense among even casual observers that the population of white-tailed deer living in the city has grown significantly. This is supported by anecdotal evidence from longtime city residents, many who claim they are observing today deer in numbers on and around their properties that far surpass historical observations and by the number of deer-related property damage complaints. Other supporting evidence is data showing regularly high annual deer-vehicle collisions in recent years.

In an attempt to better quantify the size of the deer herd, the city hired a reputable contractor to conduct an infra red aerial survey in the northeast quadrant of the city. The northeast quadrant was selected based on the large area of green space contained there and the disproportionate number of complaints. The survey results yield a count of 33 deer per square mile. This is two to three time higher than what most deer experts would consider a sustainable number. In the interest of addressing the real and perceived problems an overpopulation of deer can create in a highly urbanized environment like Mentor, City Council instructed the City Administration to research the issue and report back to Council with information to allow for a public discussion. It is hoped that the information within this report will serve to advance that discussion.

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UNDERSTANDING WHITE-TAILED DEER

The white-tailed deer is probably the most recognizable wild animal in the State of Ohio, and can thrive virtually everywhere. A healthy adult male (buck) weighs 130 to 300 pounds, while the adult female ranges from 90 to 210 pounds. Deer are strictly plant eaters who eat leaves and twigs from a vast assortment of woody plants, including aspen, ash, beech, birch, dogwood, maple, oak, willow, witch hazel, pine, and hemlock (Fergus 2000). Deer eat garden vegetables, wild mushrooms, fruits such as apples and pears, and crops, including soybeans, corn, and alfalfa. Acorns are a favorite food, and deer consume them in great quantities when putting on fat for winter. A deer will eat 5 to 9 pounds of food daily (Fergus 2000). Typical foods in Ohio include wild crabapple, corn, sumac leaves and stems, grasses, clover leaves, jewelweed leaves, acorns, and dogwood fruits and stems.

Deer breed from October to January. Peak breeding activity occurs in early to mid-November, and most adult females have been impregnated by the end of December. Most does bear their fawns from late May to early June after approximately two hundred days of gestation. Year-old does may have one fawn, and older does generally have twins and, sometimes, triplets. Fawns weigh 4 to 8 pounds at birth. They nurse almost immediately and can walk within an hour (Fergus 2000).

Ideal white-tailed deer habitat consists of brush-stage forest with a wide variety of tree and plant species. However, white-tailed deer are highly adaptable and live in many habitats, including woodlots in farming country, suburbs, and deep woods. Deer live out their entire lives in the same home range, about 40 acres in good habitat to over 300 acres in marginal habitat. Mature bucks usually have larger home ranges than those of does and younger deer (Fergus 2000). White-tailed deer populations are organized into matrilineal groups in which related females are accompanied by their immediate offspring. Female deer often remain within the area in which they were born and overlap the range of their mothers. Therefore, strong home range fidelity and the reproductive importance of females allow for effective herd management on relatively small areas (McNulty et al. 1997). Desired management effects may be achieved on small parcels with lasting impacts depending on the degree of isolation (Porter et al. 1991). Once a population is reduced, adjacent matrilineal groups do not readily expand or change their home ranges (McNulty et al. 1997). Residual females must continue to be managed, however, if there is home range overlap of adjoining herds.

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WHY MANAGE WILDLIFE?

The City of Mentor is located in the center of Lake County and comprises 28.1 square miles. The attached zoning map highlights the significant portion of city land used for industrial and commercial purposes. The City is nearly fully developed with 47,159 residents as recorded in the 2010 census. Undeveloped or lightly developed tracts of land, much of which is zoned for conservation, are located throughout the city with the largest concentration of "green space" in the northeast quadrant of the city. This area is home to the 800 acre Mentor Marsh and 450 acre Mentor Lagoons Nature Preserve. Other large green spaces include Veteran's Park, which the city leases to the Lake County Metroparks, Headlands Beach State Park and Preserve, Mentor Marsh (operated by the Cleveland Museum of Natural History) and several public and private schools. The City of Mentor has 20 parks and green spaces used for recreation located throughout the city. The areas vary in size from .5 acres to 450 acres, for a total of approximately 1,200 acres. This includes all city owned and operated areas including all developed and undeveloped areas. It does not include Veterans Park. Much of the city's open space is home to various forms of wildlife, including white-tailed deer.

The City has for many decades enforced prohibitions against both hunting and the discharge of firearms within city limits. These limitations, and the absence of natural predators, have contributed to the proliferation of white-tailed deer and other animal species in communities like Mentor. White-tailed deer have proven particularly adaptable and successful when left alone. There is evidence of white-tailed deer living in Ohio since the end of the ice age, but by 1904 they were effectively extirpated. In 1932, the Ohio Division of Conservation started a statewide restocking program and rapid population growth occurred in the 1970's and 1980's due to restricted hunting and habitat improvements. By 1970, the success of that program resulted in an estimated herd size of 17,000. Today, the Ohio herd size has exploded to an estimated 725,000.

Such proliferation presents unique challenges to urban communities. Understanding these challenges is important to understanding why deer herds should be managed:

Human-Wildlife Conflict

As the number of people and deer living in urban areas increases, and as the retention of natural habitat competes with the demands to develop such areas, human-wildlife conflict increases. Such conflict is of greatest concern when public safety is threatened. Deer present a health risk as carriers of such diseases as avian flu, rabies, and Lyme disease. While not currently prevalent in Lake County, the risk of Lyme disease increases as herd density increases. But perhaps the greatest risk to public safety is deer-related vehicle collisions. Over 23,000 collisions occurred in Ohio in 2010, resulting in over \$70 million in insurance claims. In 2011, the Northeast Ohio Areawide Coordinating Agency (NOACA) released state-provided data compiled from 2007-2009 showing Mentor as among the communities in Northeast Ohio with the highest average number of animal/vehicle collisions per year. A closer look at this data reveals the overwhelming majority of these accidents involved deer. The report noted that the

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stretch of Ohio Route 2 through Mentor listed 78 crashes, the highest total on any route in one community. The average cost of these accidents was reported to be \$3,200. This risk increases as the deer population increases, and high accident rates are generally viewed as evidence of overpopulation. Humans and wildlife also conflict when property damage occurs. An overpopulation of deer results in property damage to agriculture, nurseries, public lands, and landscaping as they seek out new food supplies. Such damage is measured in the billions of dollars annually. In recent years residents in Mentor have reported a significant number of complaints about deer-related property damage and the severity of that damage. This is particularly prevalent in the Northeast quadrant of the city.

Conservation

Every section of habitat has a natural limit to the number of deer it can support. This number is affected by the quality and quantity of forage, and the suitability of good winter habitat. The term carrying capacity, or "biological carrying capacity," is used often by experts when discussing the concept of deer management. Carrying capacity is the maximum number of deer that a given parcel can support in good physical condition over an extended period of time without detrimental effects. When biological carrying capacity is exceeded, habitat quality and quantity decreases, and herd health declines. Deer among a herd exceeding the BCC for a given habitat are typically underweight, have lower reproductive rates, are more likely to carry parasites and disease, and have a lower winter survival and overall survival rate. Overpopulation can also contribute to undesirable DNA changes. Research indicates that the density level in a balanced system should generally be between 10 and 20 deer per square mile, with more urbanized areas tending toward the lower part of that range. The tremendous reproductive potential for deer causes populations to exceed BCC, unless productivity is balanced by mortality. In order to maintain a "healthy herd" citywide so it may be enjoyed by the public and insure the long term preservation of the species, active herd management should be considered.

Maintaining Biological Diversity

An overpopulation of deer exceeding the carrying capacity of a particular habitat also has a detrimental impact on plant life, habitat sustainability and other species dependent on a diverse plant environment. Deer are "browsers" by nature, meaning they typically walk through an area eating small quantities of a variety of desirable plants over a larger area. Overbrowsing occurs when competition for food due to over population results in the elimination of nearly all young plant life in an area. This can include interior forest floor vegetation and understory tree species. In the process, structural diversity is lost due to the inability of seedlings to grow beyond the reach of deer. These changes to the understory not only result in a loss of habitat for those species dependent on the young plants for food and cover, it creates an environment that allows invasive species to take hold. Plants such as garlic mustard and common buckthorn, which is not browsed by deer, often thrive. These particular invasive species and others can be found in the Mentor Lagoons Nature Preserve. There is clear and

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perceptible evidence of overbrowsing by the visible browse line that appears in most wooded areas throughout the city and reports of widespread damage by such agencies as the Lake County Soil and Water Conservation District and the Cleveland Natural History Museum, which owns several hundred acres of preserved land in the Mentor Marsh.

Community Tolerance

In addition to the challenges above, which are more easily understood through a body of scientific research and empirical data, communities must individually arrive at a level of comfort with the impact from a deer herd of any size. Determining the "right number" of deer is ultimately a subjective exercise. According to Mark Ellingwood, Wildlife Program Supervisor for New Hampshire Fish & Game Department, who coined the term "cultural carrying capacity," there is a maximum number of deer that can coexist compatibly with a local human population. It is based on the values of the people living in the area and is a function of the sensitivity of the humans based on the local tolerances for deer and deer related issues. Within a community these tolerances can differ from neighborhood to neighborhood, and even within a neighborhood. The CCC may be influenced by excessive vehicular accidents, property damage, economic loss from deer, or a particular high-profile deer-human encounter. The CCC should be considered when formulating a deer management program, but care should be taken to allow adequate public input to arrive at an overall sense of the community's tolerance.

Meeting the challenges outlined here are the basis for considering a deer management plan. The following section provides a number of management alternatives for consideration.

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DEER MANAGEMENT OPTIONS

1. Allow Nature to Take Its Course (Do Little)

Failing to actively manage the deer population will likely result in herd size at the upper end of the range which can be sustained by the city habitat. This will almost certainly mean a sustained intrusion into populated areas as the deer population tries to extend its range in search of competing food supplies. The health of the herd will likely remain poor, an enhanced risk of Lyme disease will remain (however low), deforestation and the growth of invasive species in wooded areas will continue, vehicle-deer collisions will not significantly improve, and resident complaints will continue.

2. Rely on Deterrents to Manage Resident-Deer Conflicts

The city currently encourages residents to employ techniques such as planting landscaping materials that are less desirable to deer, spraying landscaped areas with deer repellants, refrain from feeding deer, utilizing scare techniques, and erecting fencing and wire to keep deer out or away from private property. These methods can have limited success, although deterrents can transfer the problems to other property owners. Deer resistant plantings may also become desirable to deer as more desirable food supplies become scarce. City Council should consider adoption of an ordinance prohibiting the feeding of deer within city limits.

3. Rely on Deterrents to Reduce Deer-Vehicle Collisions

Fencing can be an effective means of reducing vehicle collisions in strategic locations where deer are known to traverse roadways. An even more effective means is to establish wildlife crossings as underpasses or overpasses to guarantee safe passage. Technologies such as animal detection warning systems and vehicle activated electronic deer deterrents show promise in test applications, and roadside reflectors and warning signs to motorists approaching known areas of deer crossing may prove helpful.

4. Reduce the Deer Population by Non-Lethal Means

The most common non-lethal means to control deer population are trapping and transferring deer from one location to another and utilizing fertility control agents. Both of these methods have proven ineffective. Trap and relocate programs typically are not cost effective, with recorded costs ranging from \$400 to \$3,000 per deer. Of greater concern, the trauma experienced by deer typically leads to stress-related disease that lead to extremely high mortality rates up to 85%. Transferring deer from one location to another also perpetuates the spread of communicative diseases. Similarly, the use of immunocontraceptives as

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antifertility agents has proven very costly (up to \$1,000 per deer) and has not been shown to significantly reduce herd size due to difficulty in the means of delivery to the deer, the impracticality of treating a large numbers of deer, and the unreliability of the infertility period. Fertility control agents are all considered experimental at this stage. Neither the trap and transfer method or fertility drugs are currently approved or allowable methods in the state of Ohio. This option is listed here so that Council is aware of these methods, which are commonly referred to in public discussions as viable alternatives.

5. Reduce the Deer Population by Lethal Means

The state of Ohio has manages the population of white-tailed deer statewide through seasonally restricted and permitted hunting. Approximately 250,000 deer are harvested each year during the approved hunting season (an additional 25,000 deer are reduced as a result of vehicle related collisions). Many cities throughout Ohio and within our region currently allow hunting during the regular season and the Ohio Department of Natural Resources currently encourages urban deer management by this method. There is very little cost to the city with this option, although seasonal hunting is regarded as a more effective means of maintaining herd size and less effective at reducing herd size. Typically bow hunting is the only method allowed by cities permitting the activity. Concerns for public safety and the well-being of the deer from poor marksmanship often lead to certification of qualifications prior to permit issuance, limiting of the location and size of areas to be hunted, and prescribing certain methods. Another lethal means is the employment of sharpshooters to systematically reduce the herd size, also known as "culling." This method is viewed as a systematic and efficient way to quickly reduce herd size. It can be expensive, with costs approaching up to \$500 per deer reduced in some cases. However, it is generally viewed as a very safe alternative when conducted by professionals in a controlled environment. Sharpshooting may also be viewed negatively, regardless of the safety factors built in, because of the discharge of firearms within city limits and the loss of opportunity for those who would prefer to participate in hunting as recreation. Trapping and euthanization of deer may also be considered in areas considered too densely populated to employ either hunting or sharpshooting.

6. Other Means

Certain other measures have been tried with limited success. These include supplemental feeding and the introduction of predators. Supplemental feeding draws deer away from specific problem areas by using baiting stations. It is not uncommon for additional deer problems to be created near these stations, such as excessive plant damage in the new location and disease transmission. It is also not a sustainable means to improve herd health or raise BCC. The introduction of predators large enough and in numbers necessary to affect herd

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size cannot be sustained by the habitat generally found in concentrated urban environments, and would otherwise pose unacceptable risks to residents.

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A COMPREHENSIVE APPROACH TO MANAGING THE DEER POPULATION

Based on the available alternatives, it is the administration's recommendation that if City Council decides to move forward with an active deer management plan, a comprehensive approach incorporating most of the above options should be considered. The following elements are recommended as part of such a plan:

1. PUBLIC INFORMATION AND EDUCATION

The management of a deer herd is a highly sensitive issue. The city must continue to emphasize the positive benefits of a stable, managed herd, while openly communicating the action plan and program goals and objectives. Updates on the success or progress of the program (accident numbers, herd reduction, etc.) should be provided at regular intervals. The following action items should occur:

- Post information on city website, utilize local media, including the newspaper, online news sources, Special Edition Newsletter, and Mentor Channel 12 as tools in this effort.
- Continue to make available to the public information on protecting property through deer deterrents such as preferred plantings, repellants, and physical barrier alternatives.
- If public hunting is approved as part of the management plan, provide information to the public on how to obtain nuisance animal control permits.
- Provide advance notification to adjacent property owners of any culling or approved hunting initiatives on public or private property.
- Consider public opinion surveys to engage public on refining program goals and acquiring neighborhood data.
- Adopt legislation prohibiting the feeding of deer.

2. ESTABLISH BASELINE DATA OF HERD SIZE CITYWIDE

Because deer have strong range fidelity, establishing deer counts in all areas of the city where deer are believed to be overpopulated is necessary. Removing deer from a known area of overpopulation, thereby increasing the carrying capacity of that habitat, does not assure that deer from other overpopulated areas will migrate there. It is also a necessary component of any Deer Management Plan for comparing trend data, assessing progress toward program goals, and receiving ODNR permit approval. The only reliable data the city has to date is the Spring 2011 infrared

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survey. Any of the following "counting" methods could be employed. The method chosen is dependent on habitat type, vegetation density, topography, and expense:

- Infrared flyover survey. While effective, this method may be cost prohibitive in the long term. The estimated cost annually to perform the survey citywide is \$30,000 (\$2.50/acre). If used, the city would "piggyback" on the Lake MetroParks annual flyover.
- Aerial surveys. Typically these are performed with a helicopter and two observers. With good visibility and unobstructed view of the survey area, large sample areas will provide a very high detection rate. Unsure of cost at this time, but likely a more expensive option.
- Spotlight surveys. Involve driving a vehicle after sunset very slowly while two observers shine a spotlight on the observation area. This is an inexpensive option when done with internal staff, but it can be difficult to get an accurate representation of an area where roads are limited or dense vegetation obscures view.
- Trail Camera Surveys. Involves placing motion cameras near baited sites throughout a survey area. Also inexpensive, but cameras are subject to vandalism, and large bucks can dominate a bait site, skewing samples.
- Observation Data. Deer sightings are documented in a formal manner by either staff or volunteers during specified time frames. Inexpensive alternative, but data can be unreliable due to inconsistency in observation methods and changing observers. The City of Solon employs this method with a full-time Animal Control officer. It is likely that Mentor would need to employ someone with training or expertise in managing a deer management program for several aspects of this program. Such a person could also be responsible for observation data directly and in concert with volunteers.
- Careful recording of cull or harvest data.
- Establish database to document deer-related complaints, location, and nature of concern.

3. IMPLEMENT A TRAFFIC SAFETY PROGRAM FOCUSED ON AVOIDING DEER COLLISIONS

With or without a Deer Management Program involving herd reduction, deer related collisions will continue to threaten driver safety in Mentor. The following action items should be implemented:

- Continue existing practice of identifying areas with high incidence of deer-related collisions and post appropriate warning signs.

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- Post on the city and Police Department websites and Police Department Facebook page tips and safe driving techniques to avoid deer collisions. Also advise the public what to do if involved in deer or other wildlife collision.
 - Implement test areas for placement of devices intended to alert motorists or deer. The City has reached agreement with NOACA to install either reflectors intended to deflect oncoming headlights toward deer, or a similar technology that activates lights directed toward deer when vehicles approach, along portions of Hopkins Road and Lakeshore Road. These technologies confuse the deer and deter them from crossing. We may also consider detection systems available capable of alerting motorists when migrating wildlife are approaching targeted areas via message boards or other visual alerts.
 - Consider placing fencing along roadside areas prone to regular deer crossing
 - Consider opportunities to incorporate as a design element designated safe deer crossing points through underpasses or overpasses as they present themselves in the normal course of infrastructure replacement.
4. INITIATE A SHARPSHOOTER DEER CULLING PROGRAM

Deer culling through professional sharpshooting has proven to be very effective at reducing herd size. Drawing on the collective experiences of organizations currently managing or assisting in the management of deer reduction programs (including Solon, Cleveland MetroParks, USDA, and ODNR), it is clear that an initial reduction of herd size to reach BCC can best be achieved through a culling program employing sharpshooters. Relying on regulated hunting is generally not effective at significantly reducing herd size in urban areas. The following program elements are proposed:

- Utilize Mentor Police Department sharpshooters to perform all culling activities. The qualifications of Mentor police officers trained as sharpshooters can be assured by the city and the methods and means utilized will guarantee the highest factor of safety for the public. It is likely the most cost effective alternative. The most credible private sharpshooting contractor serving Ohio is White Buffalo, Inc. The City of Solon spent an average of \$150,000 per year over a five-year period with this company, averaging about \$500 per deer removed. Another viable option is the USDA, who performs culling services on behalf of communities under their Animal and Plant Health Inspection Service Wildlife Services Division (APHIS). Solon has elected to contract with APHIS this year at a cost of \$128,000. Chief Llewelyn has estimated that an initial effort by Mentor officers would cost approximately \$30,000. This is likely a lower than can be expected number since the estimate of deer to be reduced is based on limited

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data on herd size. Mentor PD will likely receive assistance from the Cleveland MetroParks and Lake MetroParks.

- Safety protocol will include 1) Restricting access and entry by the public into properties where activities are occurring, 2) shooting only from elevated positions to direct all shots groundward, 3) properly training personnel to select target areas on deer to ensure quick and humane death, 4) utilizing fragmenting ammunition to avoid ricochet, 5) utilizing infrared equipment to easily track wounded deer.
- Directing all animals harvested from the culling effort to regional food banks. Several private and non profit organizations will insure deer are removed, processed, and distributed to those in need. The City has discussed terms with a vendor that will remove the deer whole and insure all processing for arrival at a food bank for \$75 per deer. Other vendors contract for such services by the pound harvested.
- City Council must adopt legislation approving a Deer Management Plan in support of a Deer Damage Control Permit issued by ODNR Division of Wildlife, authorize submission of such an application, authorize implementation of the Deer Management Plan, appropriate fund for said purpose, authorize a lifting of the prohibition against hunting and the discharge of firearms within city limits for police personnel in support of the Deer Management Plan, and perhaps authorize the Mentor PD to be used for this purpose.
- Formulate, adopt, and submit a Deer Management Plan in support of a Deer Damage Control Permit application to the District Three Wildlife Management Supervisor for ODNR, Division of Wildlife. The plan requires the following minimum components for approval:
 - a. An introduction stating the community problem and a description of the area to be managed.
 - b. Data supporting deer population estimates and methods used to arrive at the data.
 - c. Long term management program goals.
 - d. Proposed methods and procedures.
 - e. Evaluation of management program and methods for evaluation.
 - f. Time table for implementation.
 - g. Additional support documents as necessary and as required by ODNR.

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5. CONSIDER REGULATED HUNTING AS AN ONGOING METHOD FOR MANAGING HERD

Opening urban areas to hunting during state's regulated hunting season can be a low cost alternative to reducing the size of the herd and maintaining BCC once the herd has been reduced to its desired size. All activities could be strictly regulated by the city with permits issued in accordance with such regulations. The ODNR Division of Wildlife strongly encourages urban hunting programs and could assist in program implementation. City Council would need to decide whether or not to allow the general public to hunt by way of a process for issuing permits, such as a lottery, or to limit hunting to a smaller group of individuals whose purpose would strictly be herd reduction and not recreation. This method would need to be evaluated against the effectiveness and cost of the sharpshooter culling program. The following are recommendations for any program implementation:

- Only bow hunting would be allowed during the regulated hunting season.
- All applicants for permits must test and qualify as marksmen prior to permit issuance in accordance with procedures determined by the Public Safety Director.
- Hunting would be allowed only from fixed, elevated positions to insure the downward direction of arrows.
- Hunting would be restricted to predominately open lots of no less than five acres in size.