

Memorandum

Joint City of Bloomington-Monroe County Deer Task Force
Thursday, 26 January 2012, 5:30 PM
Council Chambers (#115), City Hall, 401 N. Morton St.

PRESENT: Task Force Members: Stefano Fiorini, Bob Foyut, Iris Kiesling, Thomas Moore, Laurie Ringquist, Dave Rollo Staff: Stacy Jane Rhoads

Public: None

I. WELCOME.

Rollo stated that Ringquist has to leave at 5:45p

II. APPROVAL OF MINUTES

- 15 December 2012

III. PUBLIC COMMENT - NONE

IV. REPORTS FROM TASK FORCE MEMBERS

- Kiesling said that a resident told her about a herd in Sycamore Knolls which stopped traffic while it crossed the road.

V. REVIEW OF MEETING WITH DR. JOE CAUDELL, USDA

Rollo reviewed the recent meeting with Joe Caudell of the USDA to review sharpshooting possibilities at the Griffy Lake Nature Preserve and in areas. Caudell is a wildlife biologist with the USDA and a professor at Purdue. He has been hired in the past to control deer and geese. ¹

In addition to Rollo and Rhoads, other participants in the meeting with Caudell included: IDNR biologists Chad Stewart and Josh Griffin; Steve Cotter and Dave Williams of City Parks and Rec and Dr. Angie Shelton of the IU Research and Teaching Preserve.

Griffy

- Rollo said that the group toured the Griffy upland and then came back to the McCloskey Room to discuss.
- Caudell said that Griffy is suitable for a sharpshooting effort.
- Group discussed plant regeneration as a management goal. Caudell said that while it is ideal reduce the deer herd based on population figures, in the absence of these figures, biologists could recommend a number, e.g., 50. He suggested that the group could wait to see how plant life responds and then base further cull efforts on this response.

¹ Rhoads reminded that group that at present, State law prohibits the use of silencers and jacklights except for use by State or federal agents. As the IDNR does not provide sharpshooting services, the USDA would be the only entity to perform these services at night and in a way that does not educate other deer to the practice. That eclipses the possibility of using a private company like White Buffalo as Iowa City does. Also, USDA provides services at a lower cost than the private sharpshooting sector.

- Caudell made clear:
 - 1) sharpshooting is not a one-time reduction effort. Must be followed by lethal maintenance, either sharpshooting or a managed hunt.
 - 2) managing deer in the interest of ecological restoration is different than managing deer to satisfy social carrying capacity. Both Caudell and Stewart advised that to encourage plant regeneration, a high number of deer need to be culled. Stewart pointed out that in Hidden Valley, 250 needed to be killed to meet social expectations; however, plant regeneration was so compromised that the deer that remained browsed new shoots. Rollo said that Stewart made clear that this does not at all mean that all deer in a natural area need to be killed to encourage plant re-growth, but a substantial number do.

- Rollo relayed that Caudell suggested that to encourage plant re-generation at Griffy, it would make sense to spend two or three years in a concerted deer reduction effort using sharpshooting. After the reduction effort, deer numbers at Griffy could be controlled using a managed hunt.

- Rollo said that the group also talked about donation of deer meat and lead fragmentation. Most usually, the shots are made over bait and to the head and the neck. However, USDA is contracted to kill “x” number of deer and if they see a safe shot from a distance that is not to the head and neck, they will take it. The City can set the terms of the contract and require that only head or neck shots are taken, but that would drive up the cost. Cotter suggested that it might be more pragmatic to look at where the deer is shot and make an assessment about suitability of donation on that basis.

- Rollo asked Ringquist if Animal Care and Control could handle the incineration of deer not suitable for consumption. Ringquist replied that ACC could handle some, but could not handle a large number.

- Rollo stated that a deer can render approximately 30-40pounds of meat. This meat is comparable to the high-quality, chemical-free nature of the meat, analogous to local farmers’ market meat of \$5/pound. Rollo said the fact that the City could donate the meat justifies the cost of sharpshooting. It should be viewed as both an ecological and social science effort.

- The Parks Department is in discussion about a possible sharpshooting effort at Griffy and will be in touch with Caudell directly.

Tour of Neighborhoods

Rollo said that he and Rhoads also toured the SE quadrant of the City with the two IDNR biologists and Joe Caudell. This is the area indicated by the survey that is expressing the greatest concern with deer numbers. Rollo and Rhoads reviewed the following:

- Caudell advised that he did not see any properties in the SE quad neighborhood residential areas suitable for sharpshooting – the density is too high and there were not any natural berms to act as a backstop; spectre of bullet ricochet is too great. Caudell observed in these neighborhoods, everybody’s backyard is either someone else back yard, or someone else’s front yard.

- Caudell said that the only adequate spaces for sharpshooting in the SE quadrant of the City he observed on the tour are the Goat Farm and the private property known as Deer Park. There may be others.
- Caudell would recommend a trap and euthanize effort for pocket deer in “problem neighborhoods” using a clover trap electronic monitoring system. The traps are put out at night . The cage is hooked up to camera and electronic monitor that notifies USDA via cell phone that the animal is present. Deer is euthanized anywhere between 15 and 30 minutes after notification. (*Please see below Postscript* for feedback from Caudell for further description).
- Caudell said that capture myopathy does not occur in short-term trapping. Caudell said that because deer are prey animals, they have evolved to sustain short-term stress. Caudell said the ability to sustain short-term stress minimizes suffering.
- Where there is an adequate natural backstop, USDA employee would use a firearm to kill the deer. Deer shot from elevated stand. (Note: Caudell later clarified that deer would not be shot from a tree stand.)
- Where there is not an adequate backstop, USDA would kill the deer via captive bolt. Captive bolt requires two USDA employees to dispatch the deer: one to hold the deer, one to discharge the bolt. More dangerous to employees.
- Contract would be between the USDA and property owners on whose land the trap would be located. If one or two property owners consented to the trap being located on their property, neighbors could pool their funds for a neighborhood deer-reduction effort.
- Cost approximately \$100/deer
- Sites adequate for a clover trap and euthanize effort would be determined on a case-by-case basis. Best to ID spots with berms to allow to trap and kill with a firearm. Deer could be baited and dispatched continuously.
- After the first reduction effort, USDA would be willing to train law enforcement to conduct the trap and kill and/or sharpshooting.

VI. TASK FORCE QUESTIONS AND COMMENTS ON CAUDELL'S FEEDBACK

- Rollo commented that this really reshapes our understanding of what is/is not possible in neighborhoods.
- Thomas has employed clover traps with bears in Japan. These traps are similar to what used in Japan, except the deer traps use nets while the bear traps use wire. Found that bears were not that upset until someone reached close proximity. Would shoot with a blow dart and relocate the bear. When Moore would reach the bear would depend on when the farmer would call him. Sometimes a bear could be in a trap for days before bear was detected and farmer called him. Some political things going on that might have caused farmer not to call. The fastest response would have been a few hours.
- Fiorini asked what the advantages of trapping a deer over sharpshooting? If trapping allows one to go where could not otherwise go, but that still have to sharpshoot the deer from a treestand, why is it not the case that what applies to sharpshooting applies to this method? What makes the area unsafe for sharpshooting, but okay for sharpshooting and trapping? (Per postscript below, Caudell clarified that deer are not shot from tree stand.)
- Fiorini commented that uncontrolled, the deer population will increase. Other communities demonstrate that when wait for the population to grow, will be more problematic to manage. It is clear from the survey that some residents are at social carrying capacity. While he does not think that deer damage to ornamental plants is sufficient to warrant lethal action, he does think that it is better to work to manage the deer population now, before the herd grows.
- Fiorini said that, at minimum, now is the time to start monitoring impact, primarily through monitoring complaints. Could view trends over time to monitor complaints, DVCs and plant damage.
- Rollo asked if Fiorini preferred hunting over sharpshooting. Fiorini said that he views them differently. Sharpshooting is more appropriate for short-term, quick reduction of a great number of deer. On the other hand, hunting introduces predation back into the ecosystem. While he sees the benefit and need for both, use of a bow and arrow involves more direct involvement of the people in the area. Sharpshooting is more clinical; hunting requires people to become an active part of the system. When the killing of an animal is removed from one's experience, Fiorini said that the animal loses value. That is what we do now with our food: we allow animals to be raised in an inhumane condition, but nobody wants to see that. The tolerance for deer reflects this. He sees sharpshooting as a "clean" and removed way of dealing with part of an issue that is part of the environment.
- Rollo said it is important to make the case for intervention while making it clear that deer should not be completely eliminated from suburban environments.
- Foyut added that deer live in an environment with fences and are pretty acclimated to people. He does not think that deer would be too stressed out even when the shooter approaches. He said that he does not think that deer would be dealing with much stress throughout the whole program.
- Foyut said that he is not comfortable with the idea of using a captive bolt – he said it would be stressful to deer and dangerous to humans. He has dealt with handling fawns and pointed out even the smaller deer can levy a powerful kick.

► **Because of the danger to humans and the stress to the deer, the group voted to exclude captive bolt from consideration**

VII. REVIEW OF CITY COUNTY WORKING GROUP RECOMMENDATIONS TO DATE

Rhoads reviewed that initially, the working group was thinking about a two-pronged lethal approach: 1) an allowance for sharpshooting in neighborhoods/regions (cost assumed by neighbors) complemented by 2) some sort of controlled hunting effort.

- The Working Group is shifting its recommendation from sharpshooting in neighborhoods to sharpshooting in appropriate open or green spaces. The group and the whole Task Force is waiting on a research proposal from Joe Caudell before deciding whether to endorse the trap and kill automatic notification system.

- Rhoads reviewed the Working Group's proposal for a controlled hunt:

1) Designate City and portions of the County an Urban Deer Zone to encourage increase harvest of deer in both jurisdictions.

2) Within this Urban Deer Zone, create stricter rules for hunting within City limits in the interest of maximizing safety. This is exactly what Warsaw, Indiana does. The entire county is designated an Urban Deer Zone, but within that zone, the Council votes every year to designate areas "Deer Nuisance Zones." These zones are determined based on citizen complaints, DVCs and browse damage. With an area designated a Nuisance Zone, residents can petition to have their land designated a Reduction Zone. Properties of at least five contiguous acres could apply to be a "Deer Reduction Zone" wherein hunting is permitted. People wishing to hunt on these properties would have to apply to the City, pass a proficiency test, adhere to setback and other procedural requirements, such a prohibiting hunting on weekends, requiring a setback from occupied structures, establishing rules on field dressing.

The Warsaw program has been in effect since 2006. Since 2006, Warsaw has killed 200 deer, over 90% of which are does. Jeff Grose is the Councilmember who led the effort. He said it took him ten years to get approval for the program. He is willing to talk to the Task Force. He advised that deer management is clearly not going to be a one-time effort. He advised that Bloomington and Monroe County should establish a Management Team to provision for the program after the Deer Task Force disbands.

- Rollo asked how Task Force members feel about the Working Group proposal so far.
- Foyut said he wanted to know how all of the proposals gear up together. If we implement sharpshooting at Griffy, allow sharpshooting where safe within the City, institute the clover trap program and allow for controlled hunting, there will still be parts of the City that are very densely populated with deer and humans – areas where we will not be able to use lethal means in those areas, like around High Street, right? If it is true that we just not be able to reach some deer in certain areas, that will have to be explained to some people.
- Foyut said he has been thinking about the urban issue a lot. Griffy was a relatively easy decision for him -- the urban deer issue is more complicated. He is not convinced that is a problem now, but he is concerned that the deer population has great capacity to grow. He said that he has not quite come to a conclusion about employing lethal means in the City.

- Moore said he thinks it is necessary to intervene in neighborhoods. Without doing anything, the deer population will explode. It seems that the only way to manage the population. Moore asked for two things to be clarified: 1) is there any way to get into dense neighborhoods; 2) if there is, what effect would a concentrated geographically-specific effort have on adjacent neighborhoods? Would there be dispersal?
- Moore asked if it would be possible to engage in sharpshooting via bow and arrow. Foyut responded that, that still presents the issue of a deer travelling a distance before it drops.
- Rollo said it would be helpful to have a more comprehensive review of the SE quadrant to discern exactly which areas would be suitable for sharpshooting.
- Rollo said if the group endorses the trap approach, would want sign off from surrounding neighbors. USDA makes it clear they would take precautions to make sure people are not around.
- Kiesling said that this might have to be an evolutionary – it might not be possible to implement them all at once.
- Kiesling said that she thinks the establish of a Management Committee is necessary. Rollo agreed.
- Kiesling asked if USDA or State is interested in tagging the deer to monitor their movement. Moore responded that, that is easy is enough to do, but there is a cost attached.
- Fiorini asked if it would be possible to use the camera traps to estimate the number of deer to get a better sense of density in certain neighborhoods?
- Fiorini pointed out that we have culturally-embedded ways of relating to animals. To many residents, a dog chasing a deer is acceptable, but a deer chasing a dog is not. So, the community reaches extremes where people want to eliminate deer from the environment in the interest of dogs.
- Moore asked: If there are culturally-embedded ways of relating to animals, what is the solution? Change culture?
- Rollo said that it is important that relationship between nature and humans changes. People need to better coexist with deer.
- Moore said that he thinks for a meaningful recommendation, the community needs to deal with both: educating people in the interest of raising social carrying capacity and also actively managing the deer population.
- Fiorini said that evidence shows that deer in urban areas cannot be left unchecked. The pleasure of living close to deer comes with predation.

- Rollo said that he would like to plan for a cull at Griffy by next winter. However, if the management strategy is applied to County property, it may be possible to implement a plan earlier.
- Rollo said it is important to put prudent regulations in place now, before people start taking matters in their own hands. Kiesling and Rollo both said they have heard reports of people poisoning deer. This will only get worse if the City and County do not work to help manage deer numbers. Rhoads pointed out that right now people can discharge a projectile and take a deer during legal hunting season without any setback requirements and without any proficiency test.
- Fiorini said that one thing the City could do right away, is implement a monitoring system over the summer, so have a baseline from which to start.

- **VIII. ADJOURNMENT**

The Task Force meeting adjourned at 7:30 pm.

POSTSCRIPT

Joe Caudell later clarified the above Task Force questions via e-mail. From Caudell:

Question: You mentioned that deer are trapped anywhere between 15 and 30 minutes before a wildlife officer kills it. While deer are engineered for short-term stress as prey animals, is there literature that points out that short-term stress translates into less suffering? One Task Force member advised that 15 minutes is a long time for a big animal to be trapped – long enough for it to be stressed and hurt itself. I understand that part of your study will be measuring cortisol and that you would halt the trap and kill research if you noted a marked increase in cortisol levels.

The idea behind what we are proposing is to first acclimate the deer to the presences of the trap through prebaiting. The deer would come to the trap for several days to a couple of weeks and feed inside the trap (without the door closing). Then, on the day that the door closes, the deer might be startled as the trap closes, but then, ideally, go back to eating. The deer should not experience stress until it wants to get away from a predator or other disturbance. Excluding some unexpected disturbance (such as a unleashed dog roaming the neighborhood), the remote trap indicator would let the biologist know that deer is trapped and the presence of the biologist would be the start of the stressful period. This should only last for less than a minute (the time it takes to euthanize the deer). We would also use the trap cameras to monitor the behavior of the deer to assess what is does once the door closes. Newer cameras will take video, and that video can be used, in conjunction with the measurement of the stress hormones, to assess the stress experienced by the deer. Our goal would be to see if we can develop a low-stress procedure than can be used in these urban conditions. If the data indicates that this method is not working, we can scrap this idea and go back to the drawing board. It would be easy enough to review the camera footage and get the blood chemistry sent off to the lab on a daily basis in the initial phase to assess the effectiveness as quickly as possible. Deer have been routinely captured in clover traps and have been left in these traps for several hours without any long-term effects (i.e., capture myopathy), but I am do not know if anyone has quantified stress levels in the longer term captures. This is something that I can research before the meeting.

As for whether or not stress = suffering, I do not know if this has been quantified in animals. Stressors would be anything that threatens or disturbs the homeostatic equilibrium (basically the health) of an animal. Individual animals will perceive stressors differently. A deer in a “wild” setting that has no experience with netting, metal poles, or other man-made objects would probably consider just the presence of the trap a stressor. Urban deer are much more accustomed to human-made materials (i.e., deer fences, houses, swing sets, etc.). So just the presence of the traps should not be a stressor. This is also why we would prebait with the traps locked in the open position (so that the deer can enter and exit them, get a meal, and do not perceive them as a stressor). The stress response can be divided into three components. The primary stress response involves the release of catecholamines in the first few seconds and glucocorticosteriods within a few minutes. This is what gets animals moving in a fight or flight response. The secondary response involves increased cardiac output and mobilization of blood sugars because of the catecholamines. The third stages involves whole body changes in organ functions, catabolism of muscle, and reduction of other bodily functions. If deer are in a prolonged state of stress, where muscles are catabolized, this can lead to long term injury or capture myopathy (which would be probably be painful to the animal and therefore cause suffering). Our goal is to get to the deer before they get to this stage. If our plan works, then the deer would only be stress for a few minutes and only just start release glucocorticosteriods (which is what we are measuring). The higher the glucocorticosteriods levels, the longer the animal has experienced stress. Once we can film the

deer's behavior in the trap and correlate that time with the glucocorticosteroids levels we will have a better idea of the length of time that someone would have to euthanize the deer before it begins to move from the short-term, normal stress to chronic stress and suffering.

Question: You mentioned that best practice is to situate the trap near a berm and kill the deer with a firearm from a tree stand. Where there is no berm or natural backstop, the only "trap and kill" option is euthanasia via captive bolt. The Task Force voted against use of captive bolt. When it comes to dispatching a deer with a firearm, against a backstop and from a tree stand, the Task Force wanted to know how this differs from sharpshooting. What added value does the trapping lend? Could you explain further why some of the properties you observed were suitable for "trap and kill" using the clover trap electronic monitoring system & firearm dispatch, but not sharpshooting?

4. You would not use a tree stand in conjunction with a clover trap, but rather once the trap indicator alerts that a deer has been captured, the biologist would come to the site from a pre-designated direction where they have a clear shot into a safe background. The trap is placed in a location where there is a known safe shooting zone and backstop. Therefore, the only place that a deer would be shot are in safe area. When sharpshooting, you may see deer, but they may not be in an area where they can be safely taken. Often times, they can be merely a few feet from an area where they can be safely shot, but until they cross into that area, they cannot be taken. The traps just put the deer in the right place when the shooter comes to work.

Question: Absent a "trap and kill" effort, what practical effect would sharpshooting in the two greenspace areas we discussed (Deer Park [provided property owner consents] and the Goat Farm) have on neighborhood deer? If urban deer have relatively small home ranges, how far would a deer travel to a sharpshooting bait site? Would sharpshooting cause deer to disperse away from greenspace areas and into neighborhoods

5. The potential problem with shooting in only the few available green spaces is that the deer may become educated to the presence of sharpshooters in those areas and avoid them altogether. I am not aware of a study where biologist have assess the behavior of naive deer and how quickly they learn to avoid an area where sharpshooting is going on, but this could potentially be worked into a project. If no one else is feeding, you may be able to attract in deer from a wide range. What may also happen is that a few deer become educated, leave the greenspaces, and over time, new uneducated deer move from the surrounding areas into the vacuum that was created by removing and displacing deer.

Question: Provided there is the necessary natural backstop, what is the acreage requirement for sharpshooting?

6. You can shoot on a relatively tiny parcel (around .1 acres) if the shooter is high and there is the proper topography, soil, etc. Alternatively, flat open ground would take much more space. It is really site specific and each site will have characteristics that will determine if a shot can be taken.