

1. INTRODUCTION

- A. Eagle Creek Park, located in Pike Township in Marion County, Indiana, is the largest park in the Indy Parks system, and one of the largest municipally owned parks in the nation, at approximately 3,900 acres of land and 1,400 acres of water. The park office is located at 7840 W 56th St, Indianapolis, IN. The park is a mix of habitats including mature flatwood and upland forest, wooded ravines, wetlands, prairie plantings, reforestations, and mixed successional areas.

For two decades, the park experienced deer densities which influenced biological diversity with a noticeable effect on vegetation and habitat, a high number of deer-related vehicular accidents in the park vicinity, and decrease in the overall health of the deer.

- B. Historically, plantings of native trees, shrubs and forbs were heavily browsed by deer almost as soon as they were planted in the ground, leading to such measures as extensive deer fencing around reforestation plots or cages around landscaped shrubs and trees to deter deer. Use of repellents has been marginally successful due to the deer densities and lack of other available food sources.

Deer browse studies by Purdue scientists Dr. George Parker in 2003 through 2007 and Dr. Michael Jenkins in 2013, 2016 and 2019, show greatly impacted vegetation with heavy to severe browse damage being the norm. Dr. Jenkins' 2019 report did observe reduced rates of browsing on wood stems between 2013 and 2019, including reductions in the browsing of non-native species.

Due to intense browse pressure and repellents being ineffective, a deer fence was erected around a reforestation plot at Eagles Crest in the spring of 2010. The two adjoining reforestation plots were left unfenced. Like the forest understory in the park, the unfenced reforestation plots showed a predominance of ash trees and some sycamore with other species less common. The unfenced oaks and hickories averaged only two to five feet in height and are shrubby from heavy browsing pressure. By comparison, the fenced plot showed greater diversity with the oak, hickory, etc. of comparable height to the ash and sycamore. In 2015, 21 acres of newly planted reforestation was fenced to exclude deer and optimize site success. Another 13 acres of new reforestation in Spring 2016 was left unfenced but regularly sprayed with deer repellent. The unfenced, repellent-sprayed plots are showing deer browse but less damage due to the Winter of 2016/2017 and 2017/2018 removals showing that the deer reduction is having an effect and needs to continue.

2. AUTHORITY

City of Indianapolis, Department of Parks and Recreation.

Sec. 241-102. Duties, powers.

It shall be the responsibility of the department of parks and recreation to operate and maintain parks and sports and recreational facilities owned by the consolidated city or the county or the park district. The department shall exercise powers granted by this chapter, any additional powers granted the department of parks and recreation of a consolidated city by the city-county council, and any other powers and duties granted by statute or ordinance or delegated by the mayor

Sec. 631-101. General regulatory authority of the board of parks and recreation.

The board of the department of parks and recreation may establish, control, maintain and regulate playgrounds and recreation centers, bathing beaches, swimming and wading pools and golf courses, and provide and maintain all necessary equipment, supplies, buildings and structures therefor. The board shall supervise and provide employees for the operation of all such activities and may adopt and enforce all reasonable rules and regulations to control all such employees and all other property under its control and jurisdiction.

Approval by the Board of Parks and Recreation to adopt a resolution allowing for the discharge of firearms by individuals authorized by contract with the Indianapolis Department of Parks and Recreation in Eagle Creek Park to carry out a deer management program as permitted in Municipal Ordinance (Sec. 631-108. Discharging firearms).

It shall be unlawful for any person, unless authorized by resolution of the board of parks and recreation, to discharge any firearms or other explosive devices, or to endanger others by the use of any weapon, article or device, within any park, playground or on any property controlled or leased by the department of parks and recreation, or on which a concession has been granted by it.

(Code 1975, § 22-8; G.O. 23, 2011, § 3)
Cross reference – Weapons, Chapter 451.

Upon approval and with the authority granted to the Director of Parks and Recreation by (Sec. 631-111), the prerequisites to enter into a contractual relationship with professional wildlife management specialist to implement a Deer Management Program at Eagle Creek Park have been met.

3. GOAL

The goal of the Eagle Creek Park deer management program is to establish and maintain white-tailed deer densities that allow for a sustainable relationship between biological diversity and habitat structure through comprehensive research, monitoring, education, and effective management. Utilizing sharpshooting, the goal is to get deer numbers low enough to restore ecological balance to benefit the park's overall flora and fauna, meet social carrying capacity, evaluate the removal process and use the evaluation to formulate future management plans.

4. ALTERNATIVES TO MANAGING DEER DAMAGE

A. DO NOTHING

One option is to do nothing – to let nature take its course. Due to ample food, water, cover and the absence of predators, urban deer have high survival rates. They also have robust reproductive capacity. Non-intervention must be considered with an understanding that a "hands off" approach means that the local deer herd will likely grow to highly unnatural levels.

EFFICACY: This depends on your perspective. If the herd increases so also may increase deer damage, deer-vehicle collisions, disease and ecosystem degradation.

COST: No cost to implement. Additional deer damage costs may be incurred by residents.

SAFETY: Generally safe but, high levels of tick borne diseases (i.e. Lyme, Ehrlichiosis, Babesiosis, and others) are often associated with high deer densities in areas where these diseases occur.

MAINTENANCE: None.

HUMANENESS: Generally humane; however increased deer-vehicle collisions and a deer herd that exceeds biological carrying capacity would likely result in deer suffering.

POSITION: Non-action will not address ecological and social concerns associated with deer.

B. FENCING

This method prevents the ingress of deer. Most effective fence designs include mesh or high-tensile wire at least 8' in height. Deer will rarely jump over an 8' fence or into a space that they perceive to be an enclosure. When motivated by a food source, a deer can clear an 8' fence. Biologists advise that a 10' fence will exclude almost all deer. A fence may not need to be as high as 8', perhaps 6', but slanted outward. Deer will try walking under the fence and meet resistance. Such a slanted fence should be at a 45-degree angle, and may consist of fencing with a few strands of additional wire on top for extra height.

Snow fencing

Lattice type snow fencing can be used successfully around small garden plots, but deer tend to jump the fence if too large an area is surrounded. Snow fencing is less expensive than woven wire and can be removed and reused as needed. It is also unsightly and detracts from the beauty of the park.

EFFICACY: Fences are effective for exclusion from individual properties, but fences move the deer into neighboring yards.

COST: An 8' woven wire fence cost \$6 to \$8 per foot to install. A polypropylene mesh grid deer netting can be staked around most small gardens at a cost to the homeowner of \$2-\$3 per foot, plus labor.

SAFETY: Generally safe. The City of Indianapolis prohibits electrified and barbed-wire fences except in the D-A District, where it may be used only in conjunction with an agricultural enterprise. (Sec. 731-219)

MAINTENANCE: Fences generally require some form of maintenance.

HUMANENESS: Generally humane.

IDNR: Approves fencing (non-electrified and electrified) as a means of control.

CITY: Fences may not exceed a height of 6' in a backyard and side yard and may not exceed 4' in height in front yards. A fence may not exceed 30 inches in a clear sight triangular area. (Sec. 731-219, Sec. 731-221)

POSITION: Fences can be an effective deterrent tool for *individual* property owners, but not as a general community deer management strategy.

C. FEEDING BAN

Supplemental feeding may encourage higher deer reproductive rates, encourage denser deer concentrations in certain areas, increase deer-vehicle collisions, spread disease and habituate deer to the presence of humans. In response, some communities have banned the feeding of deer.

EFFICACY: If deer relied only on supplemental feeding, a feeding ban would be effective. However, deer commonly browse on plants not intended as "deer food." Therefore, banning intentional feeding is of limited efficacy. Feeding bans are also difficult to enforce.

Most enforcement occurs upon complaint. To make a ban work, there must be a sustained effort to publicize and enforce the rule. The educational/awareness-building value may be just as important as the actual prohibition.

COST: Costs are related to personnel needed to receive the complaints, enforce the ban and penalize violators.

SAFETY: Generally safe.

MAINTENANCE: A feeding ban requires maintenance via administration and enforcement.

HUMANENESS: Generally humane.

POSITION: A feeding ban may help mitigate nuisance concerns associated with deer in neighborhoods. The greatest value of a feeding ban is its educational value.

D. SCARE DEVICES

Scare devices include methods for scaring or hazing deer in the interest of encouraging deer to change their habitual pattern of movement or space use. These devices include motion-sensitive lights and sprinklers and radios that go on and off during the night, as well as loud propane canons.

EFFICACY: Scare devices may be effective at the first sign of a problem. The problem with all scare devices is that deer eventually acclimate to them, even when the devices are moved consistently. Varying the scare devices every week may extend the protection for a longer period; however, scare devices are only an effective short-term solution. To make non-lethal harassment more effective, lethal reinforcement must be integrated into the harassment program.

COST: Generally low cost for small treatment areas, but can be very expensive depending on the size of the area to be treated.

SAFETY: Generally safe.

MAINTENANCE: Devices must be maintained, adjusted and moved frequently.

HUMANENESS: Generally humane.

POSITION: Scare devices may help individual property owners reduce damage to their properties. Also, scare devices may disturb neighbors resulting in conflict over the use of such devices.

E. REPELLENTS

Repellents can be effective to deter deer over a limited time period in a localized area.

EFFICACY:

- Chemical repellents are relatively effective at low deer densities, but become less effective as deer densities increase.
- Repellents do not eliminate browsing, they only reduce it;
- Rainfall will wash off many repellents and re-application may be required;
- The availability of other, more palatable deer food dictates the effectiveness of repellents. When food is scarce, deer may ignore both taste and odor repellents.

COST: Costs vary from \$25/gallon to \$45/gallon for commercial repellents to minimal cost for home remedies.

SAFETY: Chemical repellents are not suitable for application on plants intended for human consumption.

MAINTENANCE: Maintenance is required.

HUMANENESS: Generally considered humane.

POSITION: Repellents may help individual property owners reduce damage to their properties.

F. LANDSCAPE ALTERATION

By choosing species that are undesirable to deer, residents can reduce the amount of damage to landscaping. Plants with a bitter or spicy taste, milky sap, or thorny, hairy, or tough leaves and stems are generally unpalatable to deer.

EFFICACY: Certain plants can effectively deter browsing. However, the presence of undesirable plants does not deter deer from feeding on other nearby plants that they do find palatable. If there is intensive feeding pressure caused by drought, snow or high deer density, deer will browse even the most undesirable plants.

COST: Variable depending on size of application. Not realistic for large properties.

SAFETY: Generally considered safe.

MAINTENANCE: Maintenance is required.

IDNR: Recognized as an approved method of control.

HUMANENESS: Generally considered humane.

POSITION: Planting deer-resistant flowers, bushes and trees may help individual property owners reduce damage to their yards.

G. TRAP AND TRANSLOCATE

The trapping and translocation of deer involves trapping deer in problem areas and moving them somewhere else.

EFFICACY:

- **High Mortality.**

Studies shows that approximately 4% of the deer die in transport, as many as 25% of translocated deer die within the first two months of trapping and translocation, and more than 85% of deer may not survive longer than one year. These deer tend to have high mortality rates resulting from capture-related injuries, unfamiliarity with the release site, and encounters with new mortality agents. Many deer suffer from a type of stress resulting from prolonged trapping and transport called “capture myopathy.” Capture myopathy is a degenerative disease of skeletal muscle resulting in lactic acid build up associated with the increased muscular exertion and overstimulation of the nervous system as a result of the capture, restraint, and transportation of animals. Illness and death may result due to disruption of normal circulation, muscle tissue damage, and electrolyte imbalance. Affected animals may show muscle tremors or muscle rigidity, weakness, hyperthermia, respiratory difficulty, collapse, and death. Animals that do not die acutely may succumb later due to inadequate oxygen supply to the kidneys and from toxic products of muscle breakdown.

- **Low Availability of Release Sites**

Translocation efforts are further complicated by lack of suitable release sites. Most habitats within the species’ native range are already saturated with deer and cannot withstand supplemental stocking without risking damage to the habitats.

- **Disease Transmission**

This technique can spread diseases such as chronic wasting disease and tuberculosis from one population to another.

COST: +\$400/deer, plus ongoing maintenance/monitoring.

SAFETY: A properly managed trap poses little risk to human safety.

MAINTENANCE: Maintenance is required as new deer immigrate in.

HUMANENESS: The biological realities of capture and translocation are quite different from the public’s perception of “they lived happily ever after, just somewhere else”.

Deer dying due to capture myopathy associated with this technique often involves considerable suffering by deer.

POSITION: Because of the decreased survivability involved in translocation, the low availability of release sites, and the practicality and cost involved in meeting IDNR requirements, this is not considered a humane or cost-effective option for deer management.

H. CONTRACEPTION

Two primary forms of contraception have been utilized to stem the growth of deer herds: PZP and GnRH. The first method of inducing infertility in deer is by immunocontraception using a vaccine extracted from the ovaries of pigs, called *porcine zona pellucida* (PZP), in which the deer is immunized against a protein or hormone needed for reproduction.

When this vaccine is injected into a doe, her immune system forms antibodies against the vaccine. After the doe ovulates, the vaccine antibodies attach to her ovum and block fertilization, which causes the female to experience multiple estrous cycles and extends the breeding season. An extended breeding season will increase deer activity at a time of year when conservation of calories is important and may result in

increased winter mortality. Lengthened breeding activity of bucks may also lead to an increase in the number of deer-vehicle collisions. At this time, the use of PZP for fertility control in deer is experimental.

Unlike PZP, GnRH prevents eggs from being released from the ovaries, thereby eliminating multiple estrus cycles. GonaCon™ is the only commercially-available approved GnRH vaccine. Long-term field efficacy data does not exist; however open studies (wherein animals are confined and excluded from other deer) indicate that a single-shot GnRH vaccine can last for up to four years (Miller et al. 2004). Studies also show that efficacy drops to less than 50% after 2 years. The EPA has approved the use of GonaCon™ as a “pesticide.” However, the Office of the Indiana State Chemist has not approved this pesticide for use in Indiana. At this point, there are no known dangers to humans or wildlife from eating deer vaccinated with GonaCon™. However, the long-term bioaccumulative effects of the pesticide are still being studied.

EFFICACY: As a stand-alone management strategy, contraception does not reduce overabundant deer populations. A number of factors shape the efficacy of contraception.

Deer Population Must Be “Closed.” Treated deer populations must be isolated, or closed, from adjacent populations. Deer immigration from adjoining properties would negate any fertility control efforts within the treated area, as new immigrants have not been exposed to the fertility agents.

A High Percentage of Does Must Be Treated. A large proportion of the females (70-90 %) must be treated to curb or reduce population growth.

Population Must Be at Target Level. Since mortality rates for suburban deer populations are usually low, eliminating reproduction within the deer herd will not reduce total deer numbers for several years after initiating the anti-fertility program. Therefore, a deer population should be at the desired level before initiating this technique.

Population Growth and Damage. Again, this method is not intended to, nor does it effectively address, immediate population growth or damage concerns.

Deer Stress. Federal regulations require that GonaCon be administered by hand. PZP is not commercially available and is not subject to specific limitations as it is experimental in nature. Use of PZP would require a research permit. IDNR advises that the conditions of any permit would require that the deer be tagged. Both tagging and administering the contraceptive agent by hand requires that deer be captured before the vaccine is administered. Deer are stressed in the capture/trapping phase.

COST: \$600-\$800/doe, plus ongoing maintenance.

SAFETY: Generally safe, but see above.

MAINTENANCE: Some forms of immunocontraception require boosters. Unless located in a closed system, does immigrating into an area would require initial dosage and subsequent boosters.

HUMANENESS: Because this method works by decreasing fertility rather than increasing mortality rates, this method is generally considered humane.

POSITION: Because this technique is 1) not endorsed by the IDNR in free-ranging environments, 2) requires that the deer population be closed and the bioaccumulative effects are not known, and 3) it is extremely costly; this is not a viable option.

I. STERILIZATION

Sterilization involves the permanent loss of fertility to a deer. There are two primary forms of sterilization: surgical sterilization and ligation. Surgical sterilization involves the removal of a doe's ovaries. Removal of a doe's ovaries re-shapes doe behavior: there is some indication that sterilized deer move more frequently than fertile deer. Ligation of the oviduct does not alter female behavior but does increase the amount of time she cycles per season.

EFFICACY: Effective in small pockets (less than 2 square miles) and isolated areas with limited immigration opportunity. Some studies suggest that sterilization is more effective than culling because the sterilized deer are able to contribute to resource limitation and density-dependence in reproduction. Other studies suggest the sterilization is an effective way to maintain a desired population level after culling has been implemented. This method does not eliminate current damage, as population remains; however, it does stem population growth. Higher mortality rates have been observed in sterilized deer; home range size and movement tend to be similar between sterilized and non-sterilized animals

COST: \$800-\$1,000/doe plus ongoing maintenance.

SAFETY: No real threat to human safety.

MAINTENANCE: Requires annual maintenance.

HUMANENESS: Because this method works by decreasing fertility rather than increasing mortality rates, this method is generally considered humane.

POSITION: Because this technique is not endorsed by the IDNR in free-ranging environments and is costly, this is not a viable option.

J. REGULATED HUNTING

Public hunting is the pursuit and killing of wildlife for food or recreation by licensed individuals who are using sanctioned hunting equipment and who are abiding by all applicable State and local laws. There are two primary classifications of public hunting: 1) regulated public hunting and 2) managed public hunting. In urban environments hunting is often restricted to archery equipment.

Regulated Public Hunting

In regulated public hunting, property is opened to public access during all or part of the deer-hunting season. Participating hunters are subject to Indiana law and regulations. This method of management has the lowest overall operating costs and requires the least amount of oversight and preparation.

Managed Hunting

Managed hunting is a term used to describe the application of regulated hunting in combination with more stringent controls. Managed hunting may limit hunters to specific regions and dates, may require that hunters demonstrate a certain level of proficiency, may require additional permitting and may require shooting from elevated stands, among other requirements.

EFFICACY: Public hunting is the tool most commonly used by State wildlife agencies to manage deer populations. Compared to other lethal management tools, hunting is the most cost effective. However, overall efficacy is greatly impacted by equipment type with firearms being most efficient and archery equipment less efficient when trying to reduce populations.

COST: \$120-\$150/deer plus ongoing maintenance. Two costs are at issue: cost to the hunter and cost to administer the program. For hunters, the cost includes cost of a hunting license, any additional fees that may be imposed with a managed hunt, cost for equipment, tools, etc. With general hunting, the administrative costs are borne by the State. With managed hunting, the administrative costs are borne by the community administering the program. Cost may vary considerably from community to community depending on how and what they regulate.

SAFETY: Archery equipment is generally considered safe, with more mixed feelings for firearms.

MAINTENANCE: Maintenance required.

HUMANENESS: Many people object to hunting because it involves killing an animal. Even the best-placed shot resulting in instantaneous death may be considered inhumane by someone who believes deer should not be killed. Humaneness may be increased by requiring that hunters demonstrate a certain level of proficiency before being allowed to hunt.

POSITION: May be an option in certain circumstances.

K. TRAP and KILL

In trap and kill management, deer are lured into a trap or net via bait and killed via captive bolt, firearm or pharmaceutical agent. If dispatched via captive bolt or firearm, meat is suitable for human consumption. If killed via pharmaceutical agent, meat is not suitable for consumption. Deer may be trapped by using rocket nets, drop nets, or by using Clover traps-collapsible netted cage traps. The usage of an accurately delivered gunshot has been determined to be humane euthanasia by the American Veterinary Medical Association.

EFFICACY: May be suitable in areas where other lethal methods are not safe or suitable. When the animal is trapped, this technique removes concerns about wounded deer traveling about areas of dense human habitation. To be effective, a feeding ban should be in place and enforcement of the ban should be increased when trap and kill management is being implemented.

COST: \$300-500/deer plus ongoing maintenance. Capture cost will be lower when: animal densities are high; animals have not been previously trapped; and any deer is the target – not a specific deer, gender or age class.

SAFETY: This technique must be performed by trained specialists and is generally considered safe if properly managed. Pets and other animals may inadvertently be trapped. The use of trap cameras helps ensure the quick release of any non-target animal. If the deer is killed via gunshot, the trap must be located near an adequate natural backstop. Not all properties will be suitable for this technique. The traps may be subject to vandalism. Timing of pre-baiting and trapping must occur when weather and food resources are conducive to success.

MAINTENANCE: Must be on-going.

HUMANENESS:

- The longer a deer is trapped, the greater its stress level and the less humane the management option.
- The use can be considered less humane as it can result in undue suffering to the deer and is dangerous to those administering the technique.
- Some people may object to this method because it involves killing an animal.

POSITION: The most humane of the trap and kill option is one wherein deer are acclimated to the site via a period of pre-baiting, where the time between trapping and death is very short and when death is caused by a precise gunshot to the head. Any trap and kill method should minimize stress to deer.

L. PREDATOR REINTRODUCTION

This option is intended to restore predators to an area of deer overabundance in the interest of restoring a better predator-prey relationship and minimizes human involvement in management. This approach is not realistic.

EFFICACY: We do not have the large, isolated, undeveloped areas large predators require.

COST: unknown

SAFETY: While wolves and mountain lions are effective deer predators, they present the potential to injure or kill non-target species such as pets and humans. Predator reintroduction would pose an even greater community wildlife concern.

MAINTENANCE: unknown

HUMANENESS: Some may perceive this as a more “natural,” non-human way to manage deer.

POSITION: While the elimination of predators by humans is the cause of both real and perceived overabundance, this option was eliminated from consideration as not feasible due to safety concerns.

5. LOGISTICS – Chosen Method: Sharpshooting

SHARPSHOOTING - description

- Sharpshooting requires trained personnel to use a variety of techniques to maximize safety, discretion and efficiency. The effort is conducted by trained personnel authorized by the IDNR. Shooting is usually performed from an elevated position to ensure the shot is aimed at the ground and not toward buildings or in the air. A backstop is needed to prevent a bullet from traveling into unintended areas. Frangible projectiles can further reduce the possibility of ricochet if a surface is struck. Shooting is usually done at night using artificial light, over bait and using a sound suppression device. Using suppressors serves two purposes: it keeps the activity “quiet” and out of range to neighboring residents; it also prevents educating or frightening other deer. Deer are typically shot in the brain/central nervous system to ensure a quick death. The use of an accurately delivered gunshot has been

determined to be humane euthanasia by the American Veterinary Medical Association.

- **EFFICACY:** Performed by dedicated biologists trained in firearms proficiency, this method is effective to bring about a quick and substantial reduction of the deer herd. The practice requires a natural backstop and may not be suitable in some residential areas.
- **COST:** \$200-\$5000/deer, depending on method plus ongoing maintenance.
- **SAFETY:** When performed by trained personnel using special equipment, wildlife managers generally consider this method safe. However, some members of the public may express concerns about the discharge of firearms.
- **MAINTENANCE:** In a free-ranging context, this method requires continual upkeep.
- **HUMANENESS:** Because the technique is administered by trained sharpshooters using high-powered rifles to kill deer over bait, death is instantaneous. Because the technique uses sound suppression devices, deer and other animals in the area are less frightened and less stressed. Some people may object to this method because it involves killing an animal.

A. Number of deer to be culled

Indy Parks has developed a target goal of culling up to a total of 150 deer from Eagle Creek Park through the employment of sharpshooting in Winter 2020-2021. (See Appendix for Survey Quarter Section map.)

B. Timing

Sharpshooting activities will be done at night when the park is closed and public access and use is restricted. An information campaign will be conducted to keep the public informed about these activities. Pending IDNR permit issuance, sharpshooting activities are requested to start no sooner than the 11th of January and be completed no later than the 31st of March. Baiting will begin approximately three weeks prior.

C. Personnel

USDA APHIS Wildlife Services employees are authorized to shoot deer under the permit. Names of designated shooters and maps of locations of management areas will be provided to DNR personnel (District Wildlife Biologist, Conservation Officer District Headquarters) prior to shooting any deer and as changes are made. All shooters must have a copy of the permit in their possession when taking deer under the authority of the permit. The permittee (Eagle Creek Park) will be solely responsible for safety under the permit. It should be noted as well that the permittee will be solely responsible for compliance with the permit, not the sharpshooters. USDA APHIS WS internal proficiency standards sets them apart from the general citizen.

D. Methods

- Deer may be killed with the following suppressed, center-fire rifle calibers: .22-250, .223, .243, .308, and .44. Suppressors must be used in accordance with federal law.

(Note: a suppressor is not a silencer and there will be reduced audible noise associated with each shot.)

- Using non-toxic ammunition.
- Use of bait to concentrate deer at specific shooting locations is permitted.
- Shooting may be done from a stationary motor-driven conveyance at any time of night or from elevated stand positions.
- Night vision equipment, thermal imaging devices, and spotlights will be used when shooting between sunset and sunrise.

E. Safety Issues

- Shooting into the park, not toward or beyond the park boundary.
- A backstop will be present during any shooting activity (as mentioned in the description of sharpshooting).
- Bait locations and shooting direction will be carefully determined beforehand.
- Contact will be maintained at all times between the sharpshooters and other personnel through the use of cell phones and radios.
- Transport team will move in to pick up deer only after given the ok from the sharpshooting team.
- Designated points of entry into the park will be manned by rangers to prevent unauthorized entrance and ensure public safety.
- Barricades, safety vests and other safety equipment will be utilized.

F. Utilization Plan

- Deer will be moved to a safe location on site to be field dressed.
- All necessary harvest data required by the IDNR will be collected at the field station (date and time of the kill, sex of the deer, disposition of the carcass (donation, burial, or incineration), equipment used to take the deer, name of shooter, and name and address of the final possessor of the carcass (the processing facility, if donated)).
- Once prepared, animals will be delivered immediately to the processing facility or properly stored until delivery to the processing facility
- All deer suitable for processing will be transported via enclosed trailer or covered trailer to a local licensed butchering facility.
- The sharpshooters will arrange for processing of the harvested deer and delivery of meat to the food pantries. The sharpshooters will document the quantity of deer meat processed and delivered to the food pantries.
- Sharpshooters will coordinate with processors and food pantries ahead of time to insure availability and capacity.
- No venison will be sold, traded or bartered and the meat harvested will be used to the maximum extent practical.
- All antlers will be removed from culled deer and delivered to a DNR staff person within fourteen days of the expiration of the permit (delivery must be arranged within 14 days, actual delivery can occur within 30 days of the expiration of the permit, according to 312 IAC9-10-25).

6. Long-Term Management Plan

Each year the deer density/damage will be re-evaluated to determine actions to be taken to manage the number present in the park landscape to regain and/or maintain a healthy, balanced ecosystem. Follow-up deer browse vegetation surveys will be conducted to assess recovery of understory herbaceous vegetation and trees. The deer browse study was not conducted in 2018, but was repeated in 2019. Infrared deer count survey transects were conducted after the first removal (spring 2015), prior to the second removal (fall 2016) and post second removal (spring 2017).

Prior to the winter 2017/2018 removal, aerial deer surveys were attempted using Unmanned Aerial Vehicles (UAV; i.e., drones) to count deer within the deer removal zones. Unfortunately, one UAV was lost due to a manufacturer's software issue, resulting in an incomplete survey attempt and estimates of deer abundance could not be calculated. However, deer were observed using the UAV, and based on abundance of deer sign, bait usage, and visual observations of deer within the park it was determined that enough anecdotal evidence warranted the removal effort.

While limited statistical analysis can be performed on specific age classes of genders, due to sample size limitations, long-term data collection of morphological data would allow for observation of changes in deer health, as well as environmental conditions. Continued removal of deer will allow for additional recovery of impacted plant communities as well as other wildlife that rely on that habitat. Based on the beneficial results of the 2017-2019 removal efforts, it is recommended that deer removal activities be conducted periodically to sustain the positive ecological impacts. Timing should continue to focus on early to mid-winter months to take advantage of winter weather conditions, longer operational hours at night, and limited public use of the park.

Twig aging has been suggested by Dr. Jenkins as a quick and efficient technique to monitor browse intensity of white-tailed deer and could improve the sensitivity and utility of monitoring efforts in Eagle Creek Park and will be explored further. Deer abundances may, also, be monitored using citizen science to help estimate the number of deer within the park. This could be extended to outside the park with neighbors counting the deer they see in their yards. Other programs to consider implementing could be establishing a deer complaint system and monitoring urban vegetation outside the park boundaries.

7. Public Information Plan

Public Information at Eagle Creek Park – Earth Discovery Center

- To be available prior to reduction
- Public comment forms will be available

Created a special webpage dedicated to the Deer Management Program

Deer Management Plan
Submitted by the City of Indianapolis Department of Parks and Recreation
for Eagle Creek Park, Indianapolis, Indiana
Submitted November 12, 2020

- <https://www.indy.gov/activity/deer-management-program>
- Powerpoint presentation from 2014 public meeting, research documents, fact sheet (also available at Eagle Creek Park) and supporting articles

Media coverage – notification to:

- Indianapolis Star newspaper
- Television stations WTHR, WISH, WRTV and WXIN
- Radio station WIBC

Specific to the sharpshooting program, staff will:

- Prepare a fact sheet to be available at all park facilities and on the website
- Prepare a deer management brochure for general distribution
- Continue to provide and update information on the park and city web site
- Parks Board approval of firearms usage in the park
- Coordinate with USDA APHIS Legislative and Public Affairs to communicate efforts
- Prepare press releases to describe upcoming sharpshooting activities at the park
- Meet with local municipal agencies to advise of program logistics

8. Contacts

Lead Contact - Contact immediately about any concerns during the sharp shooting operation

Brittany Davis, Park Manager, Eagle Creek Park
(317) 726-6109
Brittany.Davis@indy.gov

Administrative Contact

Donald Colvin, Deputy Director, Department of Parks & Recreation
(317) 327-7031
Donald.Colvin@indy.gov

Public Information Contact

Ronnetta Spalding, Chief Communications Officer, Department of Parks & Recreation
(317) 327-5799
Ronnetta.Spalding@indy.gov

Risk Management

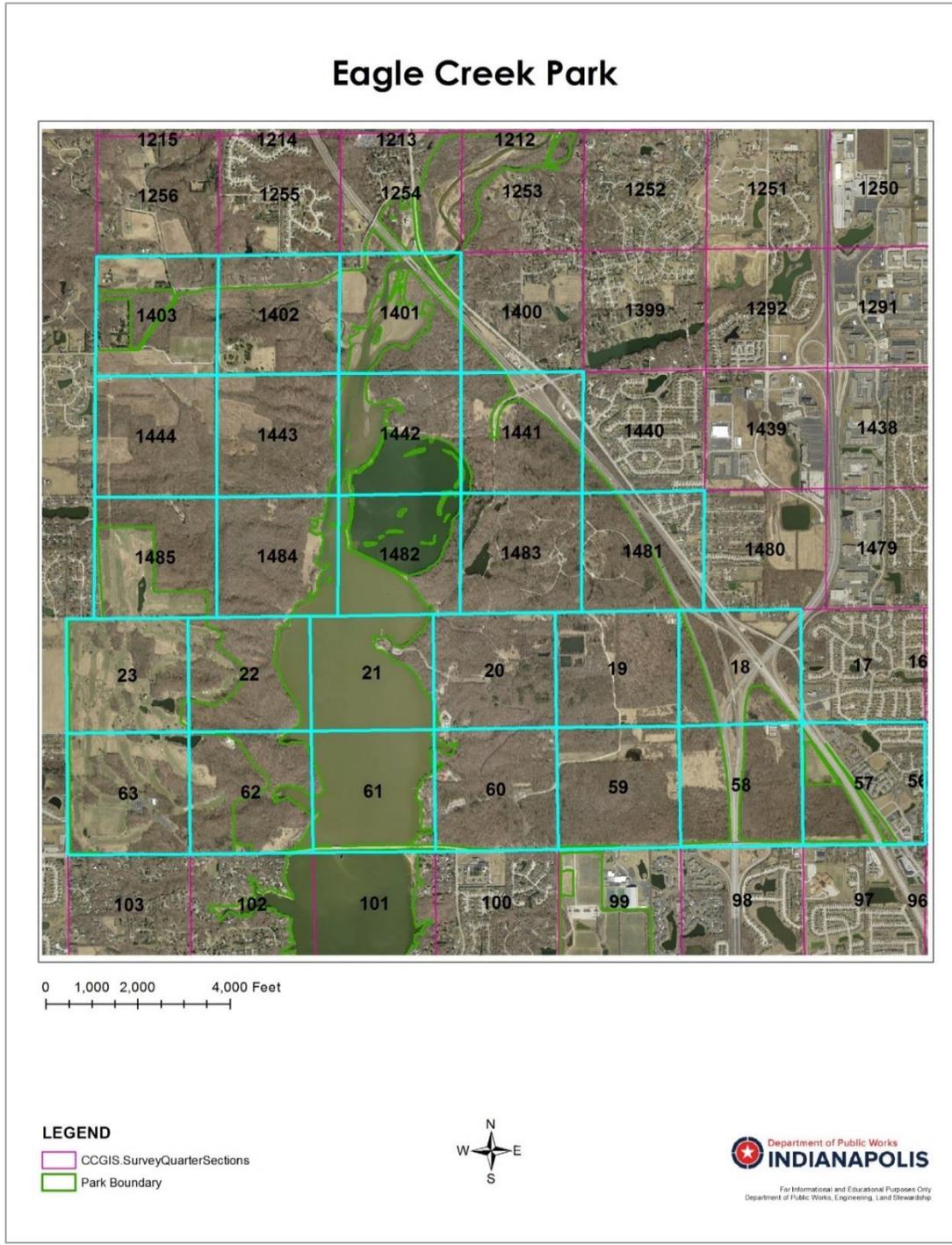
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Public Safety

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APPENDIX

Eagle Creek Park Survey Quarter Sections Map (highlighted areas are permit relevant)



Eagle Creek Park Quarter Sections Map Information

Table					
CCGIS.SurveyQuarterSections					
	OBJECTID *	QUARTER	SECTION_	TWNSHP	RANGE
	18	NE	2	16	2
	19	NW	2	16	2
	20	NE	3	16	2
	21	NW	3	16	2
	23	NW	4	16	2
	57	SW	1	16	2
	58	SE	2	16	2
	59	SW	2	16	2
	60	SE	3	16	2
	61	SW	3	16	2
	62	SE	4	16	2
	63	SW	4	16	2
	1401	SE	28	17	2
	1402	SW	28	17	2
	1403	SE	29	17	2
	1441	NW	34	17	2
	1442	NE	33	17	2
	1443	NW	33	17	2
	1444	NE	32	17	2
	1481	SE	34	17	2
	1482	SE	33	17	2
	1483	SW	34	17	2
	1484	SW	33	17	2
	1485	SE	32	17	2