

Ohio's official state mammal, the white-tailed deer is an animal of astounding speed and agility. They can run up to 40 miles per hour, soar over 9-foot fences and swim 13 miles per hour. Adaptable and prolific animals with keen survival instincts, whitetails can exist in all sorts of environments.

White-tailed deer have been in Ohio since the last ice age roaming through unglaciated portions of the southeast. With the retreat of the glaciers, they quickly spread across the state. Populations prior to 1775 were relatively stable and the animals were in good health because they had adequate food and shelter. Predators such as wolves and cougars and Indian hunters helped to keep their numbers in check.

With the arrival of settlers in the state this began to change. As forests became farms and hunting went unrestricted the deer population began to dwindle.

By 1904, white-tailed deer could not be

found in Ohio. The state instituted restocking programs during the '20s and '30s. This program, in conjunction with hunting bans and the natural migration of deer from adjoining states, helped the deer population rebound. By 1937 some white-tailed deer were reported in about a third of Ohio's counties. Today, the Ohio Division of Wildlife estimates that there are about 650,000 deer in the state.

In some areas, due to a lack of predators, their flexible feeding patterns and adaptability to humans, whitetails have become overabundant.

When deer populations become too large, they can have a negative impact on their environment as well as become a threat to their own survival. Biologists and resource managers continually gauge when deer exceed optimum or carrying capacity. In Ohio this is done on a county by county basis.

According to the Ohio Division of Wildlife the "decision to maintain a deer

population at a given level is not made without considering the potential impact that such a decision might have on not only the whitetail, but also the environment. Technically speaking, that means finding a population level that neither exceeds the cultural or biological carrying capacity."

Biological carrying capacity relates to the number of deer a given area can support in good physical condition over an extended period of time without adversely impacting the habitat or the animal. Cultural carrying capacity refers to the maximum number of deer that can coexist compatibly with humans.

Metro Parks, like other municipalities and state agencies, has had to deal with the question of what to do with too many deer. On the next several pages, Metro Parks Deputy Director Larry Peck discusses the history and current status of the park system's deer management program.

**A DOMINANT SPECIES** among the 2,200 plants and animals that call Metro Parks home, the white-tailed deer is a voracious browser that consumes up to 450 different species of plants.

They are reproductive dynamos that can double or triple their population in a park in two or three years if left unchecked. Because deer are such a highly adaptive species, they are well suited to thrive in the suburban landscape of much of Central Ohio.

Although park visitors enjoyed seeing deer in their natural environment, park neighbors were concerned with the loss of expensive landscape vegetation and nearby farmers lost thousands of dollars of crops to grazing deer. As the deer population increased at parks, deer-vehicle accidents began to rise. In the early '90s deer were so prevalent at Sharon Woods Metro Park that park rangers were forced to direct traffic on weekday evenings to protect people as well as the deer.

During this time the management of white-tailed deer in the Metro Parks became a dominant story in the local media and it was the subject of much consternation among advocates on all sides of the issue. Visitors fed the animals and prayer vigils were conducted for the deer. A local ad hoc group went to court over the issue. Since that time, no other local park agency has employed as many management techniques to reduce and maintain the population of white-tailed deer, as has Metro Parks.

Management measures have involved culling, relocation, birth control, hunting, and erecting fences to preserve the ecological diversity of all the parks. Since 1992, park employees have spent more than 36,000 hours of time managing the white-tailed deer population. As a re-



An enclosure fence separates deer-damaged browsing land from a recovered natural environment. Deer enclosures like this at Sharon Woods protect natural growth of native plants.

sult of those efforts over the past several years, and our continuing efforts today, the deer population in most of the Metro Parks is at an appropriate level, both in terms of biological and cultural carrying capacity.

We have learned that deer management is as much a discussion of values as it is science and biology, thus the concept of cultural carrying capacity. In an objective and biological sense, the science is clear. The Central Ohio landscape can accommodate 20-30 white-tailed deer per square mile without disrupting the ecosystem.

*“ . . . management of the overabundance of white-tailed deer is as much a discussion of values as it is science and biology . . . ”*

However, when we look at various emotion-laden concerns such as the popularity of deer among park visitors, their impact on neighbors' landscapes near our parks, the number of deer-vehicle accidents on roads surrounding the park, the impact of movies like

"Bambi," the varying opinions on hunting and other factors, the issue becomes murkier.

The success of our deer management program over the past 20 years is a testament to the dedication and commitment of Metro Parks' staff and the park system's willingness to try new things to address a very difficult issue. We have found that there is no single approach that is a panacea for managing the deer herd. Managers need to remain open-minded when addressing this issue.

### **Early Efforts**

Deer were not seen in the Metro Parks until the mid '70s but by 1989 it was obvious that at Sharon Woods something needed to be done. The herd at the 761-acre park had grown to over 370 animals. A six-foot browse line had emerged and deer-human interactions were anything but normal. Metro Parks' first efforts in managing deer overabundance began in 1989 and involved the use of the prostaglandin drug Bovilene under the direction of a



A browse line about six feet above the ground, below which all the twigs and leaves have been eaten. The height and distinctive pattern of browse lines are created by deer standing on their hind legs and eating as high up into the trees and shrubs as they can reach.

local veterinarian. Bovilene was not specifically developed for deer but was used to prevent reproduction in cattle at feedlots.

In 1991 and 1992, Metro Parks began an educational effort for park staff as well as the public regarding the issue of deer overabundance.

Park programs were developed to inform visitors about the issues at Sharon Woods. About 250 plant species had disappeared because of the deer. The park became an “ecological desert.” From a

height of six feet down, there was nothing but deer and pawpaws, a native plant they don’t like. They even ate the bark off the trees. A browse line emerged leaving little understory in forested areas of the park that ultimately impacted other wildlife and their ability to survive.

Staff looked at other urban parks and found most were not doing anything. A few agencies used staff or local law enforcement to cull populations or

Park programs were developed to inform visitors about the issues at Sharon Woods. About 250 plant species disappeared because of the deer.

implemented controlled hunts. Animal rights groups and residents who opposed hunting challenged many of these hunts.

In 1992, the Board of Park Commissioners directed staff to look at alternatives and established criteria,

including management strategies, that had to be legal, cost effective and humane. The most appropriate course of action based on our analysis was to cull or selectively kill the animals and this could be done

with biologists from the Division of Wildlife and park staff.

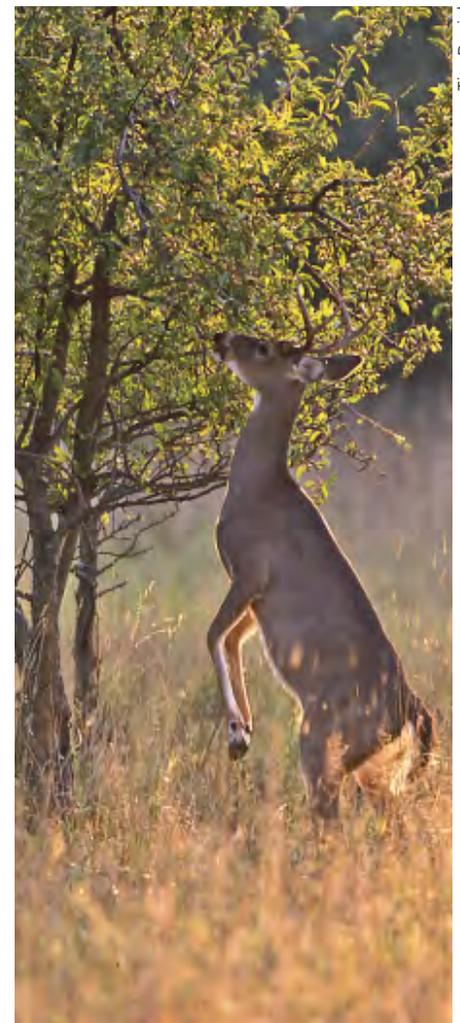
Deer stands were erected in safe parts of the park and bait was spread. Standards were established to maximize safety in terms of distance that deer could be targeted. Meat from harvested deer would be processed and distributed to local food pantries.

It was assumed that with a population of 450 deer who were more than happy to get close to humans and be hand fed

that this plan would be effective. The first night one deer was killed and the local media went into a frenzy that resulted in a great deal of misinformation and confusion among the public. Obviously something needed to change.

At this point, local groups and the media encouraged the Park Board to reconsider the option of relocation, which initially had been discounted due to the projected high mortality among the deer, and the exorbitant costs of the program.

After soliciting proposals, several licensed commercial propagators were chosen to relocate deer from Sharon Woods, Highbanks, Blacklick Woods and Inniswood Metro Gardens. During



Tim Daniel

Deer stand on their hind legs and reach as high up into trees and shrubs as they can get as they feed, creating the distinctive height and pattern of browse lines.



White trillium had disappeared from parks with overpopulated concentrations of deer. As a result of Metro Parks' deer management program, trillium and many other spring wildflowers have made a strong recovery and provide pleasure to walkers on park trails.

the winter of 1993 and '94, the propagators relocated 500 deer.

Once the deer left the park, they fell into a void in terms of regulation as neither Metro Parks nor the Division of Wildlife or the Department of Agriculture had clear jurisdiction over their welfare. A false positive TB test resulted in the quarantine of many of the deer. As a result of a series of unfortunate and tragic decisions by a relocater, many of the deer that had been moved to Stark County had to be euthanized. The resulting media coverage and an analysis of mortality rates led to the Division of Wildlife banning the relocation of white-tailed deer from public property in Ohio.

With attention on the issue at a high level and the sad lessons learned from the relocation efforts, the option of culling was revisited. Instead of bringing the deer to the shooters, it was decided to bring the shooters to the deer. To maximize safety and enhance mobility, towers were fabricated to fit in the back of Metro Park trucks.



Orchids such as yellow lady's slipper are a favorite food of deer. They are also recovering strongly in wooded areas of the parks.

It was also deemed best to use commissioned park officers who were trained in the use of firearms to take responsibility for the culling rather than Division of Wildlife personnel. Protocols were developed to ensure normal use of the parks as much as possible, humane dispatching of the deer, providing meat for the neediest members of the community, and safety for neighbors and staff. Under these terms culling occurred and almost 400 deer were eliminated the first year.

### Birth Control

Simultaneously, Metro Parks began to work with the Humane Society of the United States (HSUS) in developing a birth control program at Sharon Woods. HSUS researchers had been using an immuno-contraceptive known as Porcine Zona Pellucida (PZP) to manage the population of wild horses on islands off the Virginia coast. They began to experiment with the drug on white-tailed deer on Fire Island in New York and at the National Institute of Standards and Technology (NIST) in Washington, D.C.

Sharon Woods was selected for a third location site for use of PZP and the first where local park employees would administer the drug rather than the HSUS research team. Twenty-seven does were included in the program that required two initial injections of the drug and annual booster shots. From the first year of the program in 1995 through 2003, it is estimated that about 184 fawns were not born at Sharon Woods as a result of the use of the drug. A birth control pro-

gram could be successful in a park like Sharon Woods because there was limited ingress and egress and the deer were easily accessible. In 2003, the Division of Wildlife refused to issue the annual permit needed for the program and it was abandoned.

The 27 does in the program were monitored annually and a lot was learned about how long does live and that their reproductive rates were much higher in urban and suburban parks than previous research on free-ranging herds indicated. In 2007, one of the original does in the program had twin fawns. While effective in maintaining herd populations, we would also advocate that, while theoretically possible, in reality birth control is not able to independently reduce deer herd populations in situations where the herd size is as pronounced as it was at Sharon Woods.



Hand-feeding of deer introduced an unhealthy element into the animals' diet. The practice of hand-feeding could also be dangerous for humans who underestimated the power and potential ferocity of a hungry wild animal.

### Culling

Since 1994, culling has become the major component of Metro Parks' deer management program. From late October through the winter, teams of park employees work at night throughout 10 Metro Parks. Safety for our staff, park visitors and park neighbors is the ultimate goal of the program. To date almost 4,900 deer have been removed

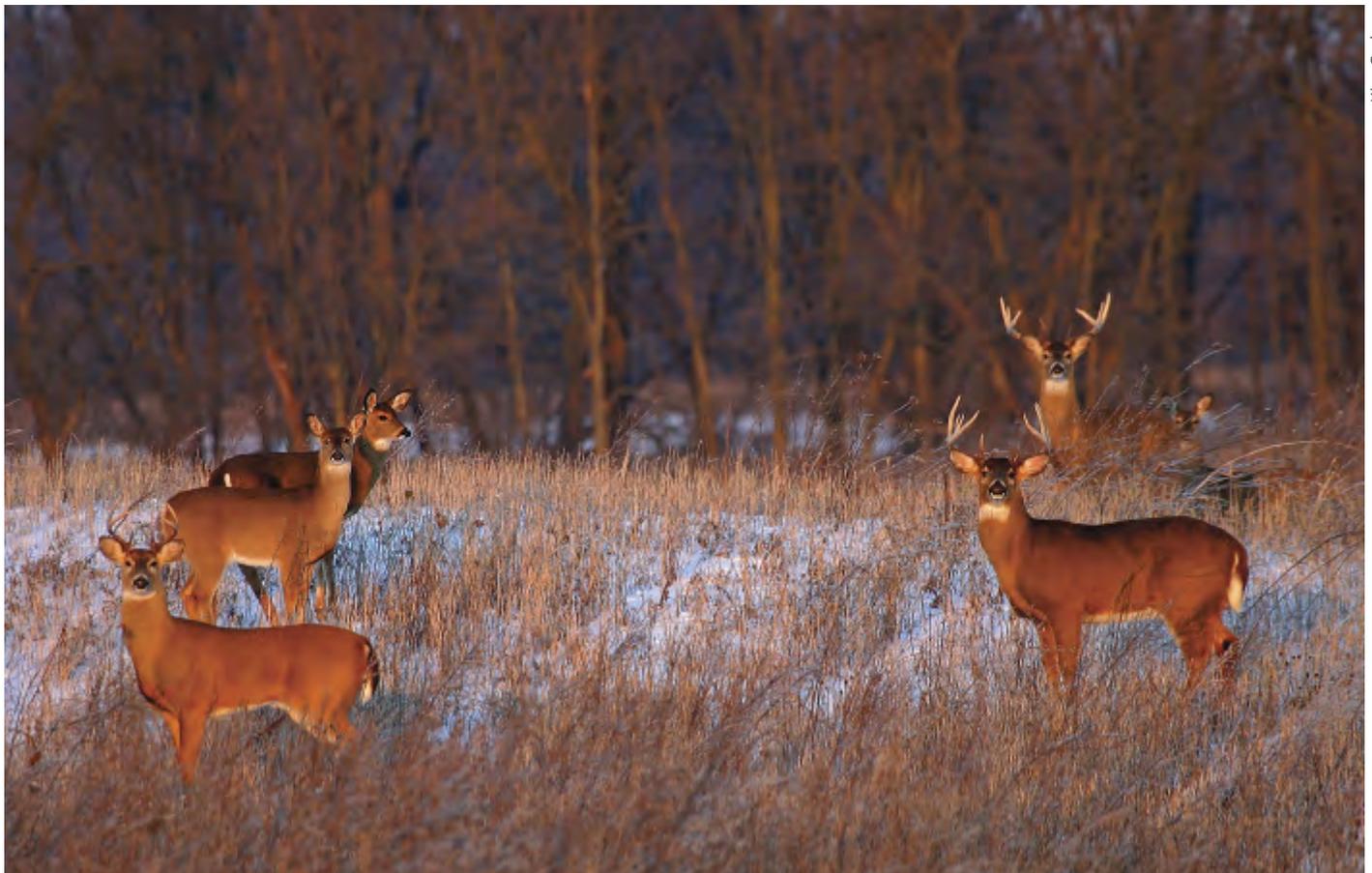
from several Metro Parks. The deer are delivered to processors licensed by the Ohio Department of Agriculture Meat Industry.

Since 1994, we have donated 170,570 pounds of venison to the Mid-Ohio Food Bank for distribution to Central Ohio food pantries.

A helicopter is used in the winter when snow is on the ground to conduct reliable counts of the deer at various parks. Staff also conduct biotic surveys to evaluate the impact of deer populations on plants and wildlife. These surveys and counts allow us to intervene earlier rather than wait for a situation to develop like it did at Sharon Woods.

### Hunting

While culling is the primary option used, it is not effective at all Metro Parks, especially those that do not allow for easy vehicle access. During



Kim Graham

A group of deer in the late evening sun at Prairie Oaks Metro Park. Deer control has improved the health and alertness of park deer herds.

deer gun season, hunters with valid licenses can hunt in the Public Hunting Area at Battelle Darby Creek and other designated areas of that park.

In 1995, we began controlled deer hunts at Slate Run and Clear Creek Metro Parks. We are grateful to these hunters in helping us address deer overabundance. Hunters are selected based on past experience with Metro Parks or through a Division of Wildlife lottery. Hunters must go through an orientation program and detailed records are kept.

While the controlled hunt is underway, park staff ensure that visitor and hunter safety remain paramount. In some cases the park or a portion of the park is closed and adequate personnel are on hand to ensure that this occurs. Hunters can also donate deer for processing and distribution to the Mid-Ohio Food Bank. Since 1995, hunters have harvested almost 2,700 deer at these three parks.

Maintaining the population of



Deer "Seventy-eight" was one of the 27 does in the birth control program conducted at Sharon Woods Metro Park.

white-tailed deer in the Metro Parks at an acceptable level requires extensive efforts by everyone involved and have been beneficial not only for our plant and animal populations but for the people of Central Ohio. From a biological standpoint, the deer are healthier, browse lines have disappeared and there is a renewed biodiversity in the parks with the return of some species of plants and wildlife that had disappeared.

Reported accidents between deer and vehicles on roadways adjacent to Metro Parks are significantly lower than in the early '90s. Complaints from neighbors about deer grazing in their yards and destroying vegetation have also lessened.

There is no single technique or approach that solves this resource management dilemma and Metro Parks continues to keep an open mind to other alternatives. ■

Larry Peck, Deputy Director



Over-population of deer herds can lead to serious health problems and starvation.



A doe wanders dangerously close to a busy road. Traffic accidents caused by deer were commonplace outside Sharon Woods before the deer management program.

Tim Daniel