

MINUTES OF THE MEETING OF THE BOARD OF PARK COMMISSIONERS OF MILL CREEK METROPARKS

A Regular Meeting of the Board of Park Commissioners of Mill Creek MetroParks was held on Monday, February 12, 2024.

The meeting opened at 6:00 p.m., with recitation of The Pledge of Allegiance.

Lee Frey, Board President welcomed staff and guests.

Roll Call was as follows:

Germaine Bennett;	Present
Lee Frey;	Present
Tom Frost,	Present
Jeff Harvey;	Present
Paul Olivier;	Present

Lee turned control of the meeting over to Aaron Young, Executive Director who opened the floor up to nominations and/or motions for the position of President and Vice-President.

Tom Frost nominated Lee Frey for President. The nomination was seconded by Jeff Harvey. Tom Frost moved that all nominations for President be closed. The motion was seconded by Paul Olivier and after discussion, the roll being called upon its adoption, the vote resulted as follows:

Voting Aye:	Bennet, Frey, Frost, Harvey, Olivier
Voting Nay:	None

Aaron Young, Executive Director turned control of the meeting over to Lee Frey, Board President.

Lee Frey opened the floor for nominations for Vice President. Jeff Harvey nominated Germaine Bennett as Vice-President. The nomination was seconded by Tom Frost. Tom Frost moved to close all nominations for Vice-President and to name Germaine Bennett Vice-President. The motion was seconded by Lee Frey and after discussion, the roll being called upon its adoption, the vote resulted as follows:

Voting Aye:	Bennet, Frey, Frost, Harvey, Olivier
Voting Nay:	None

The Board was presented with the Minutes of the Regular Meeting of January 8, 2024. Lee Frey accepted the minutes into the record as written.

Nick Morchak, Finance Director/Treasurer presented the Department Report for Finance and requested that disbursements #91774 - #91907 for a total of \$1,292,295.92, be approved. Lee Frey moved, at the request of the Finance Director, that the funds having been certified as on hand and duly appropriated, that disbursements #91774 - #91907 for a total of \$1,292,295.92, be approved. The motion was seconded by Germaine Bennett after discussion, the roll being called upon its adoption, the vote resulted as follows:

Voting Aye:	Bennett, Frey, Frost, Harvey, Olivier
Voting Nay:	None

Nick Morchak, Finance Director/Treasurer requested an increase to appropriations to account to account 100-1100-5073 Golf Department Supplies by \$1,450. This is grant funding received from the Mahoning County Convention and Visitors Bureau for Mill Creek Golf Course to attend the Michigan and New York Golf & Travel Shows. Lee Frey moved, at the request of the Finance Director, that the request to increase

appropriations to account to account 100-1100-5073 Golf Department Supplies by \$1,450., be approved. The motion was seconded by Tom Frost after discussion, the roll being called upon its adoption, the vote resulted as follows:

Voting Aye: Bennett, Frey, Frost, Harvey, Olivier
Voting Nay: None

Nick Morchak, Finance Director/Treasurer presented and requested approval of Resolution R-24-03 Requesting authorization to make tax advance requests to the Mahoning County Auditor on behalf of the Board as they become available throughout 2024. Lee Frey moved, at the request of the Finance Director, that Resolution R-24-03 Requesting authorization to make tax advance requests to the Mahoning County Auditor on behalf of the Board as they become available throughout 2024, be approved. The motion was seconded by Jeff Harvey after discussion, the roll being called upon its adoption, the vote resulted as follows:

Voting Aye: Bennett, Frey, Frost, Harvey, Olivier
Voting Nay: None

R-24-03

RESOLUTION REQUESTING AUTHORIZATION
TO MAKE TAX ADVANCE REQUESTS TO
THE MAHONING COUNTY AUDITOR ON BEHALF OF THE BOARD
AS THEY BECOME AVAILABLE THROUGHOUT 2024

WHEREAS, per ORC 321.34, the Mahoning County Auditor has procedures available to request Real Property Tax Collection advances for Mill Creek MetroParks, and

WHEREAS, the Treasurer of the MetroParks will request advances on the dates listed below:

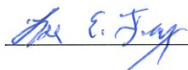
- February 23, 2024 (if sufficient taxes are collected at this time)
- March 01, 2024
- March 08, 2024
- March 15, 2024
- March 22, 2024
- March 29, 2024 (if settlement is not completed by this date)

and,

WHEREAS, the Board of Park Commissioners of Mill Creek MetroParks authorizes the Treasurer to make this request, and authorizes the Treasurer to receive advances when funds are available throughout the calendar year, and

WHEREAS, the Treasurer of the MetroParks will provide the Mahoning County Auditor a copy of this resolution by noon the Monday before the advance is scheduled.


IN WITNESS THEREOF, We, the Board of Park Commissioners hereunto set our hand this
12th day of FEBRUARY, 2024.


Lee Frey, President


Germaine Bennett, Vice-President


Tom Frost, Commissioner


Paul Olivier, Commissioner


Jeff Harvey, Commissioner

Aaron Young, Executive Director provided an update on the status of the 2023 Annual Report. The report is anticipated to be completed by March 1, 2024 and will be available on the MetroParks website.

Aaron Young, Executive Director presented the following proposed edit to the Board By-Laws. The proposed change would better align the terms of officers with the terms of Board membership.

Current Language:

SECTION I - BOARD OF PARK COMMISSIONERS

- c. The officers of this Board shall consist of a President and Vice-President who shall be elected for a period of one year at its first meeting; thereafter, they will be elected by the Board annually at the second meeting of the calendar year, each to serve until a successor is elected. The President and Vice-President shall serve no more than three consecutive one-year terms beginning in 2022. There shall be no further limit on one-year terms so long as they are not consecutive.

Proposed Language:

SECTION I - BOARD OF PARK COMMISSIONERS

- c. The officers of this Board shall consist of a President and Vice-President who shall be elected for a period of one year at its first meeting; ~~thereafter, they will be elected by the Board annually at the second meeting~~ of the calendar year, each to serve until a successor is elected. The President and Vice-President shall serve no more than three consecutive one-year terms beginning in 2022. There shall be no further limit on one-year terms so long as they are not consecutive.

Lee Frey moved, at the request of the Executive Director, that the proposed By-Laws change be approved. The motion was seconded by Paul Olivier after discussion, the roll being called upon its adoption, the vote resulted as follows:

Voting Aye: Bennett, Frey, Frost, Harvey, Olivier
Voting Nay: None

Aaron Young, Executive Director informed the Board that the annual terms for the members of the Citizens Advisory Committees had expired on December 31, 2023. Members in good standing may be reappointed and new applicant Zachary Felger is recommended for appointment to the Nature Education Committee. Lee Frey moved, at the request of the Executive Director, to reappoint previous members in good standing to the Citizens Advisory Committees and to appoint Zachary Felger to the Nature Education Committee. The motion was seconded by Jeff Harvey after discussion, the roll being called upon its adoption, the vote resulted as follows:

Voting Aye: Bennett, Frey, Frost, Harvey, Olivier
Voting Nay: None

Aaron Young, Executive Director presented the 2024 Kirk Road Trailhead Lease Agreement for approval. The Lease is with Cruise the Creek, LLC and is for a period of one year. Lee Frey moved, at the request of the Executive Director, that the 2024 Kirk Road Trailhead Lease Agreement be approved. The motion was seconded by Germaine Bennett after discussion, the roll being called upon its adoption, the vote resulted as follows:

Voting Aye: Bennett, Frey, Frost, Harvey, Olivier
Voting Nay: None

Brian Tolnar, PGA Director of Golf and Recreation presented the 2024 Golf Course Restaurant Lease Agreement for approval. The Lease is with Valley Grille, LLC and is for a period of one year. Lee Frey moved, at the request of the PGA Director of Golf and Recreation, that the 2024 Golf Course Restaurant Lease Agreement be approved. The motion was seconded by Tom Frost after discussion, the roll being called upon its adoption, the vote resulted as follows:

Voting Aye: Bennett, Frey, Frost, Harvey, Olivier
Voting Nay: None

Brian Tolnar, PGA Director of Golf & Recreation presented and requested approval of the following Special Events:

1. Races:
 - a. Mill Creek Distance Classic held by Youngstown Road Runners Club on 03-03-24 in MCP
 - b. Youngstown Ultra Trail Classic held by NEO Trail Club on 09-07-24 in WRA & MCP Trails

Lee Frey moved at the request of the PGA Director of Golf & Recreation that the races be approved. The motion was seconded by Tom Frost, after discussion, the roll being called upon its adoption, the vote resulted as follows:

Voting Aye: Bennett, Frey, Frost, Harvey, Olivier
Voting Nay: None

Brian Tolnar, PGA Director of Golf & Recreation presented and requested approval of the following Special Events:

1. Request to Collect Funds
 - a. To benefit New Lease on Life Pet Rescue Inc on 09-07-24 @ YCP

Lee Frey moved at the request of the PGA Director of Golf & Recreation that the special events be approved. The motion was seconded by Jeff Harvey, after discussion, the roll being called upon its adoption, the vote resulted as follows:

Voting Aye: Bennett, Frey, Frost, Harvey, Olivier
Voting Nay: None

Chris Litton, Development Director presented the MetroParks Foundation deposit report for the period of January 1-31, 2024, at a total of \$15,599.77 for approval. Lee Frey moved at the request of the Director of Development to accept the deposit report for the period of January 1-31, 2024, at a total of \$15,599.77. The motion was seconded by Germaine Bennett, after discussion, the roll being called upon its adoption, the vote resulted as follows:

Voting Aye: Bennett, Frey, Frost, Harvey, Olivier
Voting Nay: None

Chris Litton, Development Director presented the 2024 Annual Development Plan for approval. Lee Frey moved at the request of the Director of Development that the 2024 Annual Development Plan be approved. The motion was seconded by Paul Olivier, after discussion, the roll being called upon its adoption, the vote resulted as follows:

Voting Aye: Bennett, Frey, Frost, Harvey, Olivier
Voting Nay: None

Public Comments to the Board: (see sign-in sheet)

- Ruth Reedy had originally signed in but declined to speak.
- Cathy Doslovic spoke about a quote from Queen Latifah regarding finding happiness in little things like seeing deer in their back yards. She referenced comments from the Kennedy family regarding turning away from witnessing wrongs or failing to speak up.

- Ray Thomas stated that when he voted for the tax levy, he thought that he was voting to keep the kite festival and a host of other events. He also referenced the plow horses that used to plow the fields. The Park used to have an Easter Egg hunt. The sled hill does not have lights. There is no more music at the Morley Pavilion. The Park claims that this was due to lack of interest but the new bands were of no interest. Halloween at the Morley was an event. There was a Summer Fest where sand was brought in. He thought he was voting for all of these things. He does not like what is happening to the Park.
- Lana Van Auker read a prepared statement on behalf of the Save The Deer Group. She asked how invasive species were addressed. She quoted Dr. Allen's previous statement on the use of herbicides and inquired how much money was spent on herbicides. Watching nature and wildlife is a health benefit. She asked the Board to save the wildlife.
- Jerry Serbel stated that he is a resident of Youngstown, Ohio all his life. He questioned the decision of the Board to kill the deer for the benefit of the golfers. He is proud of the area and disagrees with those who did not speak up on behalf of the deer. He does not walk in the Park anymore. He is confused by the number of deer indicated by the survey. He asks that we plant food for the deer near the golf course.
- Mickey Drabison was hoping to have up to date figures on the deer management program. He quoted the deer survey pilot who stated that there were too many deer. He inquired about the cost of the sharpshooters. He questioned the amount of money that was spent to do the program. Nick shared that we have received two invoices from USDA near \$7500 for the services not including the processing of the deer.

Commissioner Comments:

- Jeff Harvey provided two documents to be included in the record. The first is the Forest Science Review, Issue Number 1, Winter 2004, Northeastern Research Station USDA Forest Service. The second is LEAP for Biodiversity, Position Statement on White-tailed Deer Management, updated August 2016.

FOREST SCIENCE *Review*

ISSUE NUMBER 1
WINTER 2004



NORTHEASTERN
RESEARCH STATION
USDA FOREST SERVICE

ENVIRONMENTAL RESEARCH, TECHNOLOGY & LEADERSHIP



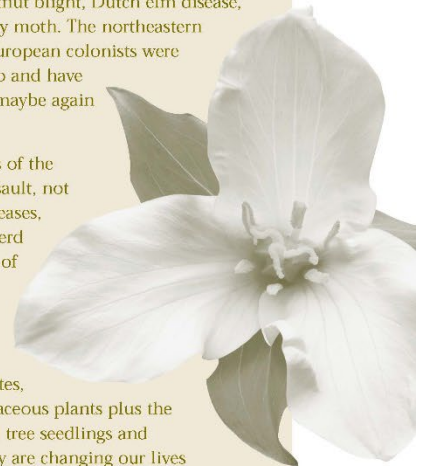
"We think we know our forests. But in Pennsylvania and many other parts of the Northeast, deer overabundance has changed our forests so much and for so long that we truly don't know how our forests would look without too many deer. I walk inside a fence that's been up for three or four years in the springtime, and I am amazed at the wildflowers and seedlings I find."

DR. SUSAN STOUT
Forest Service Research Silviculturist, 2003

The Forest Nobody Knows

The non-urban residents of the Northeast, who live in or close to the forests and woodlands, and the urban residents who live within several hours' drive of the mountains and spend recreation time there would be surprised by Dr. Stout's words. We think we know what a forest should look like. But according to her, very few people have ever seen examples of what our forests really could look like. We like to use terms such as "old-growth," "virgin," or "primeval" forest to describe our wilder forests, but most of us truly do not know what such forests were. Most of the forests we see now are not old-growth (that is, never cut). The few scattered remnants of old-growth forest remaining have all been touched by chestnut blight, Dutch elm disease, butternut canker, and the gypsy moth. The northeastern forests reported by the early European colonists were cleared for agriculture long ago and have grown back at least once and maybe again after timber harvest.

But more than that, the forests of the Northeast have been under assault, not from humans or insects or diseases, but from the ever-increasing herd of deer. The ecological history of the Allegheny Plateau (see "Canary in the Coal Mine") tells the story of the deer and the forests of northwestern Pennsylvania. Deer are ungulates, like cows — they can eat herbaceous plants plus the leaves and twigs of shrubs and tree seedlings and saplings. And eat they do. They are changing our lives and our forests. Our lives? If you are a gardener, or the friend or relative of a gardener, you know of the garden favorites (hostas, roses, daylilies, rhododendrons, etc.) eaten by deer. Farmers relate stories of crops (especially corn) eaten by deer,



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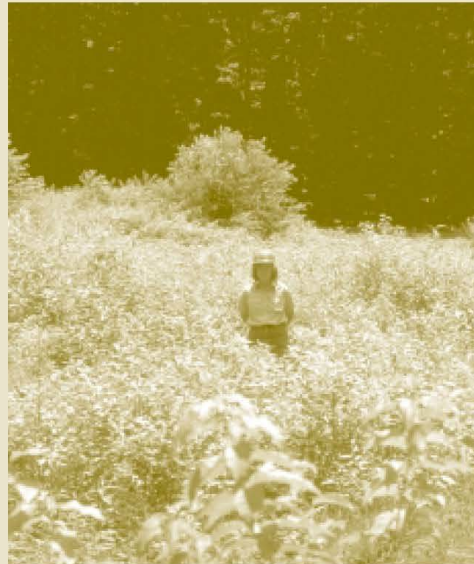
or cows mistaken for deer during hunting season. Motorists meet deer on the road, and none of the participants come out well (about 40,000 deer are killed annually on the highways of Pennsylvania, for example). Children playing in the backyard can be bitten by deer ticks and develop Lyme disease and/or babesiosis. The newly appearing problem of chronic wasting disease, a spongiform encephalopathy of deer and elk that is related to mad cow disease and Creutzfeld-Jakob disease of humans, is moving eastward and has reached Wisconsin. It begins to sound grim.

The problem is that there are too many deer here in the Northeast. These white-tailed deer are beautiful, graceful, and a natural part of forest-edge and clearing ecology. Unfortunately, a combination of historical and ecological occurrences has allowed deer populations in the Northeast to rise to levels that could result in more than just the human-centered problems listed above. Dr. Stephen Horsley, a scientist with the USDA Forest Service's Northeastern Research Station puts it thusly: "in the long term, deer have the capability of changing forest ecology, by changing the direction of forest vegetation development." Such changes could result not only in

damage to the forest's ecological integrity but also to the humans who depend on it economically — for water quality, lumber, hunting, birding, etc. — and for recreation of all kinds.

In many parts of Pennsylvania, they have already changed the forests. Drs. Horsley and Stout work in a Forest Service laboratory in northwestern Pennsylvania, in the heart of the "deer belt"—the vast Allegheny Plateau, the north central and western part of the commonwealth that has little agriculture and an economy that depends heavily on deer hunting and logging. What they and other NE scientists have found is that, at the deer population levels occurring there, deer are producing long-term effects on both the amount and the kinds of vegetation growing in the forests. In many places there is very little undergrowth left except plants that deer don't like. Wild flowers and the middle level of shrubs such as viburnums and small trees, which are home to many native songbirds, are no longer present and fewer of these birds are to be seen. There are no saplings of sugar maple, white ash, and pin cherry. (In Wisconsin, cedars, hemlocks, and yews are scarce and there are no seedlings.) In many places on the Allegheny Plateau, vast swaths of hay-scented and New York fern and

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In the left picture, taken in the 5th year of the 10-year study of deer effects on forests, research wildlife biologist Nancy Herbert is almost hidden by several species of young trees in a forest managed with 10 deer per square mile. On the right, she towers over a nearly pure stand of black cherry seedlings in a patch of the same forest, with the same history — but with 64 deer per square mile.

"The current density is producing devastating and long-term effect on forests. Foraging deer "vacuum up" the seedlings of highly preferred species, reducing plant diversity and in the extreme, creating near mono-cultures. It could take decades or even hundreds of years to restore forests."

DR. STEPHEN HORSLEY, Forest Service Plant Physiologist

"Since game management boiled down to its essentials is the control of game population density, it becomes apparent that an understanding of density limits is essential to successful practice."

ALDO LEOPOLD, an important advocate of nature and conservation, and the "father of game management" came to the Allegheny Plateau to observe the deer herds in the 1930s.

Continued

striped maple dominate in so-called fern parks; in other places, black cherry dominates. Many areas that were clearcut in the 1960s did not regenerate into a forest as they did in years before but rather became grassy meadows — unless they were fenced to exclude deer, in which case a forest grew again.

We do know something of what northeastern forests could look like from exclusion studies, where deer were fenced out, and from natural areas where deer are excluded. Botanist Tom Rooney, now at the University of Wisconsin, discovered small natural "gardens" on top of large boulders in the Allegheny National Forest. When he examined these gardens, he found that the plants growing on boulders tall enough to be out of reach of the deer grew three times more densely than those on the lower boulders, which were browsed by deer. Many of the threatened and endangered plants of the Northeast, including such beauties as lilies, trilliums, and orchids, are browsed by deer and are much reduced in size and abundance in many of their habitats.

Dealing with and even resolving the problem of too many deer is complicated and highly polarized. Stakeholders include hunters, animals rights groups, silviculturists, foresters, farmers, naturalists, wild flower advocates, gardeners, and park managers. Policymakers and land managers can make better decisions and members of the public can receive more accurate information if they have scientific studies of how deer affect ecosystems over time. Most scientific studies have used fencing to exclude deer from study plots. In such studies, however, the number of deer outside the plots is uncontrolled and their eating habits can be affected by outside factors.

Scientists at the USDA Forest Service's Northeastern Research Station's laboratory in Warren, Pennsylvania, recently published the results of research that actually studied the effects of several controlled population densities of deer on various forest treatments. The researchers at this location have a long-term commitment to studying the effects of deer on forests. The Forest Service group's first publication on deer, in 1965, was based on research that was begun in 1942 and still continues today.

The most recent paper, published by Dr. Stephen Horsley, Dr. Susan Stout, and Dr. David S. deCalesta (now retired) in the peer-reviewed journal *Ecological Applications* (2003: 13(1): 98-118), is carefully designed to test the effects of various levels of deer populations on the forest. The 160-acre plots were fenced to exclude local deer populations, then populated with deer at four specific levels: 10, 20, 38, and 64 per square mile. Each plot had 10% clearcut, 30% thinned, and 60% untreated forest. The scientists measured and analyzed the vegetation and found that deer affected the abundance and density of all plants; the horizontal and vertical structure of the forest; species abundance of wild flowers, shrubs, and birds; species composition and biodiversity of the forest understory and resilient versus deer-preferred foods. The deer densities studied represent the range that has been found in these forests from pre-European settlement days in the early to mid-1800s through the peak densities of the 1960s and 70s in the region. The average density of deer per forested square mile in Pennsylvania was 35 in 2001, according to the Pennsylvania Game Commission, and in some forested areas deer population can be much higher. ■



Forest Science Review is dedicated to providing its readers with clear concise descriptions of the scientific findings (and their implications) that have been recently discovered and published by the scientists of the USDA Forest Service's Northeastern Forest Research Station, which serves New England, New York, Pennsylvania, New Jersey, Delaware, Maryland, West Virginia, and Ohio, the most densely populated and most densely forested part of the United States.

We hope that land managers, policymakers, extension specialists, science communicators, environmental advocates, and educators, as well as conservationists and all others interested in the health and productivity of forests in the Northeast, will find that our quarterly newsletter offers important insights and information for them.

The NE Research Station is part of the USDA Forest Service's Research and Development national network. NE scientists work at sites in 11 states: Hamden/Ansonia, CT; Newark, DE; Amherst, MA; Baltimore, MD; Bradley, ME; Durham, NH; Syracuse, NY; Delaware, OH; Warren and Newtown Square, PA; Burlington, VT; and Morgantown, Parsons, and Princeton, WV.

NERS scientists work in a wide range of laboratories and field sites all over (and even outside) the Northeast. They conduct research in 8 experimental forests, including several with long-term data sets that are unique to science, and in 6 research natural areas, sited on National Forest System lands. Two important research localities are the Forest Service's only primary quarantine laboratory on the continental U.S. (Hamden/Ansonia, CT), a facility certified for biological control research on exotic forest pests and their natural enemies, and the Baltimore (MD) Long-Term Ecological Research Site, where NE scientists and other cooperators study the ecology of an urban forest.

Contact the USDA Forest Service's Northeastern Research Station:

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Canary in the Coal Mine— A Short History of Northern Pennsylvania Forests and Their Deer Herd

The results that we discuss in the text of this issue are important to most northeastern states. But why focus on northwestern Pennsylvania forests, you ask? What is happening there that is important to the rest of the Northeast? In the following short history of the forests of northwestern Pennsylvania, we will discuss what very high deer populations can do to a forest ecosystem. The unique ecological and human history of the Allegheny Plateau in northwestern Pennsylvania have created a situation that could be considered an indicator of the possible future for the rest of the Northeast, if deer populations are not controlled—a kind of “canary in the coal mine.” (See Jim Redding’s paper, “*History of Deer Population Trends and Forest Cutting on the Allegheny National Forest*” for a more complete history.)

The forests of this region were mostly hemlock-beech when Native Americans were the sole inhabitants. Their communities relied heavily on deer for food, clothing, and shelter; their hunting pressure, in combination with that of many native wild predators, held deer populations to an estimated density of 8 to 15 per square mile. As European settlers entered the region, the associated land clearing and edge creation for agriculture and timbering may have boosted deer populations temporarily, an effect exacerbated by the elimination of native predators by hunting and trapping.

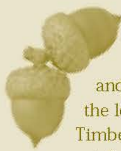
As timber harvesting in the region accelerated in the second half of the nineteenth century, venison was the meat of choice—for logging camps, growing settlements, and urban markets. Hides were also highly valued. Deer were hunted year-round, using every imaginable tool. By the late 1800s, deer were nearly extirpated from Pennsylvania. Public reaction to this realization was an important reason for the creation of the Pennsylvania Game Commission (PGC) in 1895.

The PGC quickly limited harvest of deer by imposing hunting seasons and, for a time, outlawing the harvest of does. They also reintroduced 700 whitetails from other states. These protections and reintroductions coincided with the peak of a wave of heavy timber harvesting that created almost ideal habitat for white-tails across the state, and deer numbers doubled every 2 years from 1907 to 1923.

By 1923, farmers were lobbying for doe seasons to reduce damage to farm crops, and by the late 1920s, foresters were making similar demands. Despite the establishment of doe season, the effects of deer browsing began to be seen in northwestern



Pennsylvania forests. The virtual disappearance of shrubs such as hobblebush was noticed first, but impact on species composition of tree seedlings on the forest floor was also apparent. Hunting mortality did not keep pace with population growth. By the early 1940s, two severe winters in a row, combined with the poor habitat in turn-of-the-century harvest areas where saplings had grown out of reach of the deer, resulted in high winter mortality and a population crash.



The forests in the northwest portion of Pennsylvania continued to grow, and with them, the deer herd. Natural forest development led to more openings in the canopy and the reinitiation of understory growth. However, only the less preferred and browse-resilient species increased.

Timber harvesting was also renewed as the forests matured, also contributing to increased forage and deer herd growth. During the late 1960s through the early 1980s, deer herds in northwestern Pennsylvania reached levels of 40 to 60 deer per square mile, and regeneration failures after timber harvest were common. Hunting and deer-car collisions were the major causes of deer mortality.

In the late 1970s, the PGC developed a habitat-based approach to deer management. They assigned a carrying capacity for deer to three different age classes of forest — young, high-forage-producing forests, slightly older forests in which trees had grown out of the reach of deer but were still too dense to permit understory growth, and mature forests in which understory growth was possible. Based

on these carrying capacities, the PGC set goal densities across the state — in northwestern Pennsylvania, the goal densities were 18 to 21 deer per square mile. Even with new seasons and hunting opportunities to kill antlerless deer, densities stabilized around 30 deer per square mile, about 50% or more above PGC goals.

Although the late 1990s saw promising new initiatives that would allow hunters to reduce deer populations and their impacts across Pennsylvania, many forests have developed serious problems after 70+ years of deer overabundance. Understories are crowded with species less preferred by deer or resilient to their browsing pressure, such as hay-scented and New York fern. When understories become dominated by such species, simple reductions in deer density may not always be sufficient to restore healthier patterns of understory growth and development. One survey in 1989 suggested that as much as 30% of Pennsylvania's forest understories had troubling densities of ferns.

The USDA Forest Service research described here has helped foresters, hunters, and policy-makers understand the sequence of events that are set in motion by deer overabundance. The patterns documented in northwestern Pennsylvania identify specific species that increase with deer abundance, and other species that are reduced by deer overabundance. But nothing in this research suggests that other forests would be immune to these effects — northwestern Pennsylvania could truly be "the canary in the coal mine." ■

"Deer have the capability of changing forest ecology, by changing the direction of forest vegetation development. It doesn't matter what forest values you want to preserve or enhance — whether deer hunting, animal rights, timber, recreation, or ecological integrity — deer are having dramatic, negative effects on all the values everyone holds dear."

DR. STEPHEN B. HORSLEY, Forest Service plant physiologist, 2003

Sources and Further Reading

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McWilliams WH, Stout SL, McCormick LH. 1995. Adequacy of advance tree-seedling regeneration in Pennsylvania's forests. *Northern Journal of Applied Forestry* 12(4): 187-191.

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**Northeastern Research Station
USDA Forest Service**

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In a recent paper published in *Ecological Applications*, Drs. Stephen Horsley and Susan Stout of the USDA Forest Service's Northeastern Research Station reported that as the deer density increased:

- The number of woody species decreased as species preferred by deer were browsed selectively.
- The percentage of the forest floor covered by ferns, grasses, and sedges, which interfere with the establishment and growth of tree regeneration, increased.
- The height growth of many species was reduced.
- The percentage of the forest floor covered by blackberry species, which are preferred by deer, decreased.



Dr. Stephen B. Horsley received a B.S. in Forestry from Pennsylvania State University in 1966. In 1968 and 1970, respectively, he received an M.S. in Forest Ecology and a Ph.D. in Plant Physiology from the Department of Forestry and Wildlife Management at the University of Massachusetts.

Since 1972, Horsley has worked as a Plant Physiologist at the USDA Forest Service Northeastern Research Station. He has been located at the Forestry Sciences Laboratory in Warren, PA, since 1973.

During his career, Dr. Horsley has worked extensively on problems of forest regeneration, including plant-plant and deer-plant interference relationships, and methods of vegetation management. Recently, he and his collaborators have studied the factors contributing to sugar maple decline in Pennsylvania. Dr. Horsley is an active participant in workshops and training sessions designed to help forest and resource managers use the results of his research to improve the sustainability of their management practices.

Dr. Horsley serves as an Associate Editor of the *Canadian Journal of Forest Research*.



Dr. Susan L. Stout was educated at Radcliffe College of Harvard University (A.B. 1972), the State University of New York (M.S. Silviculture 1983), and Yale University (D.F. 1994). Since 1981, she has been employed as a research forester with the United States Forest Service Research Project located in Warren, PA. In 1991, she was named leader of the research team at that location.

Her research interests include measuring crowding and diversity in forests, deer impact on forests, silvicultural systems, and translating results from ecosystem research into practical management guidelines for Pennsylvania's forests and beyond. Currently, she is collaborating with the Sand County Foundation and several landowners in a demonstration project called the Kinzua Quality Deer Cooperative. Landowners, land managers, hunters, and scientists are working together to improve both hunting and habitat on a 74,000 acre landscape in northwestern Pennsylvania. She is an active participant in the annual workshops in sustainable forestry offered by the Warren Forestry Sciences Laboratory team, at which techniques for recognizing and managing deer impacts are an important subject.

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LEAP POSITION STATEMENT ON WHITE-TAILED DEER MANAGEMENT

Updated August 2016

POSITION: As a regional alliance dedicated to conserving nature for future generations, Lake Erie Allegheny Partnership for Biodiversity (LEAP) members believe that natural communities in our region need to be actively managed and conserved based on scientific principles and best management practices. LEAP members recognize that white-tailed deer (*Odocoileus virginianus*) are an important component of the biodiversity within the region and have significant economic, ecological, and social value. However, when factors favor high deer populations—such as high birth output, low disease incidence, abundant food supply, and few predators—overabundant deer cause damage to ecosystems and negatively impact human safety. Conversely, in areas of the LEAP region where active, sustained deer management occurs, native vegetation flourishes, habitat quality is high, and conflicts between deer and human populations are reduced. As a result, white-tailed deer populations should be managed to 1) maintain a sustainable deer population, 2) retain the number of deer that a landscape can support while still remaining healthy over the long-term (ecological carrying capacity), and 3) minimize negative deer–human interactions (social carrying capacity).

BACKGROUND: The geographic focus area of the Lake Erie Allegheny Partnership for Biodiversity (LEAP) encompasses the Lake Plain and glaciated lands and waters south of Canada from Sandusky Bay to the Allegheny Mountains. This includes portions of northern Ohio, western Pennsylvania, and western New York.

The white-tailed deer populations within the LEAP region share a similar history to other deer populations across North America. White-tailed deer were nearly extirpated from the region in the late 19th and early 20th centuries, at which time conservation measures were enacted to establish sustainable populations. White-tailed deer populations have recovered from historic lows, and today—with few remaining predators, high reproductive rates and survivorship, local ordinances which prohibit hunting, adaptive food habits, supplemental feeding, and low disease-related mortality—the frequency of deer-human interactions has increased in many areas. Examples of deer-human interactions include deer-vehicle accidents, damage to landscaping and garden vegetation, and damage to agricultural crops. Importantly, local deer overabundance critically affects the health of natural areas in our region.

The impacts associated with an overabundance of or excessive browsing by deer have been well-documented (Rooney, 2010):

- Impacts on Biodiversity: An abundant deer population that is out of balance with its native ecosystem has detrimental impacts by both directly and indirectly affecting native plant and wildlife populations, habitat quality, and ecosystem processes (Rooney 2003; Côté *et al.* 2004).

- Impacts on Plants: When deer become overabundant they reduce the ability of rare and once common plants to survive and reproduce. Deer browsing reduces the height, vigor, and reproduction of plants through the repeated removal of stems, leaves, and flowering parts of plants (Rooney, 2001; Russell *et al.* 2001; Knight *et al.* 2009; Waller *et al.* 2009).
- Impacts on Wildlife: Deer browsing negatively impacts wildlife that needs woodland understory for forage, nesting, and cover. Deer browsing can, for instance, significantly reduce vegetation that birds use for foraging, escaping predators, and nesting (McShea and Rappole 2000; Fuller 2001; Allombert *et al.* 2005; Chollet and Martin 2013).
- Impacts on the Economy: Deer browsing and antler rubbing cause economic losses in many agricultural operations including row crops, orchards, nurseries, tree farms, and commercial forests, as well as causing substantial damage to landscape and garden vegetation, cemeteries, golf courses, and natural areas (Conover and Kania 1995; Scott and Townsend 1985; Brown *et al.* 2004; USDA 2009).
- Impacts on Disease: Overabundant deer populations can hasten the spread of diseases that impact deer and humans (McShea *et al.* 1997).
- Deer-Vehicle Accidents: An estimated 1.5 million reported deer-vehicle accidents occur in the United States each year and result in approximately 29,000 injuries and 200 human deaths annually. However, only a fraction of actual deer-vehicle accidents are reported (Messmer and Messmer 2008).

(<https://www.ohioinsurance.org/ohio-statewide-deer-vehicle-collisions-continue-decline-but-damages-are-up-6>) (Accessed August 2016)

RECOMMENDATIONS: LEAP members support the following points in regard to the management of conflicts and damage resulting from white-tailed deer:

- We recognize that white-tailed deer are an important and essential component of biodiversity within the region.
- We recognize that reducing wildlife damage is an important part of present-day wildlife management.
- We recognize that acceptable deer population levels depend on the specific situations and management objectives for a given area, and that factors such as deer herd health, ecological impacts from deer, additional threats to forest health, public safety, and social tolerance of deer. All of these factors can often contribute to determining this acceptable level.
- We recognize that when browsing by deer causes habitat deterioration, appropriate deer densities are best managed by site-specific reduction of deer numbers. Areas with low to moderate impacts to plant and animal populations may require a lower degree of herd management than areas with heavy

browsing and the appearance of a browse line.

- We believe that it is important to disseminate information to municipalities, residents, and other interested parties regarding deer management, including information on lethal and non-lethal control options.
- We believe that it is critical to develop and implement education efforts that foster an understanding of the biological, social, and economic consequences of managing deer populations including the option of no active management.
- We should encourage wildlife biologists and land managers within the region to continue to assess their deer populations and to continue to evaluate effective techniques for deer management.
- We support active control of deer populations (e.g., lethal methods including hunting) on public and private lands in accordance with state and local regulations.
- We support safe management techniques that are deemed most appropriate based on individual situations and best science currently available.
- We will encourage municipalities to work with the Ohio Division of Wildlife to develop safe and effective urban deer management plans to manage the white-tailed deer populations within their city boundaries.
- We believe that deer densities in forests and woodlands should be reduced to a level that, in combination with other appropriate forest management techniques, would allow for the reproduction of canopy tree species, and for the shrub and herbaceous understory layers to return to a healthy condition.

SUMMARY: White-tailed deer management is a critical component of a comprehensive, science-based land management strategy designed to restore a high degree of biodiversity and protect the long-term health and resilience of natural communities in the LEAP region. White-tailed deer have the potential to impact native plant and animal communities. Overabundant deer populations also result in increased numbers of deer- vehicle accidents, as well as an increased potential for disease and parasite transmission. In the absence of management, deer populations can increase beyond the capacity of habitats to support them in the long term, and the quality of habitats deteriorate significantly before any natural mechanisms take effect in limiting herd growth, thereby causing deer health and productivity to eventually suffer. Deer management programs should support an ecosystem balance that sustains a full range of native plants and provides diverse habitat for birds and other animals while also dealing with any identified deer-human interaction issues. At times it is necessary to use human intervention to manage deer population numbers at acceptable levels for desired healthy ecosystems, to reduce nuisance situations, and to increase human safety.

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ADDITIONAL RESOURCES:

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LEAP MEMBERS CONFIRMING THEIR SUPPORT FOR THE STATEMENT:

Audubon Society of Greater Cleveland
City of Avon Lake
City of Mentor
Cleveland Botanical Garden
Cleveland Metroparks
The Cleveland Museum of Natural History
Cuyahoga County Board of Health
Cuyahoga Soil and Water Conservation District
Geauga Park District
Hiram College
Holden Arboretum
Medina County Park District
Metro Parks, Serving Summit County
Native Plant Society of Northeastern Ohio
Nature Center at Shaker Lakes
Ohio Division of Wildlife
The Nature Conservancy
The Wilderness Center
USDA/APHIS-Wildlife Services
Western Reserve Land Conservancy

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- Lee indicated that he will look into the past programs that were referenced.
- Tom Frost inquired about the number of deer harvested. Nick provided a summary of the deer that were harvested. The end of year report will cover all of these items.

Lee Frey moved to exit regular session and go into executive session at 6:36 pm for the purpose of to consider the appointment, employment, discipline, or compensation of public employees. The motion was seconded by Tom Frost after discussion, the roll being called upon its adoption, the vote resulted as follows:

Voting Aye: Bennet, Frey, Frost, Harvey, Olivier
Voting Nay: None

Lee Frey moved to exit executive session and return to regular session at 7:39 pm. The motion was seconded by Germaine Bennett after discussion, the roll being called upon its adoption, the vote resulted as follows:

Voting Aye: Bennet, Frey, Frost, Harvey, Olivier
Voting Nay: None

The next meeting is scheduled for Monday, March 11, 2023, at 6:00 p.m., in McMahon Hall at the MetroParks Farm.

There being no further business, the meeting was adjourned at approximately 7:40 p.m.

Presiding Officer

Secretary