

Penn State **Extension**

FROM THE WOODS

White-Tailed Deer



PENNSTATE



Cooperative Extension
College of Agricultural Sciences

PHOTOS: GINO D'ANGELO

AN EDUCATIONAL SERIES ABOUT FORESTRY FOR YOUTH

The white-tailed deer is Pennsylvania's state animal. Deer play an important role in our forests, and everyone admires their graceful beauty. "Whitetails" have been a part of Penn's Woods for many centuries. Native Americans depended on white-tailed deer as a source of food, clothing, shelter, and goods for trading. It is estimated that Pennsylvania had 8 to 10 deer per square mile during those times. Deer were in balance with their forest habitat. Deer populations were kept in check by large predators, such as mountain lions and wolves, and by people.

The Europeans who settled in Pennsylvania also valued deer. Deer meat was a staple in their diet, and meat and hides were shipped to Europe as well. In Europe, wildlife was "owned" by landowners. Landowners controlled who



PHOTO: GINO D'ANGELO

Newborn fawns weigh between 4 and 8 pounds, and are not much bigger than a human hand. They instinctively stay very still when their mother is away. The spots on their coat help them to hide from predators.

hunted and the number of animals killed. American settlers changed this system. In the United States, all citizens, not just landowners, owned the wildlife. Wildlife became a common property all citizens could use.

MAKING A COMEBACK

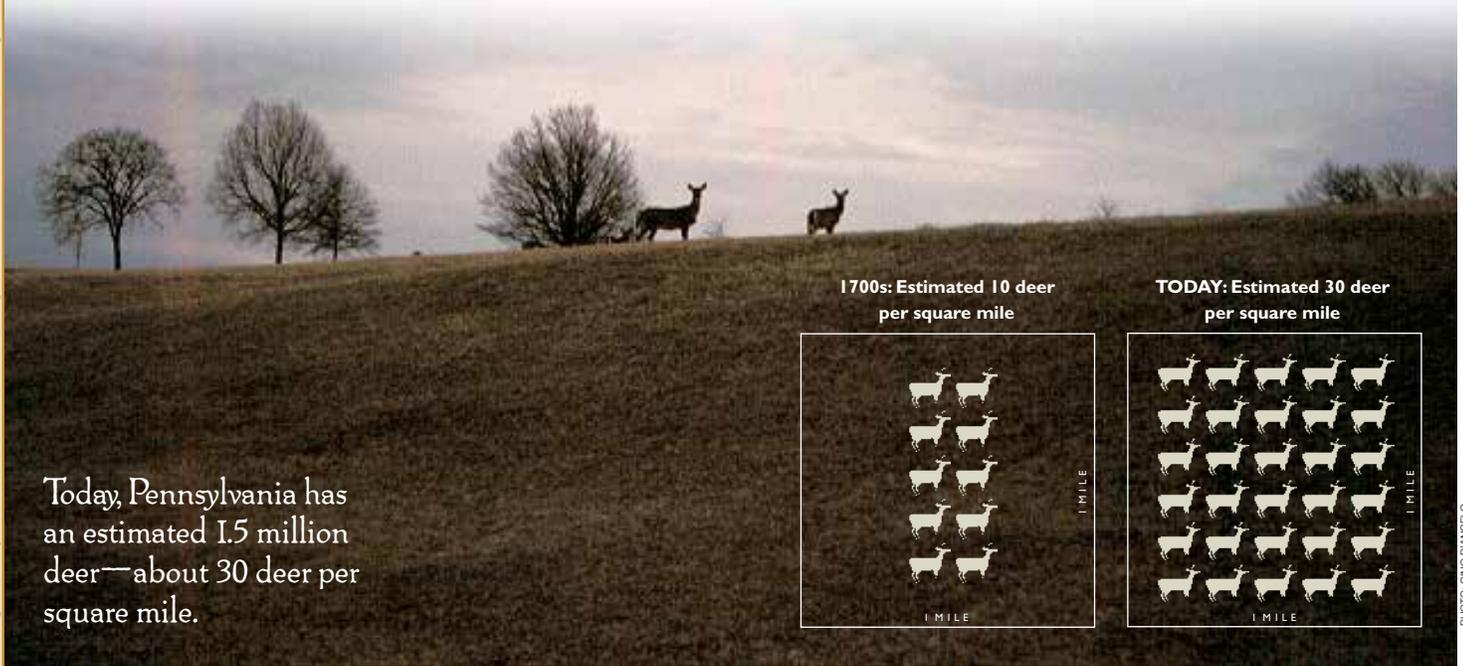
Lack of control over the way people used and hunted wildlife became a serious problem

in many states. By the end of the 1800s, very few deer remained in Pennsylvania. Extensive hunting to feed the country's growing population and the lack of enforcement of wildlife regulations were largely to blame. In 1895, the Pennsylvania Game Commission was formed to protect the state's wildlife resources. The commission established "game lands" to help restore

wildlife populations. It also brought deer from other states, such as Michigan and Kentucky, to restock Pennsylvania. Additionally, the state government enacted a law to protect does (female or "antlerless" deer).

These actions, combined with the habitat found in Pennsylvania in the early 1900s, created ideal conditions for deer. During the 1800s, most of the state's forests had been cleared to produce lumber or grow crops. Much of this cleared area grew back on its own into new forestland. The thick stands of young trees and shrubs provided perfect food and cover for deer, and Pennsylvania's deer population grew rapidly in the early 1900s.

Deer are a very productive species. In good habitat, adult females often produce twins and triplets each year. In a Michigan study, 10 deer were



Today, Pennsylvania has an estimated 1.5 million deer—about 30 deer per square mile.

1700s: Estimated 10 deer per square mile



TODAY: Estimated 30 deer per square mile

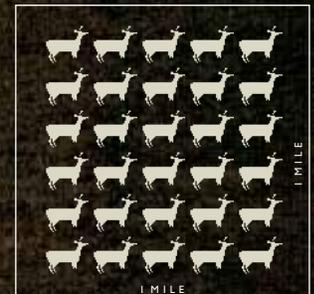


PHOTO: GINO D'ANGELO



PHOTO: HOWARD MUEHBERGER

enclosed in a 1,100-acre preserve. After five years without hunting or predators, the population grew to over 200 deer. In 2001, Pennsylvania had an estimated 1.5 million deer—about 30 deer per square mile. That’s more than three times what the state had before European settlement.

BIODIVERSITY

A healthy forest has *biological diversity*. This means it has a wide variety of flowers, shrubs, trees, and wildlife species. The various plants and trees create layers, from the forest floor to the treetops. Each layer, or level, provides special conditions for different wildlife and plant species.

The large number of deer in Pennsylvania has significantly changed our forests over the

last 50 years. Today, many of our forests *look* nice, with large trees and a lush, green

carpet of ferns, but there are few young trees to be found and very limited biodiversity.

Deer are “browsers.” They primarily eat the leaves, twigs, and shoots of young trees, shrubs, and wildflowers. In many areas, deer have over-eaten the forest, and the diverse layers are gone. In some forests, the diversity of plant species that grew in Penn’s Woods for centuries has been replaced by a few species that deer do not prefer to eat.

Deer tracks



PHOTOS: GINO D'ANSELO

Whitetails have hooved feet. Scent-producing glands between their toes leave a scent wherever they walk. Whitetails have several scent glands that are important for deer communications.

KEEPING A BALANCE

Many things control deer populations. Harsh winters with deep snow can cause deer to starve, but recent Pennsylvania winters have been milder than in the past. In colonial times, large predators helped keep deer herds in

balance, but humans eliminated large predators by the late 1800s. Many deer are killed by cars each year, and coyotes, dogs, and bears kill some deer, but these do not make a large impact on the deer population. Some people have suggested using chemical birth control methods to reduce deer populations, but these have proven impractical. Hunting is the single most important way to keep the deer herd in balance.

Deer management has not been entirely effective in our state. Politics and tradition have worked against good management. Buck (male or "antlered" deer) hunting in the state has been part of Pennsylvania's heritage for

Stages of antler growth



SPRING



SUMMER



FALL

PHOTOS: HOWARD NIERNBERGER

Buck antlers are actually fast-growing bone tissue. They begin growing in the spring and go through several stages before they are shed in the winter months. Antlers increase in size with a deer's age. Good health and nutrition also play a role in antler size.

generations. For decades, hunters resisted killing does. It went against tradition, and hunters believed killing does would harm next year's buck population. But research shows that the only way to control the overall deer population is to prop-

erly reduce the number of does through hunting.

White-tailed deer are graceful and beautiful animals, and they play an important role in the future of Penn's Woods. To ensure the health of our forests, deer herds must be kept in bal-

ance with their habitat. The number of deer taken each year through hunting should be based on the habitat, the deer population, and the values of the citizens who own this wildlife resource. The future of our deer herd depends upon us.

Hunting safety is a priority.



PHOTO: HOWARD NIERNBERGER

Each year almost 1 million hunters in Pennsylvania take to the field in pursuit of whitetails. Fluorescent orange apparel makes hunters more visible to each other.

Prepared by Gary J. San Julian, professor of wildlife ecology, and Sanford S. Smith, natural resources and youth specialist, in Penn State's School of Forest Resources. Contributors: Theresa M. Alberici, wildlife education specialist, and Joe Kosack, information specialist, *Pennsylvania Game News*, with the Pennsylvania Game Commission.

Support for the printing of this document was provided by the Sandy Cochran Memorial Fund.

extension.psu.edu

Penn State College of Agricultural Sciences research and extension programs are funded in part by Pennsylvania counties, the Commonwealth of Pennsylvania, and the U.S. Department of Agriculture.

This publication is made possible through Pennsylvania 4-H educational materials fees.

Where trade names appear, no discrimination is intended, and no endorsement by Penn State Extension is implied.

This publication is available in alternative media on request.

The University is committed to equal access to programs, facilities, admission, and employment for all persons. It is the policy of the University to maintain an environment free of harassment and free of discrimination against any person because of age, race, color, ancestry, national origin, religion, creed, service in the uniformed services (as defined in state and federal law), veteran status, sex, sexual orientation, marital or family status, pregnancy, pregnancy-related conditions, physical or mental disability, gender, perceived gender, gender identity, genetic information, or political ideas. Discriminatory conduct and harassment, as well as sexual misconduct and relationship violence, violates the dignity of individuals, impedes the realization of the University's educational mission, and will not be tolerated. Direct all inquiries regarding the nondiscrimination policy to Dr. Kenneth Lehrman III, Vice Provost for Affirmative Action, Affirmative Action Office, The Pennsylvania State University, 328 Boucke Building, University Park, PA 16802-5901; Email: kfl2@psu.edu; Tel 814-863-0471.

Produced by Ag Communications and Marketing

© The Pennsylvania State University 2001

Code UH148 R1M9/14mpc