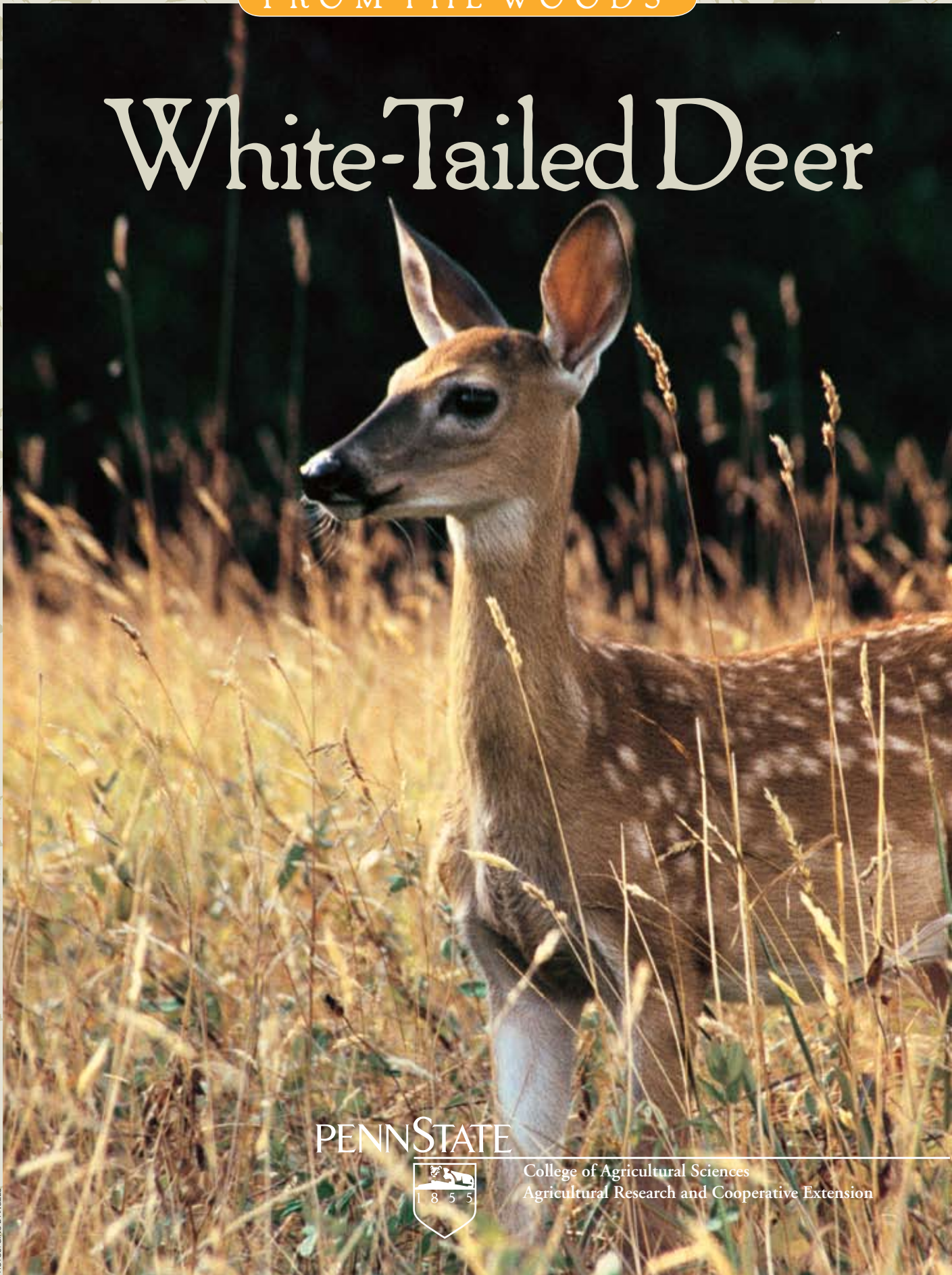


FROM THE WOODS

# White-Tailed Deer



PENNSTATE



College of Agricultural Sciences  
Agricultural Research and Cooperative Extension

PHOTOS: GINO D'ANGELO

AN EDUCATIONAL SERIES ABOUT FORESTRY FOR YOUTH

**T**he 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 hunted and the number of animals killed.



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.**

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 and early 1900s, 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.

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 enclosed in a 1,100-acre preserve. After 5 years without hunting or predators, the population



**Deer live almost everywhere; they have adapted to human development and habitat changes.**

PHOTO: GINO D'ANGELO



PHOTO: HOWARD NUERBERGER

grew to over 200 deer. Today, Pennsylvania's deer population varies across the state depending on habitat availability, food sources, and hunting pressure. Deer live almost everywhere; they have adapted to human development and habit changes. In some areas, too many deer create deer-human conflicts.

### **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, particularly in our most heavily forested areas. 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 overeaten 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'ANGELO

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

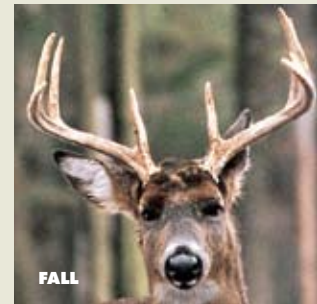
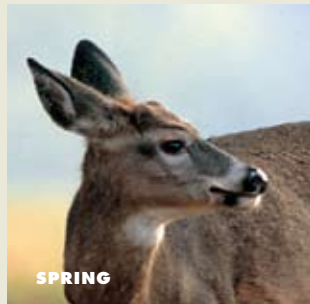
### **KEEPING A BALANCE**

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. 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 proved 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 management efforts to balance deer and habitat in a sustainable

## Stages of antler growth



PHOTOS: HOWARD NUERNBERGER

**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.**

manner. Buck (male or "antlered" deer) hunting in the state has been part of Pennsylvania's heritage for 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 properly 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 deer and our forests, herds must be kept in balance 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 on us.

## Hunting safety is a priority.



**Each year almost 760,000 hunters in Pennsylvania take to the field in pursuit of whitetails. Fluorescent orange apparel makes hunters more visible to one another.**

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; Joe Kosack, information specialist; *Pennsylvania Game News*, with the Pennsylvania Game Commission; and Christopher Rosenberry, biologist.

Visit Penn State's College of Agricultural Sciences on the Web: [www.cas.psu.edu](http://www.cas.psu.edu)

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

This publication is available from the Publications Distribution Center, The Pennsylvania State University, 112 Agricultural Administration Building, University Park, PA 16802. For information telephone 814-865-6713.

**This publication is available in alternative media on request.**

The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. It is the policy of the University to maintain an academic and work environment free of discrimination, including harassment. The Pennsylvania State University prohibits discrimination and harassment against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, gender identity, or veteran status. Discrimination or harassment against faculty, staff, or students will not be tolerated at The Pennsylvania State University. Direct all inquiries regarding the nondiscrimination policy to the Affirmative Action Director, The Pennsylvania State University, 328 Boucke Building, University Park, PA 16802-2801, Tel 814-865-4700/V, 814-863-1150/TTY.

Produced by Ag Communications and Marketing

© The Pennsylvania State University 2009

Code # UH148 rev5M1/09nvo4255b