

NEW YORK STATE

# CONSERVATIONIST



ALL ABOUT  
**DEER**



Pam Monacelli

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**In this issue,** students will learn about white-tailed deer, including the basics of their life history. Students will also learn how deer can impact forests, and some of the ways that deer populations can be studied and managed.



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Cover photo by Pam Monacelli



# WHAT IS A DEER?

Whether it is from seeing them in your neighborhood or while out on a hike, almost everyone knows what deer are, but do you really know what a deer is? White-tailed deer are one of the most commonly seen large mammals in New York State. Just like you, deer are mammals, which means they are warm-blooded, have hair or fur over some or all of their body, and females produce milk to feed to their young.



Becky Enders

Around the world, there are more than 40 species belonging to the deer family. A family is a group of closely related organisms. In New York, we have two species in the deer family – the moose and the white-tailed deer. In this issue, we will focus on white-tailed deer. Deer have four legs, which end in a hoof that is split into two toes. Other kinds of animals with hooves like deer include cattle, pigs, antelopes, goats, and sheep. This makes them different from other hoofed animals, such as horses, which have hooves that consist of a single toe. White-tailed deer get their name from the white underside of their tails, which they raise like a flag if they are startled, and that can be seen sticking up when they run from danger, such as predators. The primary predators of white-tailed deer in New York are coyotes, bears, and bobcats, not counting humans.

Deer are herbivores, and eat a wide range of plant materials, including grasses, trees, shrubs, mushrooms, acorns, fruits, agricultural crops, and even ornamental plants in people's yards. Deer are very able to adapt to (get used to) a variety of habitats, and can be found in grasslands, forests, fields, parks, golf courses, gardens, and even lawns in towns and cities. They are very widespread across the state and can be found in most areas. Deer are very good swimmers, and will cross rivers and lakes to get to food or to get away from predators. Sometimes deer are even seen swimming in the ocean! They are also very good jumpers, able to jump more than eight feet high. They can also run up to 30 miles per hour to escape predators. Deer often travel together in large groups called herds.



Dale Robert



Janie Ferguson

# Deer Life History



Aaron Winters

Male white-tailed deer are called bucks, and females are called does. Bucks grow antlers on their heads, and they grow new antlers every year. Bucks will use antlers to attract mates, to fight rival bucks, and to defend themselves from predators on rare occasions. Their antlers start growing in the spring and are finished growing by late summer. Antlers are made of bone, and while they are growing, they

are covered in a type of soft, hairy skin called velvet. The velvet provides protection and nutrients to the growing antlers, and once the antlers are done growing, the bucks will rub the velvet off. During the winter, bucks shed their antlers, and the whole process starts over again in the spring.



Scott Stoner/Naturelogues



Melissa Groo

Barry Hogan

Does become pregnant during the late fall or early winter and give birth to one to three fawns (baby deer) in the late spring, after a gestation (amount of time spent pregnant) of around 200 days. Fawns are brown and covered in white spots when they are born, which helps them hide from predators by blending in with grass and other vegetation. A few minutes after being born, they are able to walk, although not for very long distances at first. Does will often leave the fawns hidden in tall vegetation when they are young. Remember, if you find one, the mother is probably nearby, and the fawn does not need to be rescued! Not only can this be harmful for the fawn, it is also illegal to keep deer and other wild animals as pets.

Does produce milk, which the fawns drink as their only source of food for the first three weeks or so. After that, they will begin to eat vegetation, but will continue to nurse (drink milk) until they are around 10 to 12 weeks old. After that time, they are weaned (stop drinking milk) and become more independent from their mothers.

# White-Tailed DEER



# Deer As Ecosys

## What is an Ecosystem Engineer?

An ecosystem engineer is an animal that changes its environment in a way that impacts other animals around it. The changes the animal makes to an ecosystem can be bad, good, or a little mix of both. A common example is the beaver, which builds dams in streams and creeks to create ponds and flooded wetlands.



Healthy forest (L), Over-browsed forest (R)

## Engineering the Menu

While the impacts of beavers are easy to see, the way deer engineer the ecosystem is less obvious. When deer populations are overabundant (meaning there are too many deer for that area) they can change the forest by eating all the young seedlings. Just like you find some foods tastier than others, so do deer. Deer will eat all the tasty plant seedlings (e.g., maple and birch) and avoid trees that aren't as yummy, like hemlock and other conifers (e.g., trees with cones). Throughout the warm months, deer will continually eat all the tastier foods that sprout; meanwhile, all the less desirable

plants will continue to grow. Eventually, those less tasty plants mature and make up the majority of the forest overstory (the tallest trees in a forest), but the tasty plants never make it past the seedling stage. The end result can be a forest dominated by only a handful of certain tree species and very few young plants and seedlings at the ground level. When damaged like this, the forest may not be able to replace itself as trees die and won't provide the food and cover needed by other animals.

## How Many Deer are Too Many Deer?

There are a few ways wildlife biologists can tell if there are too many deer in a forest. Many healthy forests will have an understory of herbs and flowers that pop up shortly after snowmelt. These flowers can act as indicator species. When they are present in a forest, there may be a lower number of deer than compared to when they are absent. Similar to using flowers as an indicator, browse lines can be found in forests that have too many deer. A browse line is when shrubs and young trees have fewer leaves and branches below five feet, but have lots of leaves and branches above that. These browse lines may be more evident in the winter months when there are less food options for deer, so they have to eat twig ends and branches to make it through the cold months. Lastly, deer themselves can show evidence that their habitat has been depleted. When deer are too numerous and have damaged the forests, they weigh less, antler growth is limited, and the deer are less capable of surviving through winter.



Example of a browse line.

Forest Preserves of Cook County

# tem Engineers

## What's the Solution?

There are a few ways we can prevent deer from changing the forest they live in. The most common practice is to remove deer when there are too many. Deer are removed during regulated hunting seasons, where the New York State Department of Environmental Conservation sets rules for when, where, and how many deer can be harvested by hunters to keep the ecosystem healthy. Another option for reducing the impact of deer on the forests is to place fencing in areas where forests are regrowing. While fencing may provide a short-term solution for the area inside the fencing, by not removing deer completely, those deer will move on to another forested area and cause the same problem. Additionally, deer fences can be very expensive to build and maintain, making them impractical for non-working forests where the forest itself generates money through timber harvest or other resource use. Lastly, the way we harvest forests can help reduce deer impacts. Timber harvesters can create large barriers of tree limbs, known as slash walls, around areas they harvest to prevent deer from accessing a forest. This is very similar to building a fence, but it does not require any additional building material. However, slash walls require a large amount of tree limbs and debris to successfully keep out deer, limiting their use to forests that undergo intensive timber harvest.



sketchplanations.com

## What Does This Mean for You?

As you spend time outdoors, whether it is hiking, camping, or any other activity, deer can provide excellent wildlife viewing. But it's important to remember that while deer are great to watch, too many deer can be problematic for the beautiful forest around you.



John Tucker



# Get Outside!

Words can go in any direction.

Words can share letters as they cross over each other.



Liz Kalisiak



Antlers	E	P	R	E	D	A	T	O	R	M	R	N	Q	B	V
BrowseLine	N	M	P	I	T	S	P	U	U	E	D	C	V	U	E
Buck	I	D	Y	S	G	R	H	I	M	A	P	L	E	C	G
Deer	L	E	F	G	Y	E	L	A	F	I	A	R	O	K	E
Doe	E	E	F	L	Y	L	S	T	R	M	Q	S	D	W	T
Ecosystem	S	R	S	Q	I	T	E	T	M	V	Y	X	U	F	A
Engineer	W	T	O	R	B	N	Y	A	A	S	E	I	M	T	T
Fawn	O	P	T	V	X	A	M	Z	T	T	F	S	E	S	I
Forage	R	Y	J	W	I	R	E	E	D	O	I	V	T	O	O
Gestation	B	X	P	N	N	B	M	C	R	L	L	O	S	Q	N
Harvest	D	H	G	N	W	U	R	A	N	E	P	R	N	M	R
Herbivore	D	O	E	C	J	A	G	E	V	B	N	J	R	Z	A
Mammal	T	A	E	M	D	E	F	Z	H	G	F	F	U	Q	D
Maple	R	E	E	N	I	G	N	E	U	N	K	V	O	Z	A
Predator	W	H	I	T	E	T	A	I	L	E	D	D	E	E	R
Tree															
Trillium															
Vegetation															
Velvet															

**Use this space to keep track of the deer that you see.** Where do you see them? What kinds of habitats? How many deer did you see? Were they bucks or does? If you are walking in a field or the woods, be sure to keep an eye out for shed antlers during the late winter and early spring. If you want, you can draw a sketch of some of the deer that you have seen and the habitat where you saw them.

New York State *CONSERVATIONIST FOR KIDS*

Fall 2022, Volume 16, #1

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Environmental  
Conservation

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EDITORIAL OFFICES - *Conservationist for Kids* ISSN 1940-8099, © 2022 by NYSDEC, is an official publication of the New York State Department of Environmental Conservation published 3 times per year at 625 Broadway, Albany, NY 12233-4502. Telephone (518) 402-8047. TO SUBSCRIBE TO *CONSERVATIONIST FOR KIDS*, visit the department's website at [www.dec.ny.gov](http://www.dec.ny.gov) or call 1-800-678-6399. *CONSERVATIONIST FOR KIDS* and the Teacher Supplement are available online at [www.dec.ny.gov](http://www.dec.ny.gov). The New York State Department of Environmental Conservation does not discriminate on the basis of race, national origin, disability, age or gender.

Special thanks to Jeremy Hurst and David Kramer from DEC's Division of Fish and Wildlife for their help with content development.

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### *Conservationist for Kids* Supplement for Classroom Teachers – All About Deer October 2022

#### The World of Deer

Although there are only two members of the deer family native to New York State, there are five native species in the United States, and more than 40 species worldwide. The deer family is subdivided into two subfamilies, Capreolinae and Cervinae. Capreolinae includes roe deer, moose (also called European elk), reindeer (often called caribou in North America), mule deer, brocket deer, and the focus of this issue, the white-tailed deer, as well as some other species. The subfamily Cervinae includes tufted deer, muntjac, fallow deer, red deer, Sika deer, and elk (also known as the American wapiti), along with some additional species. In addition to white-tailed deer, the other members of the deer family native to the United States are the elk, moose, mule deer, and caribou. There is also the black-tailed deer, which is a subspecies of the mule deer. If you have a zoo or animal park near you, there is a good chance that some of these deer species can be found there.

#### Introduction to Taxonomy

In this issue of *Conservationist for Kids*, we talk about the deer family, and what species of deer can be found in New York State. Family and species are two of the levels of classification used in taxonomy. Taxonomy is a system that scientists use to place animals, plants, and all living organisms into different groups, based on shared characteristics and DNA. It starts with a large category called Kingdom, and moves down to the category called species, which is a single kind of organism. The different levels used in taxonomy are Kingdom, Phylum, Class, Orders, Family, Genus, and Species. An easy phrase to remember this is KeeP Pets Clean Or Fur Gets Stinky. As you move from top to bottom, the number of different organisms in a group decreases, from many to one. Here is the taxonomy of a white-tailed deer.

Kingdom	Animalia
Phylum	Chordata
Class	Mammalia
Order	Artiodactyla
Family	Cervidae
Genus	Odocoileus
Species	virginianus

The scientific name (sometimes called the Latin name) is the name assigned to a specific organism and consists of the genus and species. This name is written in italics, with genus being capitalized and species being lowercase. So, the scientific name of a white-tailed deer is *Odocoileus virginianus*. Sometimes, there are sub-divisions within these categories, based on certain characteristics, regional differences, or differences in DNA. A species can sometimes be further classified into a level called subspecies. The subspecies found in New York State is called

the Northern subspecies, *Odocoileus virginianus borealis*. Every living organism, from the largest animals and plants to the smallest viruses and bacteria are classified using the same system. Just for fun, here is the taxonomy for you!

Kingdom	Animalia
Phylum	Chordata
Class	Mammalia
Order	Primates
Family	Hominidae
Genus	Homo
Species	sapiens

The scientific name for humans is *Homo sapiens*.

### Teacher Workshops

For teachers who have participated in a Project WILD, there are a number of activities that complement this issue of *Conservationist for Kids*. The activity "Oh Deer!" is a favorite of many students and educators. Visit [www.dec.ny.gov/education/1913.html](http://www.dec.ny.gov/education/1913.html) for information about workshops and how to obtain curriculum and activity guides.

### Online Resources\*

DEC - New York's Deer Management Program [www.dec.ny.gov/animals/7211.html](http://www.dec.ny.gov/animals/7211.html)

DEC - Deer Overabundance [www.dec.ny.gov/animals/104911.html](http://www.dec.ny.gov/animals/104911.html)

DEC - White-tailed Deer [www.dec.ny.gov/animals/6965.html](http://www.dec.ny.gov/animals/6965.html)

BioKIDS - White-tailed deer [www.biokids.umich.edu/critters/Odocoileus\\_virginianus/](http://www.biokids.umich.edu/critters/Odocoileus_virginianus/)

National Deer Association <https://deerassociation.com/>

National Geographic - White-tailed Deer

[www.nationalgeographic.com/animals/mammals/facts/white-tailed-deer](http://www.nationalgeographic.com/animals/mammals/facts/white-tailed-deer)

Whitetails Unlimited [www.whitetailsunlimited.com](http://www.whitetailsunlimited.com)

### Books\*

*All About Deer*, Scholastic, 1996

*Deer For Kids*, CreateSpace Independent Publishing, 2014

*Deer (Nature & Science)*, Independently published, 2020

*Deer, Moose, Elk and Caribou*, Kids Can Press, 1999

*My First Book about Deer*, CreateSpace Independent Publishing, 2016

*The Hidden Life of Deer: Lessons from the Natural World*, Harper Perennial, 2010

*Whitetail Deer*, Cooper Square Publishing, 2000

*White-Tailed Deer (Elementary Explorers)*, Victoria Blakemore, 2017

*White-Tailed Deer (Woodland Wildlife)*, Capstone Press, 2016

*\*Please note, the listing of websites and books is not to be considered an endorsement, as not all have been reviewed by the editor.*

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