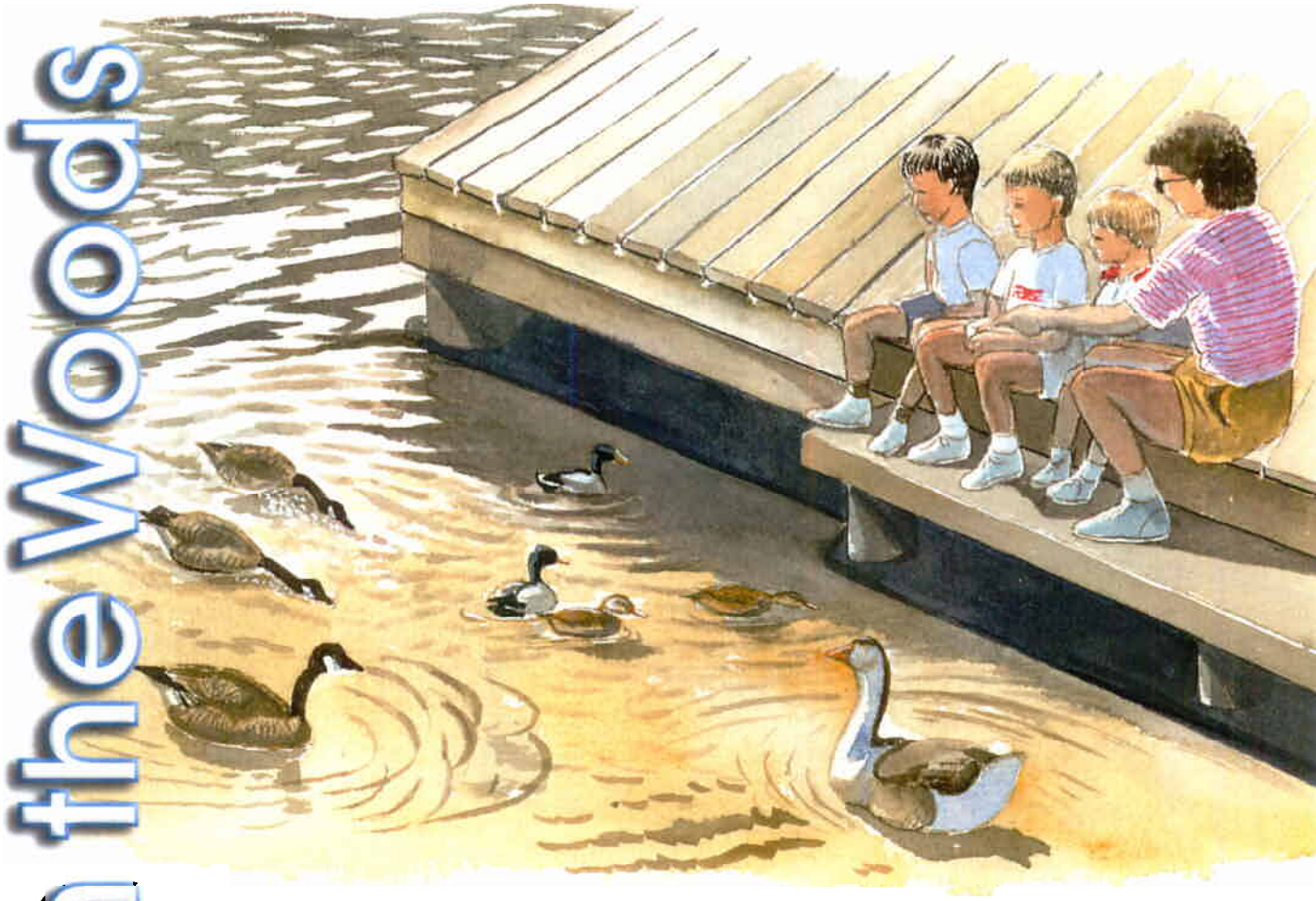
Wild in the Woods



Feeding Wildlife: Food for Thought

by Carol A. Heiser
illustrations by Spike Knuth

Here's a scenario to think about: I recall sitting on a park bench next to a local lake one afternoon, observing several people with their children who were enjoying the sights and sounds of abundant flocks of squawking geese and ducks. One particular family of children had just finished their picnic lunch, and it looked like they were returning to their car to pack up the supplies. However, it turned out they had gone back to the car to retrieve a few other plastic bags, which appeared to be very full. The children then ran enthusiastically down to the edge of the lake, and with animated glee and noisy excitement they pulled out of the bags no less than eight loaves of white bread. Each child proceeded to scatter fistfuls of bread into the water to the now equally boisterous flocks of ducks and geese. Question: what's wrong with this picture?

To a time-strapped parent who appreciates low-budget outings, there may seem to be nothing wrong with this picture. Children just want to have a little fun, after all. The park is close by, and everyone enjoys feeding the ducks; why let stale bread go to waste? Unfortunately, there's a

have been feeding them on a regular basis. White bread and other junk food from our kitchens does not contain the proper nutrients for adequate bone growth in young waterfowl. Their wing bones can become twisted, stunted and dysfunctional as a result of continuous supplemental feeding. Wild animals require a balanced diet of appropriate vitamins and minerals to grow well and strong, just like our own children.

Truth or Consequences

Artificial feeding often creates a local nuisance by increasing the abundance of certain animals in a relatively small area. We receive frequent phone calls from frustrated homeowners whose neighbors feed wildlife. Deer attracted to a neighborhood by feeding usually end up partaking of the azaleas, dogwoods and other apparently delectable ornamentals. Raccoons attracted by feeding end up raiding everyone's unprotected trash cans.

There is also an associated risk of more dangerous human/wildlife interactions. Feeding wildlife interferes with normal behavioral patterns, and concentrating animals in urban or suburban areas increases the probability of negative consequences. Over time, fed

bigger, more insidious picture that might be harder for us to see, yet carries significant, troubling consequences for the health of animals, habitats and the public's safety. Feeding wild birds and mammals may be fun; but many aspects of it can accelerate the spread of disease, alter animal behavior and interfere with complex food web processes.

Junk Food for Wildlife

Typically, the food items that people present to wildlife are not nutritious and can interfere with good growth and development. This dynamic is evident in the deformed wings of geese or ducks that inhabit water bodies where people

Raccoons, deer and other wildlife species frequently roam our neighborhoods in search of easy food sources. If these animals become concentrated in large numbers as a result of people feeding them, the animals can spread diseases to each other and cause property damage. It is extremely important not to provide supplemental feed such as corn, apples or pet food to any wild mammals. To minimize nuisance problems, secure the lids of all trashcans, and store pet food indoors.

animals tend to lose their fear of people and can become more bold or aggressive. There have been plenty of reports of people being unexpectedly attacked by deer, geese, beaver and a whole assortment of other species that they were just trying to be "friendly" with. Feeding wild animals by hand or otherwise trying to get close to them is definitely unwise.

Concentrating Diseases

From an ecological standpoint, the most serious consequence of recreational feeding is that the practice can contribute to numerous health problems within wildlife populations. When wild animals like waterfowl or mammals are attracted to an area where people are feeding, the animals tend to become concentrated in that area over a short period of time. This means that any diseases or infections which a few of the animals might be carrying can be spread more readily to greater numbers than would ordinarily occur in the natural environment, where the population density of the animals is lower. Rabies and distemper in raccoons, blackhead disease in wild turkey, and pseudorabies and swine brucellosis in feral hogs are some examples of possible outbreaks associated with artificial feeding.

Another example is the occurrence of duck viral enteritis or "duck plague," a disease caused by a herpes virus that's easily transferable among a wide variety of waterfowl such as ducks, geese and swans. Infected waterfowl can carry this virus dormant in their bodies without displaying any symptoms; hence, other birds can be readily exposed and infected without visible evidence of this happening. However, just as cold sores in people tend to come out during stressful periods, the duck plague sores also develop in waterfowl when they are subjected to stressful conditions. What constitutes stress for a duck or goose? Overcrowding: the kind that occurs in lakes and ponds where birds have become concentrated by people who've been feeding them. The virus then erupts not only in a bird's mouth, but also in its intestinal tract and other organs, causing hemorrhaging and eventual death.

Overcrowded waterfowl are also more susceptible to bacterial infections. When avian cholera is present in a population, the bacteria can survive in the water for short periods of time, making transmission easier among dense numbers of birds. The spores of another bacterium, avian botulism, can persist in the environment for many years. This organism grows in decaying organic matter, and its toxins can become concentrated by maggots, which other birds may then feed on.

Therefore, when we artificially feed and concentrate wildlife, the feed itself may not make the animals directly sick but can set up the *conditions* for them to *become* sick.

House finches tend to congregate in large flocks around feeders. The birds are therefore more susceptible to diseases that can be spread among them, such as the bacterial infection mycoplasma, which causes inflammation around the eyes.

Too Much "Stuff"

The droppings left behind by concentrations of geese and ducks in public areas can pose additional problems for other wildlife and for people, too. One Canada goose, for example, produces about one pound of manure a day. It's, therefore, not hard to imagine the detrimental consequences of an accumulation of droppings from hundreds of ducks and geese, especially when they're congregated around golf courses, beaches, parks and other open areas with large bodies of water where artificial feeding typically occurs. Picnickers and children playing may be exposed to disease-harboring material, not to mention the nuisance of having to watch where they step.

As a direct consequence of the concentration of this organic matter, water quality suffers from the excess nitrogen that subsequently runs off the land during the usual storm events. Too many nutrients in the water then leads to an overgrowth of algae, called an "algae bloom," which blocks sunlight from entering the water and, thereby, adversely affects fish and other organisms in the aquatic environment.

Vegetation around the immediate feeding site is also impacted, because the overabundant waterfowl pull up the grass, trample the banks and otherwise damage the plants in the adjacent habitat.

It's for these reasons that many communities have implemented a "do not feed" policy at local lakes and ponds, especially if the site is a heavily used public resource in an urban or suburban area, such as a town reservoir used for drinking water and recreation. The Code of Virginia states that "any locality may prohibit by ordinance the feeding of migratory and non-migratory waterfowl in any subdivision or other area of such locality which, in the opinion of the governing body, is so heavily populated as to make the feeding of such waterfowl a threat to public health or the environment" (§29.1-527.1).

Deer Woes

Waterfowl are not the only ones being fed in large numbers by well-meaning citizens. Another favorite animal group sometimes subject to extensive artificial feeding is deer. Wildlife professionals are concerned that this practice may accelerate the spread of both bovine tuberculo-

sis and chronic wasting disease among wild deer populations.

Bovine tuberculosis, a disease that usually affects cattle, but can also be contracted by humans, was thrust into the national limelight in the mid-'90s in northern Michigan. As many as 350 deer in a small geographical area there have been confirmed with bovine TB, and scientists have found a strong correlation between the location of deer TB cases and the location of artificial feeding sites. High deer population density is also considered a contributing factor. National efforts to eradicate the disease from commercial livestock began in 1917, and most states are now classified as TB-free. However, the appearance of bovine TB in deer has caused Michigan to lose its TB-free status, because the disease has spread to livestock herds in the same area. Since the disease is spread by ingestion of contaminated feed or inhalation between animals in close nose-to-nose contact, and since several captive deer and elk herds have been reservoirs of the disease, the continuation of large-scale artificial feeding and baiting of deer may potentially have broad implications for the cattle industry.

Trouble at the Bird Feeder

The same type of cause-and-effect scenario seen in waterfowl and deer can take place right in our own backyards when we set up a bird feeding station. When songbirds congregate around feeders and come into close contact with one another, the odds are improved that any disease-causing organisms, which a few individuals might be carrying, can be spread to greater numbers within the overall group.

House finches seem especially vulnerable to conjunctivitis caused by a bacteria-like organism called mycoplasma. The infection causes inflammation around the eye and is believed to be spread either through direct contact between birds or by contact with contaminated feeders. Doves and pigeons, in contrast, are susceptible to trichomoniasis, a disease caused by a protozoan parasite which makes swallowing difficult. When infected birds drop food from their mouths, other birds can pick it up. Another consequence related to these phenomena is that raptors (predatory birds such as hawks, which are higher up on the food chain) can contract certain diseases when they feed on infected songbirds.

Some outbreaks of salmonellosis and avian pox virus have been observed in association with bird feeding. There have also been documented cases among songbirds of a fungal infection called aspergillosis; birds inhale the fungal spores from wet bird seed or other plant matter found on the ground around feeders. When the feed becomes contaminated, the fungi can also produce aflatoxin, a substance harmful to both birds and mammals that can impair liver function. Aflatoxin is most commonly found in feed

Artificial feeding of deer may accelerate the spread of bovine tuberculosis and chronic wasting disease among wild populations.

corn, cereal grains and peanuts that have become spoiled through improper storage. One should, therefore, avoid using any spoiled feed from the barn or other source to feed any kind of wildlife.

To minimize the potential for crowding birds and spreading diseases, locate feeders with plenty of space between them, preferably in different areas of the yard. Be sure to keep feeding stations clean, too. This means periodically raking up and disposing of seed that has fallen to the ground, and washing feeders at least once or twice a month with a dilute solution of one part bleach to nine parts of water. Feeders should have good drainage that will keep seed from becoming soggy. They should also have smooth edges that will reduce the likelihood of a bird receiving minor cuts where bacteria can invade its body.

To Feed or Not to Feed

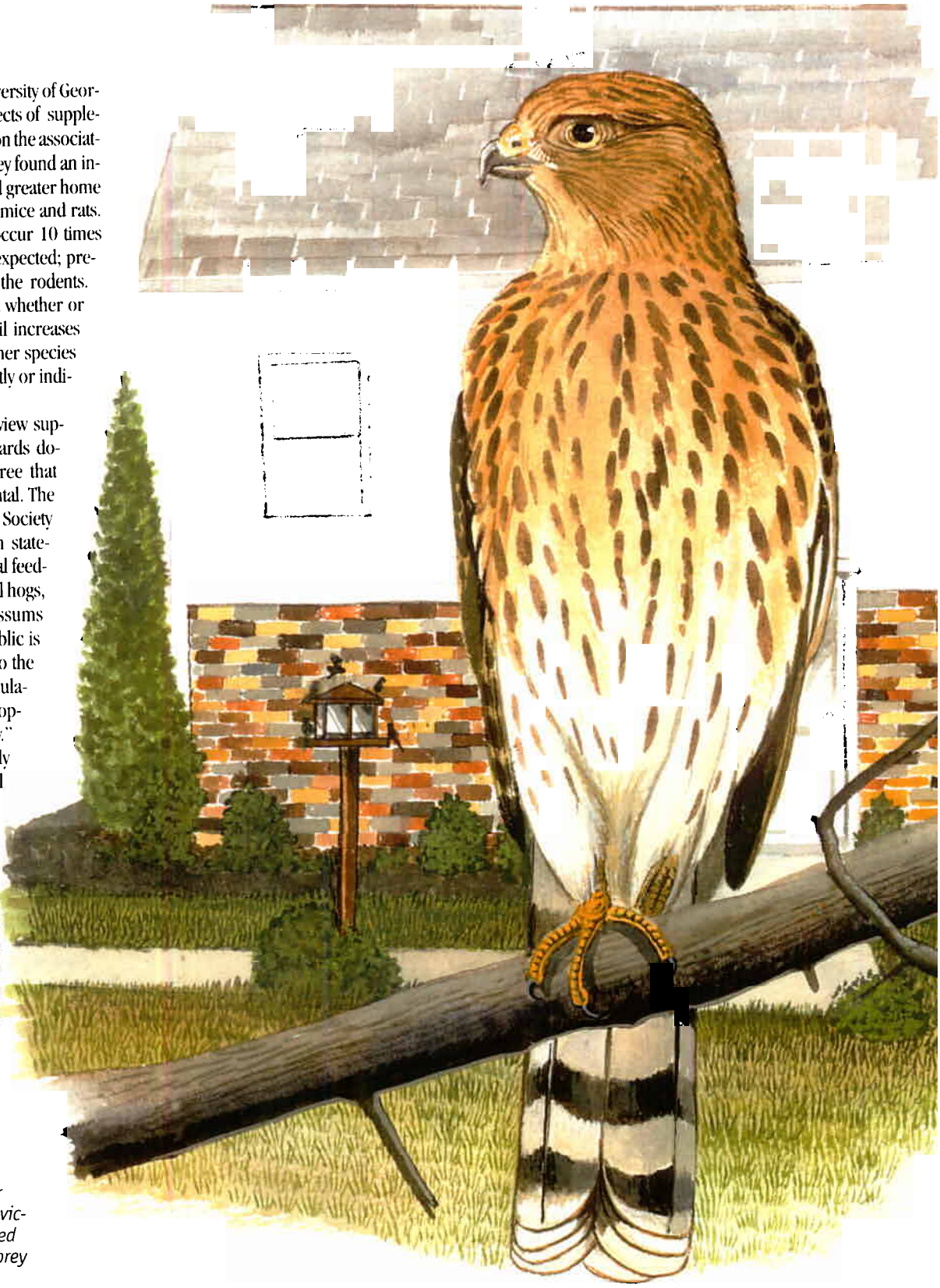
There seems to be a general misconception that feeding wildlife will automatically improve populations or increase one's hunting success. An interesting study on deer feeding, conducted by the South Carolina Department of Natural Resources, found just the opposite. In areas where baiting is prohibited, deer harvest rates were 30% higher, doe to buck harvest ratios were 9% higher, and per capita deer-vehicle collisions were 8% less than in areas where deer baiting is allowed.

It is now illegal to feed or attract bears in Virginia. This law was enacted to reduce the likelihood of bears becoming a dangerous "nuisance." If you live in "bear country," it is advisable to take down bird feeders and store all food items indoors. (See the "Did You Know" section for more information).

In a separate study by the University of Georgia, researchers examined the effects of supplemental feeding of bobwhite quail on the associated small mammal population. They found an increase in population densities and greater home range sizes for several species of mice and rats. Bobcats were also observed to occur 10 times closer to the feeding areas than expected; presumably they were attracted by the rodents. This study raises questions about whether or not supplemental feeding of quail increases the likelihood of predation by other species attracted to the food, either directly or indirectly.

Some wildlife professionals view supplemental feeding as a step towards domestication. Most biologists agree that most artificial feeding is detrimental. The Virginia Chapter of The Wildlife Society has adopted an official position statement on this matter, "that artificial feeding of deer, bear, wild turkey, feral hogs, raccoons, coyotes, foxes, opossums and waterfowl by the general public is an activity that is often harmful to the long-term health of wildlife populations, agricultural resources, property, and human health and safety."

The fact is that wildlife usually does not need supplemental feeding. Healthy songbirds will survive the winter just fine without it: they've been doing so for hundreds of thousands of years, long before bird feeders were ever invented. Squirrels are abundant and already have a heyday with bird feeders: these critters certainly don't need corn. Deer have plenty of wild foods at their disposal, and their population is already a million



Birds of prey, like this immature Cooper's hawk, are also looking for "fast food" at our feeders. They sometimes fall victim to diseases that are passed along by the songbirds they prey upon.

strong in Virginia: try using old apples for pie or cider, do not feed them to deer. Raccoons and opossums are omnivores and adapted to eat many types of food items, and they have an abundance of natural sources to select from: please do not feed these animals dog food or cat food!

The reason wildlife doesn't need our help is because of how ecosystems work. In any ecosystem there are innumerable checks and balances that are constantly at play and that keep food webs ever-adapting to the continual changes. Plant and animal communities are interdependent; countless links and interactions between them help keep populations healthy and stable. If food sources or the habitat quality declines, associated animal populations decline accordingly.

There are a few circumstances where feeding or baiting might be used by biologists for trapping or population control programs. In those instances, "the Virginia Chapter of The Wildlife Society supports the use of artificial feeding by or under the supervision of state or federal wildlife managers when it is necessary to accomplish scientifically accepted wildlife management objectives."

Instead of giving handouts to wildlife, consider improving the habitat around your home, as well as the habitats found in public spaces in your community. Plant viburnums, hollies, cedars, dogwoods and other native species that will provide beneficial food and cover. The fruits of the cherry and crab apple trees, shown here, are attractive to a variety of birds and mammals.

Habitat: a Different Kind of Kitchen

The practice of supplemental feeding unfortunately tends to divert people's attention away from the more pressing need of habitat improvement. If a habitat has balanced plant communities and healthy biodiversity, wildlife will not need any "extra" food. Instead of feeding large quantities of seeds or corn or pet food, consider how your yard or property could be improved with the addition of native plants that provide a natural source of seeds, berries, nuts, nectar and vegetation. If we concentrate more on the available habitat and less on bags of food, we will be doing wildlife a far greater service.

Did You Know?

Feeding bears is a definite no-no. Many unsuspecting, well-meaning people have found this out the hard way. Bears have been known to break through doors in houses and cause significant damage to property when they have become accustomed to being fed. They raid campsites, tear up bird feeders, and inevitably create havoc when encouraged to feed on handouts. Although your heart may be in the right place, feeding bears is illegal! According to Virginia's wildlife regulations, "it shall be unlawful for any person to place or distribute food, minerals, carrion, or similar substances to feed or attract bear." Also, "if the placement of these materials results in the presence of bear in such numbers or circumstances to cause annoyance or inconvenience to any person, cause property damage, or endanger any person or wildlife," then the practice must be discontinued. [4 VAC 15-40-282]

Learning More...

Feeding Wildlife...Just Say No!, by Scott Williamson; c. 2000, Wildlife Management Institute. A 34-page booklet for all ages, available at www.wildlifemanagementinstitute.org.

A Comprehensive Review of the Ecological and Human Social Effects of Artificial Feeding and Baiting of Wildlife, by L. Dunkley and M.R.L. Cattet; c. 2003, Canadian Cooperative Wildlife Health Center. This thorough, 69-page document can be downloaded from their Web site: http://wildlife1.usask.ca/ccwhc2003/.

Carol A. Heiser is a Wildlife Habitat Education Coordinator with the Virginia Department of Game and Inland Fisheries.