

How Many Deer Are Too Many?

That title comes from the title of a presentation Rufus Stephens gives to the trainees of our Hill Country Master Naturalist chapter every year. Stephens is a wildlife biologist, recently retired from the Texas Parks and Wildlife Department, and one of the true experts on white-tailed deer biology, behavior, and population. The title he has used in the past, "Overabundant Deer," says a lot about the subject.

Going back in history, we think the deer were relatively abundant in the period from about 1600 to 1850, mainly because of the absence of people with guns. Then in the period between 1850 and 1900, they were largely exploited (along with the bison) due largely to commercial hunting. There were the beginnings of some protection in the early 1900s, and the population began to increase slowly. Beginning around 1935 the level of hunting regulations began to be based, at least somewhat, on adjusting the population to the habitat.

In the 1960s, the screwworm fly was eliminated from Texas to protect the livestock industry which sustained huge losses. But the elimination of the pest also greatly helped the deer population, which increased significantly from the 1960s through the 1990s. This brings us to the present population which can best be described as overabundant, especially in the Hill Country.

So how many deer are too many? Ask enough people and you will get answers varying from "one" being too many to "there can't be too many deer." But this is not the kind of thing that is just a personal preference like a favorite food or song or color. There are scientific aspects to the deer population that we should consider.

Every piece of property, given what is or is not growing there, it's condition, it's location on the planet and the ecosystem, is capable of growing only so much edible forage in the next growing season, and that amount is dependent on the amount and timing of the rain. And every herbivore (deer, rabbit, caterpillar) needs a certain amount of available forage in order to live and reproduce.

So if this system is to exist sustainably year after year, the amount of forage taken by the herbivores must be able to be replaced in the next growing season. If the herbivores eat more forage than can be replaced in the next growing season, then next year the number of herbivores that that property can sustain will be fewer than before. The number of herbivores that a property can sustain year after year is called the carrying capacity of that property, and any number over that would be considered too many.

The problem in urban areas and other high human population areas is that a certain fraction of people will feed deer, either in order to have more deer around more of the time, or just because they like them or feel sorry for them. But feeding deer has several undesirable consequences.

When deer become accustomed to being fed, they spend more time in the area where they are fed and they browse that area heavily, reducing the amount of available forage

and thus the carrying capacity. Most people feed corn which only has about half the protein they need so they have to get that protein from plants in the area. Also, feeding deer causes the deer to congregate in small areas and this increases the transmission of disease, and this becomes more serious when hogs are attracted to the feeding area as well. This also makes deer more accustomed to humans which can result in deer being hit by cars more often.

Deer living in areas where the deer population is higher than the carrying capacity, which is almost everywhere there is a significant browseline, are not only limiting the amount of potential forage for next year but are almost always malnourished.

So in reality, there is an answer to how many deer are too many—it is when the deer population is above the carrying capacity of the property and thus the productivity of the land to produce forage is reduced and the health of the animals is also reduced. Most of the Hill Country, except for a few areas where their numbers are very effectively controlled, have deer populations significantly above the carrying capacity and have very distinct browselines.

Of course, white-tailed deer are not the only herbivores on the land; all of the exotics such as axis, fallow, sika, and blackbuck contribute to the overabundance of herbivores, although those exotics can survive on grass whereas the white-tailed deer cannot.

Until next time...

Jim Stanley is a Texas Master Naturalist and the author of the books "Hill Country Ecology," "Hill Country Landowner's Guide" and "A Beginner's Handbook for Rural Texas Landowners." He can be reached at jstmn@ktc.com. Previous columns can be seen at www.hillcountrynaturalist.org.