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Deer Prudence: the Science of Keeping Bucks and Does Under Control

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Anyone who has lived in a suburb or rural area with a plentiful deer population knows the dilemma: They are great to look at, but they are hell on the shrubbery.

The touchy co-existence of human beings and *Odocoileus virginianus* has produced more than its share of shouting matches at town council meetings over just what to do about the problem. A symposium on deer-human conflicts brought together wildlife scientists and public officials to review the options on this contentious issue. The symposium was co-sponsored by UB Law School's Environmental Law Society, the Environment and Society Institute, and Students of Law for Animal Rights.

A pair of contrasting programs in the morning discussed the two most-used means of controlling deer population: selective harvesting, the "bait-and-shoot" approach; and immunocontraception of does to reduce the birth rate.

Jim Snider, senior wildlife biologist with the New York State Department of Environmental Conservation, presented a slide show on "The Deer of Amherst" and talked about how the town’s "deer problem" came into existence and what the DEC has been doing about it.

Snider began with a historical perspective, noting that in Colonial times 80 percent of New York State was cleared and farmed, mainly with oats and wheat. That destruction of habitat, combined with widespread hunting, meant that by 1860 "we had no deer." Laws were introduced in the 1880s pro-
hibiting deer hunting, and by 1910, he said, the animals had started to reap­pear in the Southern Tier, migrating up from Pennsylvania and eventually spreading back north to Western New York. Hunting again began to be allowed in rural areas.

“A lot of that farmland is now abandoned,” Snyder said, “and as it grows out it becomes the perfect deer habitat.” The northern one-third of the Town of Amherst is like that, he said — undeveloped, and grown into a deciduous swamp wetfield, with shrubs for food and wooded area for coverage.

The damage comes when those deer wander into developed areas of the town, following their taste buds. “Deer like to sample,” he said. “Many times they will take one bite and decide that’s not the cabbage they want, and they will go on down the road until they find the one they do want. They will eat cabbage, corn, pumpkins, squash. They will eat the pine trees and ignore the spruce.

“Everyone has shrubs, everyone has flowers, everyone has grass, everyone has apple trees in their back yard. These deer quickly learn that they can wait until 2 a.m. and walk down the street and find anything they want to eat.”

Besides the damage to landscaping and vegetable gardens, a more troubling problem is deer-car collisions, which in Amherst grew from 161 in 1986 to 499 in 1993. Two to 4 percent of such collisions result in personal injury, Snyder said, and there have been a few deaths.

Hunting, a tried and true means of controlling deer populations, is prohibited in the Town of Amherst as it is in other areas of urban Erie County. The DEC has advocated allowing a bow hunting season in such areas, but without success.

So for two years the town under­took a bait-and-shoot program, killing 134 deer in 1995 and 74 in 1996. A court challenge in 1997 has ended the program at least temporarily, but it seems to have been effective: Aerial counts showed 1,116 deer in Amherst in 1994, 733 in 1998.

“You can get some fairly dramatic reductions in deer-car collisions with a bait-and-shoot program,” Snyder said. Nevertheless, he said, “car mortality continues to be the major factor in reducing deer population.”

The emotional aspects of bait-and-shoot can prove troubling, he acknowledged. He told of one woman upset by the sound of gunshots. The next year, the police officers who were doing the shooting used silencers.

William Porter, a professor of wildlife ecology at the State University of New York College of Environmental Science and Forestry, spoke next on immunoncontraception — the science of vaccinating does against pregnancy. Part biology lesson and part practicum, his presentation pointed up both the problems and the promise of this relatively new technique.

“The science, he said, is not all that complex: the vaccine introduces a foreign protein into the animal’s bloodstream, the body responds by producing antibodies, and these antibodies essentially trick the hypothalamus into thinking the doe is pregnant, thus blocking the release of hormones that cause ovulation. That’s GnRH, one type of immunoncontraception under study in New York State. The other is PZP, which attacks the membrane of the egg and prevents fertilization.

Administering the vaccine, he said, is the tricky part.

First biologists have to find the deer. They have to get within 60 feet, the effective range of the dart gun. They have to shoot it into the muscular hindquarters. (“It always works on television,” he said. “That is because on television they only show the ones that work.”) And with current technology, does need two injections the first year and at least one injection in each subsequent year.

Contraception is more expensive than bait-and-shoot programs, Snyder said, because it involves more animals to achieve the population-control result, and because a lot of manpower must be invested in delivering the “booster shots.” Part of the challenge is accurately estimating the deer population, and then figuring out how many does must be contracepted to achieve the desired population count. “In urban environments we are going to see strong pressure to minimize costs,” he said. “We will need to know this information with high precision. Do we need to take out 100 deer or 200 deer? The difference in cost will be appreciable.”

And in the deer world, there is no reason to try immunoncontraception on bucks, he said. The reason: “Deer are polygamous. Unless you contracept every male, 100 percent, most of those females will end up bearing young.”