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Deer, Moose Collisions With Motor Vehicles Peak in Spring and Fall

Good national statistics don't exist on how many collisions occur between deer and motor vehicles each year. The estimate is hundreds of thousands. Not surprisingly, the situation is especially serious in states with high vehicle density and large deer populations. In Michigan, for example, state police report 48,233 deer-vehicle collisions in 1991. In Pennsylvania, the game commission says 41,534 deer were killed by vehicles that year.

Unfortunately, this problem appears to be worsening as development spreads farther into formerly rural areas and numbers of deer, vehicles, and miles traveled increase. Vehicle occupants are occasionally injured, sometimes severely. According to the National Highway Traffic Safety Administration, 120 occupant deaths in 1991 resulted from collisions between vehicles and animals. And property damage almost always occurs, costing hundreds of millions of dollars each year.

Wisconsin's Insurance Alliance says there were more than 40,000 deer-vehicle collisions statewide in 1991, an average of 110 per day. The cost of deer-related claims that year exceeded $70 million, with the average cost about $2,000.

Collisions between deer and vehicles peak during the spring, when deer begin moving over their entire ranges in search of food. An even higher peak occurs in autumn, the breeding season for whitetail deer and a time when both adult males and females are more mobile and liable to cross roadways. The hours around dawn and dusk are particularly risky. This is when deer are most active, commuter traffic is heavy, and roadway visibility is low.

State wildlife authorities are limited in managing deer populations. By extending the hunting season and issuing more permits, Michigan lowered its whitetail deer population from a high of 2 million in 1989 to 1.7 million in 1991, a number state officials still consider too high.

Most states post warning signs in areas where deer frequently cross roads, although such signs are thought to be largely disregarded by motorists and thus ineffective. Fences along highways have been used to prevent deer crossings, but

fences are expensive to install and maintain, and deer are able to dig under or leap over them. In addition, if a road crossing is part of a well-established feeding or migrating path, a deer herd is likely to establish a new crossing location that's beyond the end of the fence.

In mountainous western states, many deer move during winter to lower elevations for food, bringing them closer to highways. An Institute study in Utah determined that diversionary winter feeding can reduce highway crossings and collisions between deer and vehicles, but this is labor intensive and can only be used in certain kinds of terrain. (See *Status Report*, Vol. 24, No. 2, Feb. 25, 1989.)

Another countermeasure that's received a lot of attention is the deer whistle. Its manufacturers claim that air rushing through a pair of these devices mounted on a vehicle creates an ultrasonic whistle that repels deer and other animals. Many companies market deer whistles but, to indicate effectiveness, there are only anecdotal reports from whistle users that they've never hit a deer. There aren't any published scientific investigations of deer whistles to support claims that they prevent deer from approaching vehicles or reduce crash risk.

There is evidence to the contrary. Georgia's Game and Fish Department, for example, found that in hundreds of observations from vehicles equipped with deer whistles, deer didn't respond. Whistles on vehicles going 25-30 mph produced no ultrasonic sound, although some ultrasonic and lower frequencies were produced when the

whistles were blown by mouth. According to wildlife biologists at the University of Georgia, neither deer nor humans can hear ultrasonic sound. Whistles blown by mouth near captive deer produce no response.

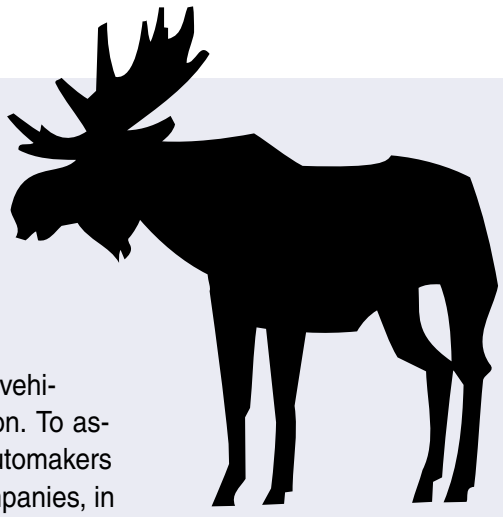
At the University of Wisconsin, researchers found that three different deer whistles produced both low pitched and ultrasonic frequencies at speeds of 30-70 mph. In testing with deer, observation distances were varied from 0 to 200 meters, but no deer responses were observed. Researchers concluded that, even if deer could hear ultrasonic sound, the characteristics of a deer whistle make it unlikely that its ultrasonic signal would be loud enough to be detected as near as 10 meters — far less than the 200-300 meters claimed by whistle manufacturers.

Because many deer crashes occur at night, there's been interest in using specially designed roadside reflectors to prevent the animals from crossing in front of vehicles. Reflectors are placed on closely spaced posts paralleling the road edge, where they reflect light from approaching vehicles' headlamps. These lighted reflectors frighten deer and cause them to stop, according to the manufacturer. Once the vehicle passes and the reflectors are no longer illuminated, the deer presumably cross the road safely.

This system has been marketed for several years in the United States and Europe. Researchers have attempted to determine its effectiveness, and most studies have shown some reduction in crash frequency. This is the most promising system for preventing deer crashes, but substantial investment is required for installation and maintenance.

With the continuing growth of the deer population, and no known effective countermeasures in wide application, this problem can be expected to continue.

Bigger Moose Mean More Risk



The largest members of the deer family, moose can stand more than six feet tall and weigh 1,000 pounds or more. This means higher risk of motorist injury when vehicles crash into moose, compared with when they hit deer.

In a moose-vehicle crash, the principal impact usually occurs in the vehicle's windshield and/or roof area, and there can be significant intrusion. To assess the ability of Saabs and Volvos to prevent such intrusion, both automakers conduct crash tests that simulate moose-vehicle collisions. These companies, in particular, pay attention to the problem because of the prevalence of such crashes in Sweden.

Moose-vehicle collisions are also a problem in some western and New England states. Officials in Maine say 700 such crashes occurred during 1991. In New Hampshire, motor vehicles killed 167 moose during 1991 — 78 moose during 1991 in Vermont. Moose-vehicle collisions tend to peak in spring, when a runoff of road salt attracts the moose. A second peak occurs during the autumn mating season.

Maine officials have experimented unsuccessfully with altering the salt compounds on state roads to make them less appealing to moose. The number of moose hunting permits has also been increased in Maine and New Hampshire. A hunting season is being considered by Vermont officials, but hunting hasn't so far reduced the moose population.