FEATURE ARTICLES

DEER MOVEMENTS AND BEHAVIOR ALONG AN INTERSTATE HIGHWAY

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Collisions with deer are an important cause of highway accidents in the United States. More than 20,000 white-tailed deer were struck by vehicles in Pennsylvania alone in 1967 and such collisions frequently result in property damage and loss of life. Of particular concern are four-lane interstate highways constructed through prime deer habitat and providing an abundant source of preferred food on the berms. In the interests of highway safety we are conducting a long-term study of the behavior and activity of the white-tailed deer (Odocoileus virginianus) along Interstate Highway 80, a newly constructed four-lane highway traversing north-central Pennsylvania. Establishing the patterns of deer movement and behavior should provide meaningful information that can be applied in the construction of new highways and the management of the right-of-way of already existing highways with a view toward the prevention of accidents.

The purpose of this report is to present results and conclusions of a pilot study made between September 15, 1967, and February 25, 1968, before the highway was opened to public use.

Study Area

The study area was a completed, although unopened, portion of Interstate 80 in northern Centre County, traversing a dense deciduous forest (primarily oak) and centering on the Snow Shoe Interchange. The area was 8.03 miles long and bounded by the Black Moshannon Creek bridge on the west and by Highway 144 on the east. The right of way traversed eleven hills and nine valleys (Figure 1) that were covered primarily with grasses and vetches extending to the tree line. The slope up or down from the highway to the tree line varied to 60 degrees.

Methods

Three methods were employed in the study. (1) Hourly runs were made from a truck driven eastward at about 15 miles per hour to the right of the right-hand lane. Deer seen on the hills and valleys to the south were recorded as were deer at the edge of the road and deer crossing the road. After dark, truck headlights and a sealed beam spotlight were used to locate such deer. Deer locations were recorded on a map having an assigned number for each hill and valley. (2) The number and location of deer tracks crossing the highway were recorded after two snowfalls. (3) Groups of active deer were observed