

Birds and Motor Cars in South Dakota.—The increasing menace of motor cars to wild life was forcibly brought to my attention while engaged in field work in South Dakota during the latter half of July, 1931. My work necessitated automobile travel from Mitchell, southeast to the Nebraska border through the grasshopper-infested area of the state, north to the North Dakota border and southeast by way of Aberdeen and Huron to Mitchell. In all, nearly a thousand miles were traveled, of which at least six hundred were on well-graveled main traveled state highways through typical South Dakota farming sections that were only moderately thickly populated.

I could not continuously watch the road for dead birds, but twenty-seven careful separate counts were made at various one-mile stretches throughout the trip. In each case an effort was made to select only representative sections of the road.

These twenty-seven one-mile counts averaged 2.26 dead birds per mile with a maximum number of nine and a minimum of zero. The numbers zero and three repeated most frequently, each occurring seven times. A large toll was also levied on other forms of vertebrate life, particularly the smaller mammals such as jack rabbits and ground squirrels. As many as five of these mammals were counted in one mile. Because of the repeated dragging or grading of the graveled roads and the rapidity with which the crushed bodies dry out, it seemed quite probable that in most cases, at least, the dead represented casualties that had occurred within a three-day period.

Usually the greatest number of dead were encountered on the best stretches of road, showing further that the greater speed is chiefly responsible for the damage done. I feel quite certain that only in exceptional cases are birds killed if the speed does not exceed thirty-five miles an hour, provided of course, the driver makes an effort to miss rather than strike the birds. In most cases the various forms of life, if given a reasonable time to escape, will cause the motorist little if any delay.

The species most affected were ground-loving forms, such as Prairie Horned Larks and Chestnut-collared Longspurs, that frequent the more barren areas. The Prairie Horned Larks, particularly, concentrate in large flocks on the highway of that prairie region, where they glean weed seeds, grain, and insects blown or dropped upon the uncovered ground. Because of their gregarious nature and because they are tame and allow approaching cars to come very close before taking flight, great numbers are killed. The juveniles, which are especially slow and awkward, suffer the greatest number of casualties. Nearly half of all dead birds found were juveniles. Bird life in general is usually more concentrated near a roadside than elsewhere because of the greater facilities for nesting, feeding, and resting.

The list of vertebrates identified, given about in descending order as to the number killed, is as follows:

- Prairie Horned Lark (*Otocoris a. praticola*).
- English Sparrow (*Passer d. domesticus*).
- Chestnut-collared Longspur (*Calcarius ornatus*).
- Birds unidentified.
- Lark Bunting (*Calamospiza melanocorys*).

Thirteen-striped Ground Squirrel (*Citellus t. tridecemlineatus*).
 White-tailed Jack Rabbit (*Lepus townsendii campanius*).
 Domestic Chicken (*Gallus domesticus*).
 Western Meadowlark (*Sturnella neglecta*).
 Bronzed Grackle (*Quiscalus q. aeneus*).
 Richardson Ground Squirrel (*Citellus richardsonii*).
 Arkansas Kingbird (*Tyrannus verticalis*).
 Pheasant (*Phasianus torquatus*).
 Red-winged Blackbird (*Agelaius p. phoeniceus*).
 Kingbird (*Tyrannus tyrannus*).
 Grasshopper Sparrow (*Ammodramus s. bimaculatus*).
 Burrowing Owl (*Speotyto c. hypugaea*).
 Mourning Dove (*Zenaidura m. marginella*).
 Domestic Cat (*Felis domesticus*).
 Lark Sparrow (*Chondestes g. grammacus*).
 Upland Plover (*Bartramia longicauda*).
 Robin (*Turdus m. migratorius*).
 Northern Flicker (*Colaptes auratus luteus*).
 Bull-snake (*Pituophis* sp.).
 Undetermined snakes.
 Virginia Rail (*Rallus l. limicola*).
 Toad (*Bufo* sp.).
 Skunk (*Mephitis* sp.).—CLARENCE COTTAM, *U. S. Biol. Survey, Washington, D. C.*

Mourning Dove Notes.—During the summer of 1930, while attending the University of Missouri at Columbia, the following observations on the Mourning Dove (*Zenaidura macroura carolinensis*) were made.

June 19. Marjorie informed me at noon that a pair of Mourning Doves have a nest on their bathroom window ledge on the second floor. I went over about sundown to look at it from the bathroom. In it are two young doves almost ready to fly. The mother dove sat with her head nearly touching the screen. From the outside the nest is scarcely visible because of the ivy that covers the entire west side of the brick building. My room is next door and directly opposite the nest on the same level. It is unfortunate that I did not bring bands with me to the University, for I might be able to band these doves.

June 20. I arose at 5:30 A. M. and sat down to study at my table by the window. While thus engaged, I heard a dove arrive. He was on the ledge with something for the female. I supposed that he was bringing food for the young. He left and in a few minutes returned again. I counted the trips and from 5:30 to 7:00 A. M. he made twenty-seven trips. I noticed that on most of the trips he brought roots and grass, but carried nothing away. Twice he had so great a load that he could not alight, and had to fly away and drop some of it. Through the ivy leaves I could see her take something and see her body move, but thought she was feeding the young. I wondered what was becoming of all the sticks since none were left in sight. He always announced his arrival and departure with the peculiar sound made by the wings.

June 21. Marjorie told me this morning that there is one egg in the nest. So the twenty-seven trips of yesterday were made by another dove that was re-