

ROAD KILLS OF SOUTH JERSEY

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This study area consisted mainly of Burlington County roadways, but some other counties were partially covered. (Camden, Atlantic, and Ocean.) It was conducted from Jan. 1, 1975 to Dec. 1, 1975. Many other studies and lists have been published for North America, but I could find none for the Delaware Valley region.

Extensive lists of animals were presented for Nebraska (McClure, 1951), Wisconsin (Steinke, 1953), Michigan (Zimmerman, 1954), and Alberta, Canada (Veermen and Switzer, 1968). Year round surveys were conducted by Abbot (1958), who found 328 dead birds and mammals in one year on an 11 mile stretch of Virginia highway, and by Channing (1958), who found 137 birds and mammals in one year on 22 miles of highway in Washington State. Also Sergeant and Forbes who found 311 birds and mammals on 17 miles of Minnesota roads.

My study area consisted of 72 miles of roadway. All but six miles were paved. The roadways bordered on a vast amount of habitats common to the Delaware Valley region and South Jersey; rural, marsh, farmland and idle fields, mixed woodland, residential and some urban areas. No special method of study was carried out to cover each roadway every day, but most were covered at least once a month. In all 13,750 miles were traveled. Only the bird species were collected and examined.

The result of the study showed 873 dead animals, a total of 232 birds of 26 species and 641 mammals of 18 species were found. Most were believed killed by automobiles. Naturally, some animals were overlooked.

The greatest amount of species were killed during July, October, August, and April. The total of these months were 86, 86, 84 and 84 respectively. The least were killed in January and February with 36 each. The greatest amount of birds killed occurred in August with 39 killed. The least occurred in February with only 3 killed. The highest mortality rate occurred with the robin. A total of 70 were found dead, 33% of all birds killed. Sergeant and Forbes (Minnesota 1964-65) also found their highest mortality rate was in robins. Only 8 species of birds were found during the winter months of January, February and December, compared to 17 species during the summer months June, July and August. No bands were found on any of the birds during this study. However, an Evening Grosbeak was found in January, 1976. It was banded in Minnesota in June, 1968.

There seems to be no population decrease in robins, doves or any other species of birds or mammals in the area study due to road kill. Dunthron and Errington (1964 pg. 180) studied a roadside population of nesting birds in Wiltshire, England, and concluded that, "the number of given species of birds killed by traffic (within) a particular area has little intrinsic value." They recovered from the roads 30 (7.5%) of 402 nestlings banded near the roadside. I concluded that this may be the case in most species. However, if a small local population of Henslow's sparrow, Red-headed woodpecker, Eastern bluebird or Hooded warbler, for example, were located along heavily traveled roads it may have an important effect on their population.

To discuss mammals in brief, Cottontail rabbit made up the bulk of the road kills with 301 (47%) out of 641 species found. The rarest mammals found were beaver and long tailed weasel. It is unknown whether any carrion was carried off by scavengers, although some freshly killed rabbits were placed near a Turkey vulture roost by the author. Sergeant and Forbes found that carrion recovered was grossly insufficient for maintaining two captive red foxes. Much of the carrion was mutilated and of little value as feed. In addition, during summer the carrion deteriorated rapidly from heat and fly maggots.

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Since this study was conducted, Kestrel, Screech owl, Bluebird, White-throated sparrow, Evening grosbeak, white-footed mouse, white-tailed deer have been added to my personal list. (The deer was killed by *Cassinia's* former editor Keith Richards 2 miles from my home, on a clear night with good visibility.)

LITERATURE CITED

1. American Ornithologists Union 1957
Check-list of N.A. Birds
2. Sargeant, Forbes Mortality among birds, mammals and certain snakes on Minnesota roads.
Loon Vol. 45
3. Zim-Hoffmeister, Mammals
Golden Press 1955

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MONTHLY TOTALS OF BIRDS AND MAMMALS

| BIRDS | J | F | M | A | M | J | J | A | S | O | N | D | TOTAL |
|----------------------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| Canada Goose | | | | | | | | | | | 1 | | 1 |
| Mallard | | | | | | | 1 | | | | | | 1 |
| Black duck | | | 1 | | | | | | | | | | 1 |
| Red-tailed hawk | | | | | | | | | | | 1 | | 1 |
| Common Coot | | 1 | | | | | | | | | | | 1 |
| Herring gull | 1 | | | | | | | | 1 | | | | 2 |
| Rock dove | 1 | | | | | 3 | | | 2 | 1 | 1 | 7 | 15 |
| Mourning dove | | 1 | 2 | 3 | 1 | 2 | 2 | 5 | 4 | 3 | 2 | 1 | 26 |
| Ruffed grouse | | | | | | 1 | 1 | 2 | 1 | | 2 | | 7 |
| Pheasant | | | | | 1 | | | 1 | 1 | | 1 | | 4 |
| Common flicker | | | | | 1 | | 1 | 1 | 2 | | | | 5 |
| Blue Jay | | | | 1 | | 7 | 1 | 1 | | | | | 10 |
| Common Crow | 1 | 1 | 1 | | | | | | | | | | 3 |
| Tree Swallow | | | | | | | 1 | | 1 | 1 | | | 3 |
| Brown Thrasher | | | | | | 1 | | | 1 | | | | 2 |
| Robin | | | 3 | 6 | 7 | 13 | 10 | 12 | 10 | 7 | 1 | 1 | 70 |
| Catbird | | | | | 1 | 1 | | 5 | 6 | 3 | | | 16 |
| Mocking bird | 1 | | | 1 | 1 | | | 2 | | | 1 | | 6 |
| House Sparrow | 1 | | | 1 | | | | | | | | | 2 |
| Starling | 1 | | | | 1 | 2 | | 4 | 1 | 1 | 5 | | 15 |
| Grackle | | | | 1 | 3 | 4 | | 3 | 2 | 1 | | 2 | 16 |
| Northern Oriole | | | | | 2 | | | | | | | | 2 |
| Dark-eyed Junco | | | | 1 | | | | | | | 1 | | 2 |
| Red-winged Blackbird | | | | | 1 | 1 | | | | 2 | | | 4 |
| Duck (domestic) | | | 2 | 1 | | | 1 | 3 | 1 | | 2 | | 10 |
| Chicken (domestic) | | | | 1 | | | | | | | | | 1 |
| TOTALS | 6 | 3 | 8 | 16 | 20 | 35 | 20 | 39 | 33 | 19 | 18 | 11 | 232 |

| MAMMALS | J | F | M | A | M | J | J | A | S | O | N | D | TOTAL |
|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| Cotton-tail Rabbit | 9 | 16 | 32 | 41 | 28 | 22 | 23 | 30 | 15 | 25 | 23 | 37 | 301 |
| Opossum | 5 | 5 | 9 | 5 | 8 | 5 | 9 | 2 | 6 | 11 | 7 | 2 | 74 |
| Striped Skunk | 4 | 2 | 3 | 2 | 5 | 5 | 8 | 4 | 7 | 5 | 3 | 7 | 55 |
| Gray Squirrel | 6 | 3 | 3 | 5 | 7 | 12 | 7 | 5 | 6 | 5 | 8 | 3 | 81 |
| Red Squirrel | 1 | | | | | | | 1 | 1 | 2 | | 1 | 6 |
| Chipmunk | | 1 | | | | | | | | | | | 1 |
| Groundhog | 1 | 1 | 3 | 2 | | 2 | 3 | 1 | 1 | 3 | 4 | 1 | 22 |
| Raccoon | | | 1 | | 1 | | 2 | | 2 | 4 | 1 | 1 | 12 |
| Long-tailed Weasel | | | | | | | 1 | | | | | | 1 |
| Beaver | | | | | | | | | | 1 | | | 1 |
| Muskrat | | 1 | 1 | 4 | 4 | 3 | 3 | | 1 | 1 | 3 | | 21 |
| Norway Rat | 3 | 1 | | 1 | | | 1 | | | 2 | | 1 | 9 |
| Meadow Mouse | | | | | | 1 | 2 | 1 | | | 3 | | 8 |
| Short-tailed Shrew | | | | | | | | | | | 1 | | 1 |
| Common Mole | | | | | | | 1 | | | 1 | | | 2 |
| Cat (domestic) | 1 | 3 | 1 | 6 | 2 | 3 | 1 | 1 | 2 | 5 | 2 | 8 | 35 |
| Dog (domestic) | | | 2 | 1 | 1 | 1 | 1 | | 4 | 2 | 1 | 3 | 16 |
| Rabbit (domestic) | | | | 1 | | | | | | | | | 1 |
| TOTALS | 30 | 33 | 55 | 68 | 56 | 51 | 59 | 45 | 45 | 67 | 55 | 65 | 641 |

TOTAL ROAD KILL 873