GAME MANAGEMENT

BY

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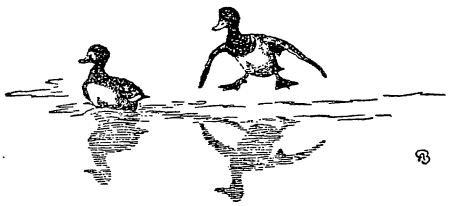
DRAWINGS BY

ALLAN BROOKS



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NEW YORK · LONDON

per mile per year. If the radius is two miles, and the density a quarter of the lower figure indicated in Table 15 (one per acre), the population of the ranges intersected by the highway would be 300 rabbits per mile, of which 25, or 8 per cent, would be killed by cars.

While motor-killing of game on highways is believed to be ordinarily a minor "leakage" in productivity, there are occasional circumstances under which it becomes serious. An outstanding example is the night-killing of deer on motor highways *salted* to reduce dust. In 1929, 60 deer were thus killed on 25 miles of highway in Michigan,—over 2 deer per mile per year. In 1930 block salt of the kind used for cattle was put out by the Conservation Department to decoy the deer away from the road salt. The losses promptly fell to eight deer, or one-third deer per mile per year (1929–30 *Report*, p. 256).

A highway may be, in effect, "salted" for animals of special habit, such as the fly-catching redheaded woodpecker in midsummer. It is "salted" with a special insect supply, a monotone background for their pursuit, and a clean "tablecloth" on which to catch and eat cripples.

Measurements of accident mortality which can be related to known units of population are very scarce. One such measurement is the nesting mortality from agricultural machinery described in Chapters XII and XV.

The Pennsylvania wardens estimate that 1898 deer were killed by motors and trains in that state in 1931. This loss was regarded as serious enough to warrant a public appeal to motorists by the governor. The estimate, in the case of so visible a form of mortality, is probably reasonably correct. Clepper (1931, p. 32) estimates the deer population of the state at 800,000. This is probably a much less accurate figure, but if we accept it, the percentage of loss from motors and trains would be a quarter of 1 per cent, a very small figure indeed.

A farmer in Iowa, who played host to a flock of some 50 prairie chickens, told me he picked up about a dozen birds per year under a high two-cable transmission line which bisected their range. This farmer made a special effort to keep track of this loss, and the clean highway under the wires, in conjunction with his own work in the adjacent fields, probably enabled him to get a good count. The flock was about stable. This transmission

line, plus a few hayfield nests, might absorb the entire yearly increment from such a range.

Classifications of accident loss unrelated to specified population units are more common. Thus Lincoln (1932) compiled post-mortems on 2426 small land birds which were found dead and reported because they bore bands. His table, converted into our categories, indicates death from:

FACTOR		PER CENT OF TOTAL DEATHS
Shooting and traps		28
Predators (cats)		10
Starvation		1
Accidents:		
Windows, wires, entanglements	3	
Motors and trains	2	
Storms and freezing	3	
Drowning	1	
	9	9
Miscellaneous and unknown		52
Total		100

Education by and Recovery from Accidents. The Iowa Game Survey (1932) quotes old timers who after each stormy evening made it a practice to pick up gunny sacks full of prairie chickens under the telegraph lines when they were first projected across the prairies. The previous caption, on the other hand, described a flock living literally under a much deadlier obstruction, and sustaining only a tolerable loss therefrom. One cannot avoid the inference that some degree of "education," either individual or racial, accrues from the persistent incidence of some accidents in some species. Whether game birds will ever "learn" not to nest in hayfields is a more puzzling question because of the penalty being deferred until long after the act.

Injured individuals possibly recover from ordinary accidental wounds more readily than we suppose. Thus Austin (1931) says songbirds "released with broken wings soon were removed from nets (maintained for banding studies) into which they had flown." Equally astonishing is the evidence of successful re-uniting of broken wing, leg, and thigh bones found in wild red grouse (*Grouse Report*, pp. 162–164).

Summary. The outstanding causes of loss from accident in