
Hawks and Owls from the Standpoint of the Farmer

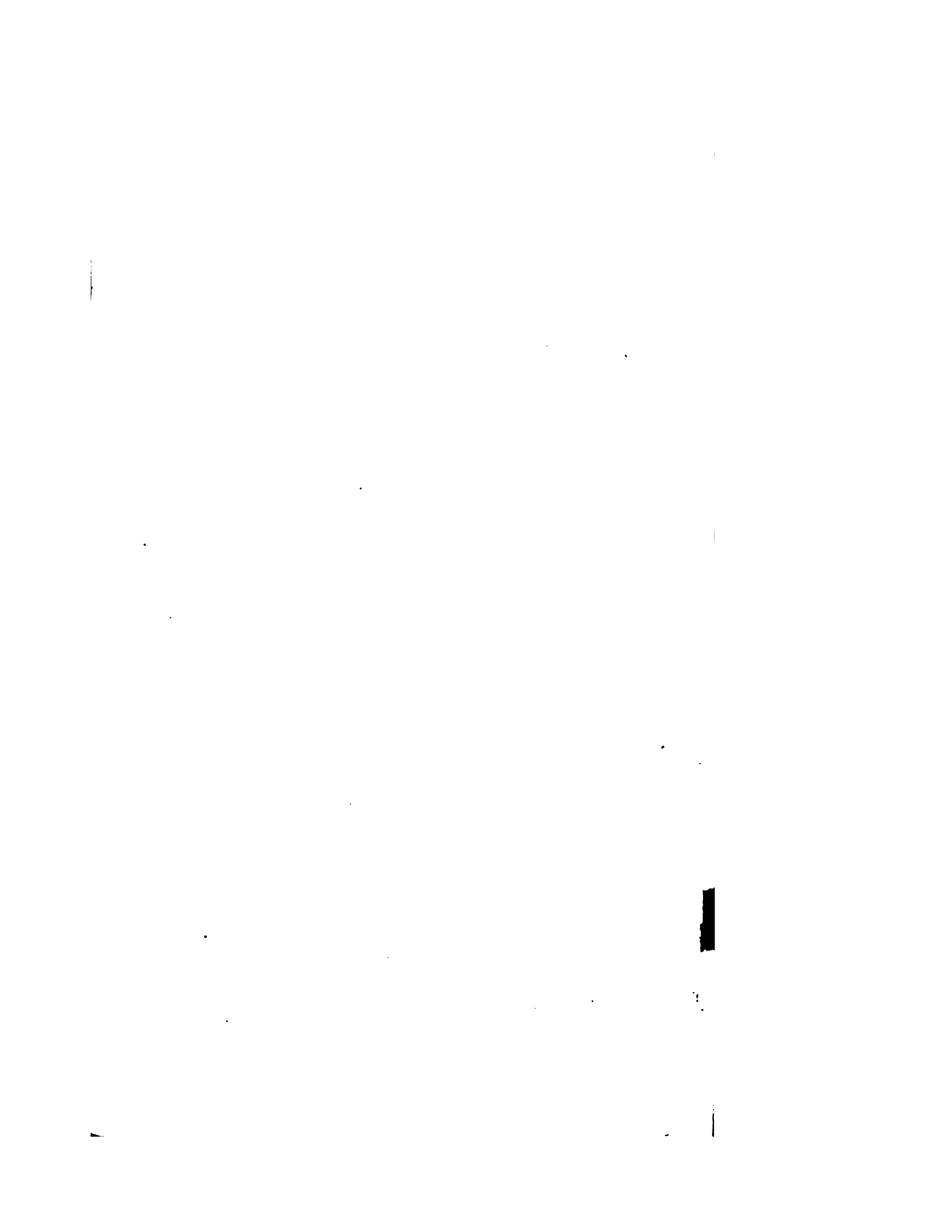
Fisher Albert Kenrick

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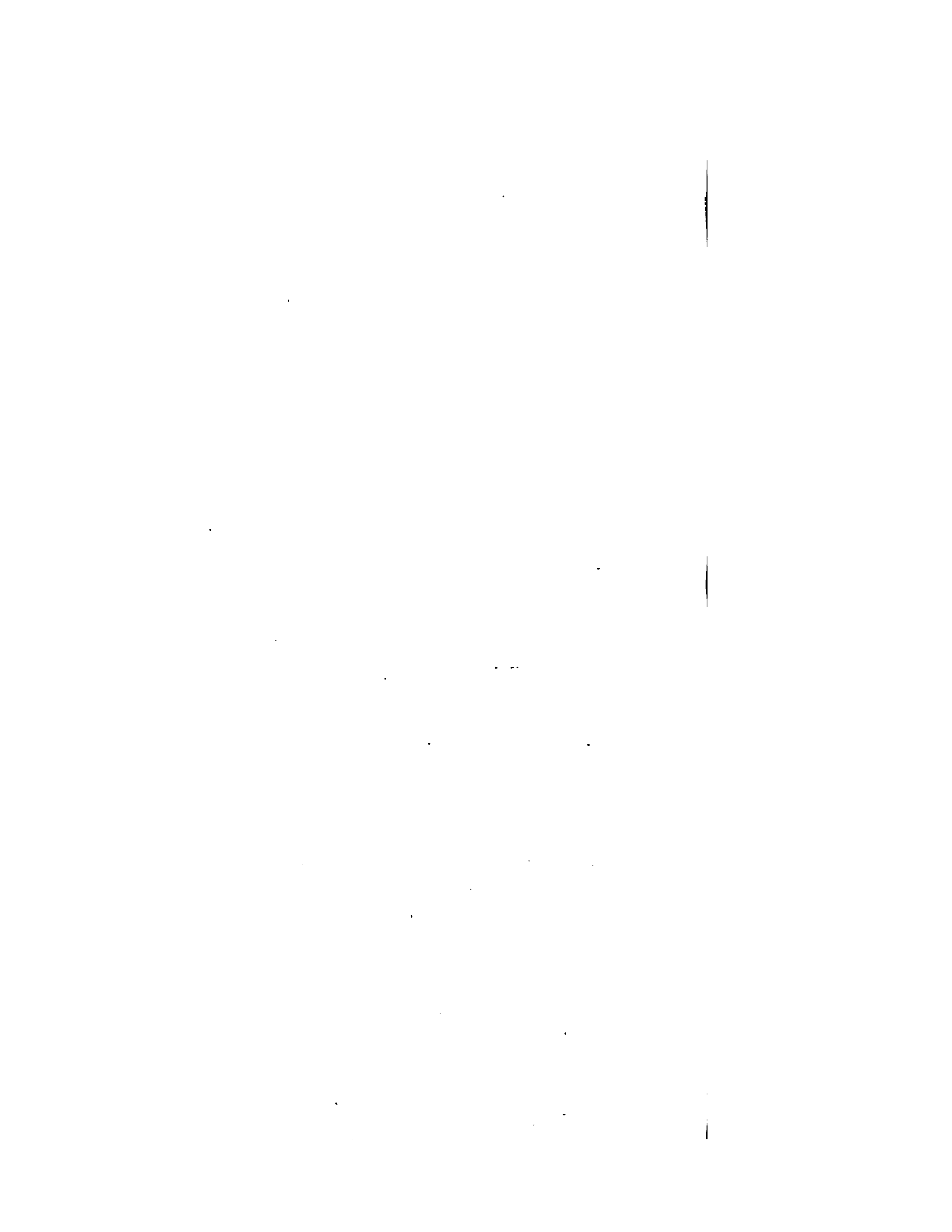
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HAWKS AND OWLS AS RELATED TO THE FARMER.

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CAUSE OF THE PREJUDICE AGAINST BIRDS OF PREY.

The old saying that "a little knowledge is a dangerous thing" is exemplified in the way our hawks and owls are looked upon by a large majority of mankind. The farmer sees a hawk strike a fowl which has wandered from the farmyard; the sportsman, while planning the capture of a covey of quail, finds the mutilated remains of a game bird and feels sure it is the unlawful prey of a thieving owl—without further investigation both men condemn birds of prey as a class, and lose no opportunity to destroy them and their eggs and young.

The ill feeling has become so deep rooted that it is instinctive even in those who have never seen any depredations. How are we to account for this hatred against birds of prey by the class of men who should be the first to clamor for their protection? The prejudice is largely due to lack of discrimination. Since they know that hawks and owls attack poultry, they do not stop to think that these depredations may be made by a few species only, but make a sweeping condemnation of the whole family. The reasoning is much the same as that of an Indian or frontiersman, who, being wronged by one individual, condemns a whole race. It would be just as rational to take the standard for the human race from highwaymen and pirates as to judge all hawks by the deeds of a few. Even when the industrious hawks are observed beating tirelessly back and forth over the harvest fields and meadows, or the owls are seen at dusk flying silently about the nurseries and orchards, busily engaged in hunting the voracious rodents which destroy alike the grain, produce, young trees, and eggs of birds, the curses of the majority of farmers and sportsmen go with them, and their total extinction would be welcomed. How often are the services rendered to man misunderstood through ignorance! The birds of prey, the majority of which labor day and night to destroy the enemies of the husbandman, are persecuted unceasingly, while that gigantic fraud—the house cat—is petted and fed and given a secure shelter from which it may emerge in the evening to spread destruction among the feathered tribe. The difference between the two can be summed up in a few words—only three or four birds of prey hunt birds when they can procure rodents for

food, while a cat seldom touches mice if she can procure birds or young poultry. A cat has been known to kill 20 young chickens in a day, which is more than most raptorial birds destroy in a lifetime.

It is to be lamented that the members of the legislative committees who draft the game laws of various States have not a better knowledge of the life histories of raptorial birds. It is surprising also that gun clubs should be so far behind the times as to offer prizes to those who kill the greatest number of birds of prey; for in clubs of any importance, there must be naturalists whose counsel ought to prevent such barbarity. That the beneficial species of hawks and owls will eventually be protected there is not the slightest doubt, for when the farmer is convinced that they are his friends he will demand their protection; and already the leading agricultural papers and sportsman's journals are deprecating their indiscriminate slaughter.

SOME CHARACTERISTICS OF RAPACIOUS BIRDS.

The rapacious birds are slow breeders, rearing only one brood a year, though of course if the first set of eggs is destroyed another will be deposited. The young grow slowly and need a relatively large amount of food to develop properly. To satisfy their enormous appetite requires constant foraging on the part of the parents, and the strain of bringing up the family is probably twice that of any of the other land birds. Even the adults are large eaters, gorging to the utmost when the opportunity presents; and as digestion is very rapid and assimilation perfect, a great quantity of food in relation to the body weight is consumed each day. Taking more food than necessary for immediate wants enables them to store up force for future emergencies, for they are often required to withstand great exposure and long-protracted fasts, especially during inclement weather.

Hawks and owls are complementary to each other. While hawks hunt by day and keep diurnal mammals in check, owls, whose eyesight is keenest during twilight and the early hours before dawn, capture nocturnal species which the former is not apt to obtain. Again, the owls are less migratory than the hawks, and during the long winter nights they remain in the land of ice and snow to wage incessant warfare against the little enemies of the orchard, garden, and harvest fields.

Although much may be learned about the food from observing the habits of the live birds, the only way to find out the full range and relative percentages of the food elements is by examination of the stomach contents. Sometimes, in the case of birds of prey, a moderately complete and reliable index to the food can be obtained by examining the "pellets." Hawks and owls often swallow their smaller victims entire and tear the larger ones into several pieces, swallowing each fragment as it is detached. After the nutritious portion of the food has been absorbed, the indigestible parts, such as hair, feathers, scales, bones, and other hard parts, are rolled into a solid ball by the

action of the muscles of the stomach. These masses, known as "pellets" are regurgitated before fresh food is taken. The movements of the stomach so shape the "pellets" that the sharp pieces of bone which might otherwise injure the mucous membrane are carefully enveloped in a felty covering of hair or feathers. The pellets contain everything necessary to identify the food, and in the case of some of the owls which have regular roosting places the vast number of pellets that collect underneath give an almost perfect record of the results of their hunting excursions.

FOOD HABITS OF THE PRINCIPAL BIRDS OF PREY.

It is the object of the present paper to review more or less briefly the food habits of the principal birds of prey of the United States, so that those who are most interested in the subject may be able to distinguish between enemies and friends, and hence be saved the humiliation of wronging the latter while endeavoring to destroy the former.

Hawks and owls may be divided arbitrarily into four classes, according to their beneficial and harmful qualities:

- (1) Species which are wholly beneficial.
- (2) Those chiefly beneficial.
- (3) Those in which the beneficial and harmful qualities about balance.
- (4) Harmful species.

It should be stated here that several of the species may belong to one or another class according to the locality they frequent. A hawk or owl may be locally injurious because at that place mice, squirrels, insects, and other noxious animals are scarce, and consequently the bird has to feed on things of more or less value to man, while in other regions where its favorite food is obtainable in sufficient quantity it does absolutely no harm. A good example of this kind is given under the head of the great horned owl in a subsequent part of this paper.

To the wholly beneficial class belong the large rough-legged hawk, its near relative, the squirrel hawk or ferruginous roughleg, and the four kites—the white-tailed kite, Mississippi kite, swallow-tailed kite, and everglade kite.

The chiefly beneficial class contains a majority of the hawks and owls, and includes the following species and their races: Marsh hawk, Harris's hawk, red-tailed hawk, red-shouldered hawk, short-tailed hawk, white-tailed hawk, Swainson's hawk, short-winged hawk, broad-winged hawk, Mexican black hawk, Mexican goshawk, sparrow hawk, Audubon's caracara, barn owl, long-eared owl, short-eared owl, great gray owl, barred owl, western owl, Richardson's owl, Acadian owl, screech owl, flammulated screech owl, snowy owl, hawk owl, burrowing owl, pygmy owl, ferruginous pygmy owl, and elf owl.

The class in which the harmful and beneficial qualities balance includes the golden eagle, bald eagle, pigeon hawk, Richardson's hawk, Aplomado falcon, prairie falcon, and great horned owl.

The harmful class comprises the gyrfalcons, duck hawk, sharp-shinned hawk, Cooper's hawk, and goshawk.

HARMLESS SPECIES OF HAWKS AND OWLS.

We will now take up each class and examine the species more or less in detail so as to show briefly the character of the food. The harmless species include the four kites, which, if not as beneficial as some of the hawks, are at least perfectly harmless. The *everglade kite* is found within our borders in Florida only, where it is restricted to the middle and southern portions. It feeds exclusively on a large fresh-water snail,



FIG. 21.—Swainson's Hawk (*Buteo swainsoni*).

which abounds in the shallow lakes and overflowed sections grown up with grass and other herbage. The swallow-tailed, Mississippi, and white-tailed kites feed largely upon reptiles and insects, and never as far as known attack birds. The *swallow-tailed* is reported as feeding quite extensively on the cotton worm during the summer and early fall. If this is a common habit, it brings the bird at once into prominence as of economic importance and of great value to the Southern planter. The *Mississippi kite* and its white-tailed ally devour large numbers of lizards, small snakes, and insects; of the latter, grasshoppers and beetles are most frequently taken.

WHOLLY BENEFICIAL HAWKS.

The *rough-legged hawk*, and the *ferruginous roughleg*, or *squirrel hawk*, as it is sometimes called on account of its great fondness for the ground squirrels so destructive in the West, are among our largest and at the same time the most beneficial hawks. The former breeds wholly north of the United States, migrating south in September and October and remaining until the following April. The latter breeds extensively through the Great Plains region. The winter range of the roughleg is determined more by the fall of snow than by the intensity of cold, the main body advancing and retreating as the barrier of snow melts or accumulates. Meadow mice and lemmings form the staple food of this bird. In this country the lemmings do not reach our territory except in Alaska, but in the north of Europe they occasionally form into vast, migrating, devastating hordes which carry destruction to all crops in the country passed over. The vole, or meadow mouse, is common in many parts of this country, and is, east of the Mississippi River, without doubt, the most destructive mammal to agriculture. It destroys meadows by tunneling under them and eating the roots of grass. In many meadows the runways form networks which extend in every direction, giving an idea of the animal's abundance. This mouse also destroys grain and various kinds of vegetables, especially tubers, but probably does even more damage by girdling young fruit trees. In 1892 considerable areas in southeastern Scotland were overrun by meadow mice and a large amount of property was destroyed during the "vole plague." Just such invasions might be expected in any country where predaceous mammals and birds are reduced to a minimum in the supposed interest of game preservation. This wholly upsets nature's balance, and the injurious rodents are left practically without an enemy to control their increase. We have little reason, however, to exult over the older country, for in many portions of the United States the people, if they had the power, would follow the same shortsighted policy, causing inestimable damage to the agriculturist. Attempts have been made in some States to reduce the number of hawks and owls by offering bounties for their heads, but fortunately the work has not been carried far enough to do the harm that has been done by the long-continued efforts of gamekeepers in Great Britain.

The *roughleg* is one of man's most important allies against meadow mice, feeding on little else during its six months' sojourn in the United States. It thus renders important service in checking the ravages of these small but formidable pests. The roughleg is somewhat crepuscular in habits, being on the alert during twilight and early dawn, when small mammals are most active. Other mice, rabbits, and ground-squirrels are taken occasionally, and some of the older writers state that waterfowl are captured by this bird. The writer has made careful inquiries of a considerable number of persons who have had extensive

field experience where these birds are common and in no instance has he heard of their attacking birds. Even better evidence is found in the fact that stomachs of specimens shot in locations teeming with water-fowl contained nothing but the remains of meadow mice.

The *ferruginous roughleg* is as fully beneficial as its relative, though the character of its food differs somewhat. In many parts of the country inhabited by it, the meadow mice which play such an important part in the economy of the other bird are scarce or wanting, but are replaced by nearly as destructive rodents, the ground squirrels. Upon these this large and handsome hawk wages a continuous warfare, and great is the service it performs in keeping their numbers in check. Rabbits, prairie dogs, and occasionally pouched gophers are eaten. It is humiliating to think how many of these two noble hawks are ruthlessly murdered, and to reflect that legislators put bounties on their heads to satisfy the ignorant prejudices of their constituents.

HAWKS AND OWLS MOSTLY BENEFICIAL.

Nearly two-thirds of the birds of prey inhabiting the United States belong in the second class, which comprises such hawks and owls as are mainly beneficial. A few of the most useful and well-known species will be considered in detail.

The *marsh hawk* is one of the most valuable in the class on account of its abundance, wide distribution, and peculiar habits. It is more or less common throughout the United States and may be easily recognized by its white rump, slender form, and long, narrow wings, as it beats untiringly over the meadows, marshes, and prairie lands in search of food. If it were not that it occasionally pounces upon small birds, game, and poultry, its place in the first class would be insured, for it is an indefatigable mouser. Rodents, such as meadow mice, rabbits, arboreal squirrels, and ground squirrels, are its favorite quarry. In parts of the West the latter animals form its chief sustenance. Lizards, snakes, frogs, and birds are also taken. Among the birds most often captured are the smaller ground-dwelling sparrows, of least use to the farmer.

From its abundance, wide distribution, and striking appearance, the *red-tailed hawk* is probably the best known of all the larger hawks. Since it is handicapped by the misleading name "hen hawk," its habits should be carefully examined. There is no denying that both it and the *red-shouldered hawk*, also known as "hen hawk," do occasionally eat poultry, but the quantity is so small in comparison with the vast numbers of destructive rodents consumed that it is hardly worth mentioning. While fully 66 per cent of the red-tail's food consists of injurious mammals, not more than 7 per cent consists of poultry, and it is probable that a large proportion of the poultry and game captured by it and the other buzzard hawks is made up of old, diseased, or otherwise disabled fowls. It is well known to poulterers and owners of game

preserves that killing off the diseased and enfeebled birds, and so preventing their interbreeding with the sound stock, keeps the yard and coveys in good condition and hinders the spread of fatal epidemics. It seems, therefore, that the birds of prey which catch aged, frost-bitten, and diseased poultry, together with wounded and crippled game, are serving both farmer and sportsman.

Abundant proof is at hand to show that the red-tail greatly prefers the smaller mammals, reptiles, and batrachians, taking little else when these can be obtained in sufficient numbers. If hard pressed by hunger, however, it will eat any form of life and will not reject even offal and carrion; dead crows from about the roosts, poultry which has been thrown on the compost heap, and flesh from the carcasses of goats, sheep, and the larger domesticated animals being eaten at such times. The immature birds are more apt to commit depredations, the reason probably being that they lack skill to procure a sufficient quantity of their staple food. A large proportion of the birds captured consists of ground-dwelling species, which are probably snatched up while half concealed in the grass or other vegetation. Among the mammals most often eaten and most injurious to mankind are the arboreal and ground squirrels, rabbits, voles and other mice. The stomachs of the red-tailed hawks examined contained Abert's squirrel, red squirrel, three species of gray squirrels, two species of chipmunks, Say's ground squirrel, plateau ground squirrel, Franklin's ground squirrel, striped ground squirrel, harvest mouse, common rat, house mouse, white-footed mouse, Sonoran white-footed mouse, wood rat, meadow mouse, pine mouse, Cooper's lemming mouse, cotton rat, jumping mouse, porcupine, jack rabbit, three races of cottontails, pouched gopher, kangaroo rat, skunk, mole, and four kinds of shrews. The larger insects, such as grasshoppers, crickets, and beetles, are sometimes extensively used as food.

The *red-shouldered hawk*, or, as it is sometimes incorrectly called, the "hen hawk," is a common bird, and a very valuable one to the farmer. It is more omnivorous than most of our birds of prey, and has been detected feeding on mice, birds, snakes, frogs, fish, grasshoppers, centipedes, spiders, crawfish, earthworms, and snails. As about 90 per cent of its food consists of injurious mammals and insects, and hardly 1½ per cent of poultry and game, the reader may draw his own conclusions as to the appropriateness of the title "hen hawk," so often misapplied to this species. A pair of these hawks bred for successive years within a few hundred yards of a poultry farm containing 800 young chickens and 400 ducks, and the owner never saw them attempt to catch a fowl. Besides mice, squirrels, shrews, and insects, which form their principal food, frogs, snakes, and crawfish are also taken.

Such facts as these must convince intelligent persons not only that it is folly to destroy this valuable bird, but that it should be everywhere fostered and protected.