BIRDS AS ENEMIES OF INJURIOUS MAMMALS.

Extracted from "The Practical Value of Birds," HENDERSON.

With the exception of insects, rodents are probably the most destructive animals. As with birds, their rate of reproduction is high. Field mice have from 6 to 13 young at a time and from 2 to 6 litters per annum. Rabbits also increase very rapidly under favourable circumstances, as do some species of ground squirrels and other small mammals. There is no doubt that, but for birds that prey upon them, mice, rats, squirrels, prairie-dogs and rabbits would swarm over the land and destroy most vegetation, thus rendering agriculture hopeless, unless we could find some equally effective way to combat them. The indiscriminate slaughter of birds of prey has often been followed by ravages of voles and other rodents, while frequeently, on the other hand, unusual abundance of mice or rabbits in certain localities has attracted large numbers of predatory birds to feed upon them, including Hawks, Owls, Gulls, Ibises, Storks, Spoonbills, Cranes, Herons, Ravens, Crows, Magpies, Jays and others, which "should be sufficient to demonstrate the utility of these birds as a check upon the undue increase of such pests" under normal conditions.

During the outbreak of mice in Nevada from 1906 to 1908 many fields were destroyed. After the breeding season, when various species of the larger birds ceased feeding upon insects and turned to rodents, they soon greatly depleted the number of mice. According to Lantz, complaints of depredations of field mice "are especially numerous from sections of the United States where for several years bounties have been paid for killing Crows." During the vole outbreak in Scotland in 1892, following war upon predacious birds by gamekeepers, several species of Gulls fed largely upon these pests, and Gulls are usually listed among the birds that follow the migrations of lemmings and feed upon them. In 1872-73 a great plague of deer-mice occurred in South America. In May, 1873, according to Hudson, Storks and Short-eared Owls, both usually scarce in the region of the plague, appeared in "countless numbers" to feed upon the mice.

Bailey definitely lists 9 species of Hawks and 6 species of Owls as enemies of prairie ground squirrels, and 2 species of Hawks and 3 species of Owls as enemies of pocket gophers. Piper, in discussing the bird enemies of the pocket gophers, mentions the Barn Owl as especially valuable. Fisher lists 17 species of Hawks and Owls as enemies of the rabbits, while Palmer lists 8 species as enemies of the jackrabbits. Lantz mentioned 7 species of Hawks and 4 of Owls as enemies of the

brown rat.