

cations that have already been made for establishing dams and power houses in the Grand Canyon and the Sequoia National Parks. Unless this privilege, so far as it affects parks, is revoked by Congress, there is no knowing what it may lead to. The preservation of many birds is dependent upon the preservation of the forests and the latter upon keeping the National Parks inviolate.—W. S.

Annual Report of the Chief of the Biological Survey.—Only those who read this report¹ carefully will have any idea of the extent and diversity of the work that the Survey is now carrying on. Under economic work in mammals we find that no less than 21,558 Coyotes were killed during the past year and in addition some 4000 other predatory animals. The practical extermination of the Prairie Dog over a great part of Cochise and Graham Counties, Arizona, has also been effected and nineteen million acres in the west have been subjected to poison treatment for the extermination of rodents. The tremendous result of poisoning may be realized when we learn that 1000 rabbits were killed for each ounce of strychnine used in Gooding County, Idaho. It seems certain that by means of poison the extermination of many species of mammals, if desired, is only a matter of time, and we trust that all possible indirect results of this tremendous overthrow of nature's balance may be carefully taken into consideration before the final result is attained.

Under economic ornithology we learn that investigations of the Survey have proven the Meadowlarks seriously injurious to sprouting oats and corn in South Carolina and the Secretary of Agriculture has authorized their killing from November, 1919 to April, 1920. Similar permission to kill Robins in the cherry growing districts of New York has been granted from June 1 to July 15, as well as the killing of Grebes, Loons, Terns, Gulls, Mergansers, Bitterns, Green, Great Blue, Little Blue and Black-crowned Night Herons, at fish hatcheries, and of Mergansers by state wardens along any of the streams of Michigan where they prove destructive to trout.

Charges against the Dove in South Carolina, Geese in eastern Maryland and Thick-billed Parrots in Arizona have not been substantiated, while the claim that birds were being poisoned in the western states by the operations against vermin were found to be greatly exaggerated, the birds killed being "not enough to cause alarm."

The work of the Bird Banding Association, as already reported, has been taken over by the Survey and the study of the economic value of various birds and investigations on their distribution and migration have been continued.

Under the head of bird reservations the disastrous effect of shutting off the water supply of the Klamath and Malheur Lake reservations is referred to and unless this action can be checked the reservations seem

¹ Report of Chief of Bureau of Biological Survey. Annual Report Department of Agriculture pp. 1-36 (covering fiscal year ending June 30, 1920.)

doomed. It is deplorable that some cooperation of the different departments of the Federal Government cannot be arranged to prevent such a disaster as is here imminent. In the case of the migratory bird law there is splendid cooperation all along the line from both Government and independent organizations and the results are too well known to require further comment. But where water power or water privileges are involved both bird reservations and National Parks seem to be in the greatest danger.—W. S.

Crandall on the Eclipse Plumage in the Domestic Fowl.—Mr. Crandall describes the eclipse plumage of the Red Jungle Fowl as exhibited in birds in the New York Zoological Gardens obtained from the Philippines and also a similar plumage in a domestic Black-bellied Red Game Cock and suggests that the lack of records of this phase of plumage in the domestic fowl is probably due rather to carelessness of observation than to its absence.—W. S.

Economic Ornithology in Recent Entomological Publications.—The U. S. Bureau of Entomology in several recent bulletins has included information on bird enemies. These enemies and the insects affected are noted in the following paragraphs:

Spotted Apple-tree Borer (*Saperda cretata*).—This beetle does not seem to be near so serious a pest as its congener the round-headed apple-tree borer. Its operations result in unthriftiness of the tree attacked and sometimes the death of limbs. Fred E. Brooks, author of the bulletin¹ relating to it says: "By far the most effective natural check to the increase of this borer seems to be the woodpeckers. The borers feed in positions easily accessible to these birds and empty burrows are to be found on almost every infested tree, with the marks of the birds around the wounds giving unmistakable evidence of the cause of the borer's disappearance. During the present studies every attempt to rear larvae in unprotected trees met with a loss of all the individuals as a result of woodpecker attack. The species of bird responsible for the loss of the borers was not determined definitely, but all the evidence pointed to the downy woodpecker, *Dryobates pubescens medianus*. It seems probable that the spotted apple-tree borer would be a much more widely known and destructive pest were it not for the constant depletion of their numbers by woodpeckers."

Clover Stem-borer (*Languria mozardi*).—In southwestern irrigated regions this beetle has recently become a pest of considerable importance to alfalfa culture. The head and thorax of this beetle are deep red in color, and the remainder of the body bluish black. Thus it is a typical example of a warningly colored insect and moreover belongs to a family supposed to be distasteful. However, V. L. Wildermuth and F. H. Gates

¹ Eclipse Plumage in Domestic Fowl. By Lee S. Crandall. Zoologica, II, 15. No. 11. October 1920.

² Bul. 886, U. S. Dept. Agr., Oct., 1920, pp. 8-9.