

which it stands to their official representative on the Executive Committee, President Tracy I. Storer of the Northern Division. Mr. Storer adds the duties of the Secretary-Treasurership of the Associated Societies to a program already overfull; he will be bearing the brunt of whatever labor is performed; and in the performance of such labor, he will be giving effect to those words which stand among the objects of the Cooper Club itself: "For the conservation of birds and wild-life in general, for the sake of the future."—WALTER P. TAYLOR, *Biological Survey, Washington, D. C.*

PUBLICATIONS REVIEWED

SOME PUBLICATIONS OF THE BUREAU OF BIOLOGICAL SURVEY DURING 1915.

Under the title "Some common birds useful to the farmer" Professor Beal presents a bulletin of general information concerning the relation of our commonest land birds to the agricultural interests. While superseding Farmers Bulletin no. 54, a publication along similar lines of which upwards of half a million copies were distributed, the present paper is somewhat different in style. It is rather broader in treatment, giving more of distribution and general habits, and less of detail concerning food habits. It is to be hoped that this paper will do as much good as its predecessor did in arousing interest and spreading information concerning the value of our native birds.

During the summer of 1914 the Biological Survey, assisted by about two hundred voluntary observers, took a "Preliminary census of the birds of the United States"² by means of sample censuses in different parts of the country. The number of reports was entirely too small and they were unevenly distributed; nevertheless the reports as compiled by Professor Cooke are very interesting. From the relatively larger numbers of birds reported as nesting about dwellings and in cultivated areas, the author surmises that the bird population of the country as a whole could be considerably increased through a wider extension of protection, and by various other means.

¹Some common birds useful to the farmer. By F. E. L. Beal. U. S. Dept. Agric., Farmers' Bull. 630, pp. 1-27, 23 figs. in text. Issued Feb. 13, 1915.

²Preliminary census of the birds of the United States. By W. W. Cooke. U. S. Dept. Agric., Bull. 187, pp. 1-11. Issued Feb. 11, 1915.

Mr. McAtee has now published three papers dealing with food plants suitable for attracting ducks and other Anatidae. His present contribution³ discusses eleven additional groups of water plants of which representatives have been found in duck stomachs. Brief accounts of the life histories and habits of these plants are given, as also instructions for collecting and transporting them.

For several years Great Salt Lake, Utah, has been the seat of a duck disease similar to that reported by Clarke (CONDOR, xv, 1913, pp. 214-226) from a California locality. In the summer of 1914 Mr. Wetmore investigated conditions at the lake and later studied the situation at Tulare and Owens lakes in California. His report⁴ gives a brief history of the disease at and about Great Salt Lake and an account of the investigation. He discusses the various theories which have been put forth to explain the malady, and the means which have been found useful in its control and prevention. An abundance of fresh water seems to be the most efficient agent.

Professor Beal's two papers on the food habits of the Robins and Bluebirds⁵, and of the Thrushes⁶ together give us a concise yet authoritative account of the food of all members of the thrush family (Turdidae) occurring in North America north of Mexico.

As a group these birds are found to be mixed feeders, taking both animal and vegetable materials, but not always in the same proportions. The robins and the Townsend Solitaire are predominantly vegetarian in their food preferences, the latter being notably a berry feeder, while the former in times of scarcity of wild food is found to take considerable quantities of cultivated fruit, as for example olives. The thrushes (genus *Hyllocichla*) and the bluebirds, include a much larger proportion of animal material in their food. This is

³Eleven important wild duck foods. By W. L. McAtee. U. S. Dept. Agric., Bull. 205, pp. 1-25, 23 figs. in text. Issued May 20, 1915.

⁴Mortality among waterfowl around Great Salt Lake, Utah. By Alex Wetmore. U. S. Dept. Agric., Bull. 217, pp. 1-10, pls. I-III. Issued May 26, 1915.

⁵Food of the robins and bluebirds of the United States. By F. E. L. Beal. U. S. Dept. Agric., Bull. 171, pp. 1-31, 2 figs. in text. Issued Feb. 5, 1915.

⁶Food habits of the thrushes of the United States. By F. E. L. Beal. U. S. Dept. Agric., Bull. 280, pp. 1-23, 2 figs. in text. Issued Sept. 27, 1915.

largely insects, and for the most part is of species which are now thought to be either noxious or else harmless so far as man's interests are concerned.

A highly commendable feature of these two publications of the Survey is the inclusion of generic and specific determination of the insects wherever possible. Later, as the life histories and economic status of our insects become better known, it will be possible, from these present studies on bird food, to restate the economic value of our birds in terms of the insects upon which they feed.

In "Game laws for 1915" Messrs. Palmer, Bancroft and Earnshaw present the Survey's sixteenth annual summary of game laws in the United States and Canada. New measures enacted during the year are listed and the more important ones briefly discussed. The federal regulations for the protection of migratory birds are given in full and there are tables, giving for each of the states in the Union and for the provinces of Canada, the open seasons, bag limits, minimum age limits for hunting, license requirements, and a directory of officials from whom state game laws may be obtained. The bulletin is useful in affording up-to-date information for the use of conservationists, and also for showing one stage in the ever changing balance between the hunting interests and the protectionists.

In one of the last papers he wrote, that on "Bird Migration", Professor Cooke brought together generalizations arrived at by his study of the migration of American birds for more than thirty years. Here are treated such matters as causes of migration, relation of migration to weather and temperature, time, distance, and rates of migration, different kinds of migration routes, relation of migration to other activities in the life of birds, casualties during migration, and evolution of migration routes. Each topic is discussed upon the basis of evidence drawn from the vast array of such material accumulated during the lifetime of the author. Numerous text figures (maps) are illustrative of the various phenomena discussed. Altogether this paper appeals to the reviewer as about the best thing of its kind which has appeared anywhere. We can only regret that it is not ten times as large, that we might have learned more of this

¹Game Laws for 1915. By T. S. Palmer, W. F. Bancroft and F. L. Earnshaw. U. S. Dept. Agric., Farmers' Bull. 692, pp. 1-64, 4 figs. in text. Issued Sept. 14, 1915.

²Bird Migration. By Wells W. Cooke. U. S. Dept. Agric., Bull. 185, pp. 1-47, pls. I-IV, 20 figs. in text. Issued April 17, 1915.

fascinating subject from one who was qualified to speak with such authority upon it.—
TRACY I. STORER.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

MARCH.—The regular monthly meeting of the Northern Division of the Cooper Ornithological Club was held at the Academy of Sciences in Golden Gate Park, San Francisco, March 16, 1916, with an attendance of thirty-three. The minutes of the February meeting were read and approved, and the minutes of the Southern Division and of the Inter-Mountain Chapter for February were also read.

Mrs. Nellie Knappen was elected to membership in the Club, and the following names were proposed: Pirie Davidson, San Rafael, Calif., proposed by Mr. Tracy I. Storer; Dr. Frank B. Davis, 401 Vernon St., Oakland, by Mrs. Edward A. Kluegel; E. N. Hart, 940 Pacific Ave., Alameda, by Harold E. Hansen; S. Griswold Morley, 2535 Etna St., Berkeley, by Dr. J. Grinnell; Webster Robinson, Los Angeles, by Mr. Swarth; Norman H. Wood, Ann Arbor, Mich., and Donald D. McLean, Coulterville, Calif., by W. Lee Chambers; Edmund C. Jaeger, Palm Springs, Calif., by C. O. Esterly; and Edward Howe Forbush, Boston, Mass., by W. Leon Dawson.

Mr. Storer presented to the Club the contents of a letter from Mr. Albert Barrows, Secretary of the Pacific Division of the American Association for the Advancement of Science, asking the Cooper Club to present a program at a meeting of the Association to be held in San Diego, August 9 to 12. Mr. Harold Bryant was appointed by the President to prepare a program for this occasion.

Dr. Barton W. Evermann then gave a most interesting report of an intensive study of the physical and the biological conditions of Lake Maxinkuckee, Indiana, showing the conditions and inter-relations of the different kinds of life found to exist in and about the lake. Adjourned.—AMELIA S. ALLEN, Secretary.

SOUTHERN DIVISION

FEBRUARY.—Regular meeting of the Southern Division of the Cooper Ornithological Club was held at the Museum of History, Science and Art, Thursday evening, February 24, 1916, with thirty-three members and visitors in attendance.

In the absence of Mr. Swarth, President Law appointed L. E. Wyman secretary