

server recognizing and counting the birds seen on each kind of habitat, and the other recording the distances traveled over each. [To make sure that practically all the birds were seen by these observers, several trial trips were made with a third person walking between and some distance behind the two; with the result that the number of additional birds thus flushed was altogether negligible.]

3. The form of field notes written on uniform slips day by day for each trip, the slips being numbered consecutively for convenient reference.

4. The method of tabulation of the observations in a way to make them available for consolidation in various ways and for complete discussion.

5. A species index of the numbered notes such that all the data for each species may be readily assembled.

6. The grouping and tabulation of "residence classes."

7. Use of the tables thus formed in comparing the composition of the bird population in different seasons and especially in different stages of the fall and spring migrations, and the tracing in detail by this means of the successive steps of each migration.

As one glances over the numerous tables, which by the way are not numbered, it is to be noted that emphasis is placed upon the numbers of birds per square mile. Many furnish an array of percentages and ratios. Practically all of the tables show subdivisions, indicating the three sections of the state, southern, central, and northern.

Confirmatory evidence that resident species diminish rapidly to the northward is given. The southern part of the state shows 82.9 per cent; the central, 64.3 per cent; and the northern, 57.2 per cent. Percentages for the winter visitants are practically the same, whereas the summer visitants increase in numbers northward according to the following percentages: 00 per cent; 14.3 per cent; 19 per cent. At the end of the paper ten and one-half pages are devoted to a general list of 195 species arranged according to their residence and their seasonal presence in the three sections of the state. A sample of the field notes, index cards and the percentage tables made from them follows.

Admitting the value of such statistical data, the reviewer has not been favorably impressed with the presentation, for it appears that even to one familiar with reports of this kind, the data are rather mixed and it is difficult to pick out the outstanding findings of the authors. The treatment of the methods used in the survey is to be found thirty-eight pages away from the introduction. Whereas most tables give the common names of birds, one important table, dealing with the more abundant birds found in various habitats, lists them only by A. O. U. numbers. It takes considerable "digging" to locate comparative tables for the various sections of the state and no summary is available to determine the authors' success in demonstrating what they set

out to show.—HAROLD C. BRYANT, *Berkeley, California, April 23, 1924.*

MINUTES OF COOPER CLUB MEETINGS

SOUTHERN DIVISION

MARCH.—The regular meeting of the Cooper Ornithological Club, Southern Division, was held at the Los Angeles Museum, Thursday evening, March 27, 1924. President Wyman was in the chair and the following members were present: Mesdames Ellis and Law; Miss Potter; Messrs. Barnes, Bishop, Campbell, Dawson, Law, Nokes, Rich and Wyman. Visitors were Mesdames Bishop and Wyman; Messrs. Baldock, Goldfrank, Short and Short.

Minutes of the February meeting were read and approved, followed by the February minutes of the Northern Division. The following names were presented for membership: Henry Boardman Conover, 6 Scott St., Chicago, by W. Lee Chambers; Craig R. Duer, Newberg, Oregon, by Stanley G. Jewett; Harry Warren Dunkelberger, Box 6, Flourtown, Montgomery Co., Pa., by W. Lee Chambers; A. T. Gausebeck, 60 Broadway, New York, by W. Lee Chambers; Stephen S. Gregory, Jr., 345 Barry Ave., Chicago, by Donald R. Dickey; Anna H. L. Holden, 2835 Divisadero St., San Francisco, by H. C. Bryant; Elmer L. Knapp, Route 2, Troy, Pa., by W. Lee Chambers; L. R. Orton, Fillmore, by L. G. Peyton; Colin Campbell Sanborn, Field Museum of Natural History, Chicago, by Henry K. Coale; Manfred Kenwood Spaulding, Box 984, Westwood, by W. Lee Chambers; John Le Moyne Stafford, Box 128, Gresham, Oregon, by W. Lee Chambers; James Douglas Turnbull, 2065 48th Ave. West, Vancouver, B. C., by W. Lee Chambers; Geo. C. Withey, Deering, North Dakota, by Geo. W. Morse. The Northern Division sent the names of E. Raymond Hall, Berkeley; Hildegard Howard, Los Angeles; Cavendish Moxon, Los Altos.

A letter to Mr. Wyman from Mr. Ralph Hoffmann was read, again inviting the Club to hold a meeting this spring at the Santa Barbara Museum of Natural History. Upon motion of Mr. Law, seconded by Dr. Rich, it was voted to accept Mr. Hoffmann's invitation for the last Saturday evening in June.

Mr. Wyman was also in receipt of a communication from the Board of Park Commissioners stating that the Board ex-

pects to request an appropriation of \$1500 in the budget of the department for the coming fiscal year for the purpose of establishing a bird sanctuary in Vermont Canyon at Griffith Park.

A proposal was made by Mr. Law, which met with instant approval, that the Club invite the American Ornithologists' Union to hold its 1925 meeting in Los Angeles. After some discussion it was decided to let the matter rest until next month's meeting before taking any action.

Dr. Bishop then presented two papers. Under the heading "*Larus hutchinsi*," he brought forth some interesting points in age plumage of various gulls. His "Notes on Some California Land Birds," comprised personal observations made by Dr. Bishop since his residence in California.

Mr. Law announced that he has been making a census of birds banded in the West during the past year, from March first to March first, and plans to make this an annual feature, publishing the result in *THE CONDOR*. This year's census shows 2105 birds of 78 species banded in this territory. Adjourned.—ELLA H. ELLIS, *Secretary*.

APRIL.—The Cooper Ornithological Club, Southern Division, held its regular monthly meeting Thursday evening, April 24, 1924, at the Los Angeles Museum, Exposition Park, with President Wyman in the chair and the following members present: Mesdames Barnes, Ellis, Law, Robertson, Schneider and Warmer; Messrs. Barnes, Bishop, Campbell, Cantwell, Chambers, Holland, Law, Pierce, Reis, Robertson, Widmann and Wyman. Visitors included Mesdames Bishop and Reis.

Minutes of the March meeting were read and approved. The March minutes of the Northern Division were read. Names presented for membership were: Walter Bruce, 813 Lincoln Place, Spokane, Wash., by J. L. Sloanaker; Taylor H. Halleck, Newport, Oregon, by W. Lee Chambers; David Daniel Keck, Smiley Hall, Claremont, by Wright M. Pierce; Henry Vining Ogden, 101 Wisconsin Street, Milwaukee, Wis., by W. Lee Chambers; Ernest Glenn Osborne, 161 W. 6th Street, Claremont, by Wright M. Pierce; Mrs. J. M. Sharples, Juneau, Alaska, by George Willett; Morton Stuart, U. S. Forest Service, Santa Barbara, by W. Lee Chambers; E. L. Sumner, Jr., 1343 S. Palomares Street, Pomona, by W.

Lee Chambers; Ralph C. Tate, Kenton, Okla., by W. Lee Chambers.

The question of inviting the American Ornithologists' Union, as suggested by Mr. Law at last month's meeting, to hold its 1925 session in Los Angeles, was brought up and discussed. On motion of Mr. Law, seconded by Mr. Pierce, it was voted unanimously that such invitation be extended, leaving the time of meeting to the pleasure of the A. O. U.

The "international crow shooting contest," which is being fostered by the Du Pont magazine and others, caused some discussion. Dr. Bishop moved that the Southern Division endorse the resolution protesting against this contest, as set forth in the March minutes of the Northern Division. This was seconded by Mr. Pierce and unanimously carried.

Mr. Wyman announced that he had received a call from a representative of Roy Chapman Andrews, leader of the Third Asiatic Expedition of the American Museum of Natural History. Mr. Andrews is to give a talk in Los Angeles early in June, notices of which will be sent to Cooper Club members.

Dr. Bishop suggested that it might be well that the resolution adopted by the Northern Division recommending the establishment of a National Monument at Glacier Bay, Alaska, be also endorsed by the Southern Division. His motion to that effect was seconded by Mr. Reis and carried.

An unusual number of Ferruginous Rough-legs was noted by Mr. Roland Ross on a recent trip through the interior of the state. Mr. Ross discussed and gave imitations of the calls of the Spotted Owl.

The Knot was reported by Mrs. Schneider as having been seen within the past few days near Playa del Rey. This is a rare occurrence in the spring, there being but two previous records of the Knot at this season of the year.

Dr. Bishop and Mr. Pierce gave some of their observations on recent trips to the Mohave desert.

Mr. Law moved that the chair appoint a committee of three to aid in collecting data on local migration. He believes that there are enough good observers in Southern California who are taking accurate migration notes to warrant an effort to tabulate the time of appearance at the different stations, in the hope that some reliable information on the direction of migration may be obtained. His motion being seconded by Dr. Bishop and

duly carried, Mr. Wyman appointed Miss Potter, Mr. Pierce and Mr. Law as such committee, Mr. Law to act as chairman.

Adjourned.—*ELLA H. ELLIS, Secretary.*

NORTHERN DIVISION

APRIL.—The regular monthly meeting of the Cooper Ornithological Club, Northern Division, was held at the Museum of Vertebrate Zoology on April 24, 1924, at 8 P. M. The Secretary called the meeting to order. In the absence of the President and Vice-president, Dr. Evermann was elected chairman.

The following members were present: Misses Beaman, Burk, Fisher, Howard and Rush; Mesdames Allen, Bogle, Delport, Grinnell and Mead; Messrs. Borell, Clabaugh, English, Evermann, Grinnell, Hall, Lastreto, Miller, Simpson, Swarth and Trost. Three visitors were present.

Minutes of the March meeting were read and approved. Minutes of the Southern Division for March were read.

A letter from Mr. Arno B. Cammerer, Acting Director of National Parks, was read announcing the temporary withdrawal from settlement and homestead entry of lands bordering on Glacier Bay, Alaska, in order that the officials of the department might conduct an investigation as to the advisability of including a part or the whole of the area in a National Monument.

Dr. Evermann then introduced the speaker of the evening, Dr. Robert C. Miller, who spoke most interestingly upon the subject of "Birds and Gliders." Dr. Miller traced the course of experimentation from 1867, when a French scientist, inspired by the flight-powers of the albatross, prepared his first glider, to the inventors of today, whose creations are guided for several hours through the air before seeking earth. An excellent series of diagrams and tables and photographs of gliders and soaring gulls was thrown upon the screen to illustrate Dr. Miller's talk.

At the close of the program Mr. C. B. Lastreto brought the attention of the Club to the fact that, of all bills now before the House of Representatives aiming to control the pollution of our waters by oil, the only one which adequately meets the situation is the Willis Bill. Upon motion by Mr. Lastreto, seconded by Mr. English, the Northern Division unanimously adopted the following set of resolutions:

WHEREAS, it is known from personal observation and reliable report that pollution of our rivers, inland and ocean waters, principally by oil,

originates not only from vessels, but largely also from sources on shore, through indifference or through preventable accidents, such as at shipping yards, dry docks, gas factories, garages, railroad yards, industrial plants, refineries, storage and loading stations, also from leaks in pipe-lines and waste and over-flow at wells seeping into the ground and eventually being washed into waterways; and

WHEREAS, such pollutions have caused and are causing regrettable destruction of game and economically useful and other desirable birds, as well as harm to marine life and food supply, and also creating fire risks and disfiguring our waterfronts; and

WHEREAS, the Willis Bill, Senate No. 1942, has passed the Senate and aims to control pollution from land sources, as well as from floating craft, while other House and Senate bills offer but incomplete, inadequate and unsatisfactory remedies, omitting many very important and more practically remediable sources on shore; therefore, be it

RESOLVED, that the Cooper Ornithological Club, Northern Division, endorses the Willis Bill, Senate No. 1942, and urges its passage upon the Californian representatives in Congress, and urges the killing of other bills pending, that limit their scope to the regulation of floating craft alone.

Following the adoption of the above resolutions several members spoke upon the damage done to other than avian life by the oil film: clams, crustaceans, fishes and plankton suffering severely. Adjourned.—*HILDA W. GRINNELL, Secretary.*

MAY.—The regular monthly meeting of the Cooper Ornithological Club, Northern Division, was held at the Museum of Vertebrate Zoology on May 22, 1924, at 8 P. M. In the absence of the President and Vice-president, the Secretary called the meeting to order, and Dr. Evermann was elected Chairman of the evening.

The following members were present: Misses Beaman, Burk, Fisher, Paroni and Thomson; Mesdames Bamford, Bogle, Buhn, Davenport, Delport, Grinnell, Kibbe, Mead, Mexia, Schenck and Schlesinger; Messrs. C. A. Bryant, H. C. Bryant, Bunker, Carriger, Clabaugh, Cooper, Elmore, English, Evermann, W. Grinnell, Kibbe, La Jeunesse, Miller, Schenck, Simpson, Tenney and Torrey. Visitors were: Miss Rinder; Mesdames Bunker, Cooper, Evermann, Jessen, Marshall, Perry, Rinder, Sheldon and Tenney; Messrs. Edtl, Kierulff, Marshall, Perry, Tenney and Whitney.

Minutes of the April meeting were read and approved. Minutes of the Southern Division for April were read.

The following resolution was introduced and unanimously adopted:

WHEREAS, the Southern Division of the Cooper Ornithological Club at its meeting held on April 24, 1924, at Los Angeles invited the American Ornithologists' Union to hold its 1925 session in Los Angeles; therefore be it

RESOLVED, that the Northern Division of the Cooper Ornithological Club heartily approves and seconds the invitation of the Southern Division to the American Ornithologists' Union to hold its 1925 meeting in Los Angeles at such time as best fits its convenience.

The evening's business being concluded, Professor Tracy I. Storer spoke upon "Birds of the Yosemite." His graphic talk and the excellent slides which illustrated it gave a double pleasure to his audience. Adjourned.—HILDA W. GRINNELL, Secretary.

DIRECTORY OF MEMBERS OF THE COOPER ORNITHOLOGICAL CLUB

Revised to June 1, 1924

OFFICERS

NORTHERN DIVISION

Joseph Dixon, President
C. B. Lastreto, Vice-President
Mrs. Hilda Wood Grinnell, Secretary

SOUTHERN DIVISION

L. E. Wyman, President
Dr. Louis B. Bishop, Vice-President
Mrs. Ella Haines Ellis, Secretary

EDITORS

Joseph Grinnell
Harry S. Swarth

BUSINESS MANAGERS

J. Eugene Law
W. Lee Chambers

ENDOWMENT SECRETARY

Donald R. Dickey

The above officers, together with the following ex-presidents (not included above, all those whose membership has been continuous since incumbency), constitute the Board of Governors of the Club.

Ralph Arnold, Harold C. Bryant, Henry W. Carriger, Herbert L. Coggins, J. S. Cooper, Barton Warren Evermann, Walter K. Fisher, Ozra W. Howard, W. B. Judson, Joseph Mailliard, Loyal H. Miller, G. Frean Morcom, Wilfred H. Osgood, Wright M. Pierce, Guy C. Rich, Howard Robertson, Tracy I. Storer, Curtis Wright.

MEMBERS

In the following roster, residence is understood to be in California unless otherwise indicated. Year following address indicates date that member joined the Club; year in parenthesis indicates date member became honorary or life member. Star (*) preceding indicates life member; § indicates contributor to Endowment Fund.

HONORARY MEMBERS

*§Bailey, Florence M. (Mrs. Vernon), 1834 Kalorama Road, Washington, D. C. 1910 (1920) (1920).
Fisher, Dr. A. K., Biol. Survey, Washington, D. C. 1904 (1924).
Henshaw, Henry W., Biol. Survey, Washington, D. C. 1909.
Merriam, Dr. C. Hart, 1919 16th St., Washington, D. C. 1909.
*§Morcom, G. Frean, 243 N. Coronado St., Los Angeles. 1904 (1915) (1922).

Nelson, Dr. E. W., Biol. Survey, Washington, D. C. 1904 (1917).
Ridgway, Robert, Route 7, Olney, Ill. 1905.
§Stephens, Frank, Natural History Museum, Balboa Park, San Diego. 1894 (1912).

ACTIVE MEMBERS

Abbott, Clinton G., Nat. Hist. Museum, Balboa Park, San Diego. 1921.
Abernathy, Frieda (Mrs. St. E.), 1726 Virginia St., Berkeley. 1914.
Adams, Benjamin, Wethersfield, Conn. 1920.
Adams, Frank O., Canfield, West Vancouver, B. C. 1922.
Adams, Miss Romola M., 912 Linden Ave., Long Beach. 1921.
Aitken, Drummond, 766 Milwaukee St., Denver, Colorado. 1924.
*Alexander, Miss Annie M., Suisun. 1908 (1923).
Allen, Dr. Arthur A., McGraw Hall, Ithaca, N. Y. 1911.
Allen, Mrs. Amelia S., 37 Mosswood Road, Berkeley. 1913.
Allen, Walter I., Lamanda Park. 1922.
Anderson, Mrs. Malcom P., care of Merrill Palmer School, 71 East Ferry St., Detroit, Mich. 1920.
Anderson, Dr. Rudolph M., Biol. Div., Victoria Memorial Museum, Ottawa, Ont., Canada. 1916.
Anthony, A. W., Nat. Hist. Museum, Balboa Park, San Diego. 1921.
Anthony, Mrs. Joseph, 1208 Fuller Ave., Hollywood. 1922.
Applegate, Elmer I., Klamath Falls, Ore. 1921.
*Appleton, J. S., 1332 Citrus Ave., Hollywood. 1901 (1919).
Archer, Ethel M., Garden Grove. 1923.
Armstrong, Edward E., 2249 Calumet Ave., Chicago, Ill. 1914.
Arnold, E., Grand Trunk Ry., Montreal, Que., Canada. 1909.
Arnold, Mrs. Lewis, 2732 Benvenue Ave., Berkeley. 1921.
Arnold, Dr. Ralph, 639 S. Spring St., Los Angeles. 1893.
Atkinson, W. L., 35 Hawthorne Way, San Jose. 1901.
Atsatt, Miss Sarah R., 345 S. Serrano Ave., Los Angeles. 1911.
Austin, Miss Dorothy K., 85 S. Madison Ave., Pasadena. 1921.
Averill, Charles Ketchum, 1075 Iranistan Ave., Bridgeport, Conn. 1922.
Bacon, Frank, 2231 Piedmont Ave., Berkeley. 1922.
Badé, Dr. Wm. F., 2616 College Ave., Berkeley. 1903.
Badger, M. C., Santa Paula. 1915.
Bailey, Alfred M., Colo. Museum Nat. Hist., Denver, Colo. 1917.
Bailey, Bernard, R.D. 1, Elk River, Minn. 1911.
Bailey, H. H., Box 5, Miami Beach, Miami, Fla. 1903.