

PROCEEDINGS OF THE WILSON ORNITHOLOGICAL CLUB

By Olin Sewall Pettingill, Jr., Secretary

At the invitation of the University of Michigan, the Wilson Ornithological Club held its Twenty-fourth Annual Meeting in the Museum of Zoology in Ann Arbor on November 25-26, 1938. The occasion marked the Fiftieth Anniversary of the organization. Headquarters were in the Michigan Union and the Michigan League.

The two-day meeting was occupied with two business sessions, several short meetings of the Executive Council, and four program sessions. An ornithological art exhibit, held jointly by the Wilson Ornithological Club and the Ann Arbor Art Association, took place in the new Rackham Building. Saturday noon members of the Wilson Ornithological Club were guests of the University of Michigan at a luncheon at the Michigan Union. Saturday evening members and visitors enjoyed the Annual Dinner at the Michigan Union.

BUSINESS SESSIONS

The first business session was called to order by President Margaret M. Nice on Friday morning at 9:30. The minutes of the previous meeting were approved without being read since they had already been published in *The Wilson Bulletin*. The reports of the Secretary, Treasurer, Librarian, and Endowment Committee were read and approved.

A list of persons nominated to membership during the current year was placed on the table for approval by the organization.

An Amendment to Article III, Section 4, of the Constitution, proposed at the Twenty-third Annual Meeting at Indianapolis, was unanimously accepted. As amended, Article III, Section 4, reads: "The officers and past presidents of the Club and three additional members, who shall be elected from its voting members by the Club, shall constitute an Executive Council. The business of the Club . . ."

The President appointed three temporary committees.

They were:

Resolutions: S. Charles Kendeigh, W. J. Breckenridge, Amelia R. Laskey.

Auditing: Gustav Swanson, Burt L. Monroe, Richard L. Weaver.

Nominating: Harry W. Hann, Lawrence H. Walkinshaw, Eugene P. Odum.

The second and final business session was called to order at 5:30 Saturday afternoon. Persons nominated to membership during the current year were formally elected. Reports of the Conservation and Index Committees were read and approved.

The Resolutions Committee presented the following resolutions which were then adopted:

Whereas, the Wilson Ornithological Club is an organization interested in the conservation of wildlife and is interested in the maintenance of natural habitats, be it *Resolved*, that this organization go on record as favoring the preservation of representative relic areas such as the oak openings west of Toledo, Ohio, and the proposed Great Plains National Monument.

Resolved, that the Wilson Ornithological Club at its Twenty-fourth Annual Meeting on November 25 and 26, 1938, at the Museum of Zoology of the University of Michigan expresses its thanks and appreciation to Mr. Frederick M. Gaige, Director of the Museum of Zoology, to Dr. Clarence Yoakum, Dean of the Horace H. Rackham School of Graduate Studies, and to President A. G. Ruthven of the University for the use of its buildings, equipment, and for the luncheon on Saturday noon; and to the Local Committee, consisting of Messrs. Van Tyne, Brodkorb, Hann, Hinshaw, and Tinker, for the hospitality and excellent arrangements that they have provided; and be it further *Resolved*, that the Wilson Ornithological Club expresses its thanks to the Local Committee for arranging the excellent exhibit of bird art work and to Mrs. William A. Comstock for the loan of the fine series of Frank Benson etchings.

Whereas, Mr. S. E. Perkins III, Treasurer of the Wilson Ornithological Club since 1935 has resigned this office because of ill health, and

Whereas, Mr. Perkins has shown exceptional interest, energy, and enthusiasm in performing the duties of this office, be it

Resolved, that the Wilson Ornithological Club express its great appreciation and indebtedness to him and hope that he will have a speedy recovery in health.

The Nominating Committee offered the following report:

President—Margaret M. Nice, 5708 Kenwood Avenue, Chicago, Illinois.

First Vice-President—Lawrence E. Hicks, Ohio State University, Columbus, Ohio.

Second Vice-President—George Miksch Sutton, Cornell University, Ithaca, N. Y.

Secretary—Olin Sewall Pettingill, Jr., Carleton College, Northfield, Minnesota.

Treasurer—Gustav Swanson, University Farm, University of Minnesota, St. Paul, Minnesota.

Additional Members of the Executive Council—Maurice Brooks, University of West Virginia, Morgantown, West Virginia; S. Charles Kendeigh, University of Illinois, Champaign, Illinois; Miles D. Pirnie, W. K. Kellogg Bird Sanctuary, Battle Creek, Michigan.

The report of the Nominating Committee was accepted by motion and the Secretary was authorized to cast one ballot for the nominees thus electing them officers of the Wilson Ornithological Club for the ensuing year.

The session was formally adjourned at 5:50 P.M.

MEETINGS OF THE EXECUTIVE COUNCIL

Dr. Josselyn Van Tyne reported that the Library Committee has selected as the official Wilson Club book-plate an attractive design presented to the Club several years ago by Dr. George Miksch Sutton. This design bears a drawing of the Long-eared Owl,—an appropriate bird since it is named after Alexander Wilson.

Dr. T. C. Stephens was re-elected Editor of *The Wilson Bulletin* for 1939.

Considerable time was devoted to a discussion of more adequate ways and means of soliciting members. It seemed desirable for the President to appoint a Membership Committee with representatives in various states and provinces. The duties of such a Committee were outlined by the Secretary in his report.

The question of holding double sessions during Annual Meetings of the Wilson Ornithological Club was discussed. It was the consensus of opinion of Councillors present that double sessions were undesirable.

The Council accepted the invitation of the Kentucky Ornithological Society and the C. W. Beckham Bird Club to hold its Twenty-fifth Annual Meeting in Louisville, Kentucky. The meeting will take place on Friday and Saturday, December 1-2, 1939.

PROGRAM SESSIONS

The first program session began on Friday at 10:00 A.M. Mr. Frederick M. Gaige, Director of the Museum of Zoology, welcomed the Wilson Ornithological Club to Ann Arbor and the Museum on the occasion of its Twenty-fourth Annual Meeting. President Margaret M. Nice responded to his gracious remarks.

The remainder of the Friday morning session and the sessions on Friday afternoon and Saturday were devoted to the reading of papers. Two were read by title in the absence of the speakers.

The program sessions were distinguished by two groups of papers. The first group of two papers appropriately recognized the Fiftieth Anniversary of the Wilson Ornithological Club. Dr. R. M. Strong, a Founder of the Club, traced the history of the organization to the present time. Having been witness of the Club's development from the date of its beginning, December 3, 1888, his paper contained numerous personal anecdotes that were no less interesting than entertaining. The Secretary, having studied the returns of the recent questionnaires to members, gave

a survey of the present organization. The second group of papers, four in number, composed a Symposium on the Ninth International Ornithological Congress at Rouen, France, May 9-13, 1938. Four Club members (Dr. Emil Witschi, Dr. G. M. Sutton, Mrs. Margaret M. Nice, and Dr. L. E. Hicks), who attended the Congress, described some of the high spots of the occasion.

A large portion of the papers presented were based on life history studies. Several other papers discussed conservation problems of current importance. Outstanding in popular interest were five papers illustrated by natural color motion pictures.

Below is given the program of papers together with brief abstracts:

OPENING SESSION, FRIDAY MORNING

1. Biological Research at the Edwin S. George Reserve. (12 minutes.)
JOSSELYN VAN TYNE, *Museum of Zoology, University of Michigan, Ann Arbor, Michigan.*

The Edwin S. George Reserve is a 1200-acre wildlife reserve of the University of Michigan Museum of Zoology, located 23 miles northwest of Ann Arbor. Here the staff of the Museum, students, and visiting scientists have opportunity to conduct investigations on a tract of land relatively undisturbed by surrounding centers of population.

2. Another Year with Nesting Prothonotary Warblers. Illustrated by lantern slides. (15 minutes.) LAWRENCE H. WALKINSHAW, *Battle Creek, Michigan.*

The data presented in this paper are outlined below:

I. Field methods and time spent in study.

II. Comparison of 1938 with 1937 season on the same two miles of river.

Date of arrival; Date of first nest, first egg; Success of nests; Second broods; Departure.

III. Returns and banding.

3. Some Birds of the Canadian Zone in the Great Smoky Mountains. Illustrated by lantern slides. (20 minutes.) ALBERT F. GANIER, *Nashville, Tennessee.*
4. A Study of Nesting Bluebirds. (15 minutes.) AMELIA R. LASKEY, *Nashville, Tennessee.*

A summary of nesting data of Bluebirds in 37 boxes placed in Percy Warner Park, Nashville, Tennessee, for the three nesting periods of the 1938 season with a brief mention of the results from the 26 and 27 boxes in the same park in 1936 and 1937, respectively.

From February 23, 1938, until mid-August, 45 trips were made to examine boxes, record data, band nestlings and brooding females, and to recapture brooding birds in each nesting period.

Thirty-six boxes were occupied at least once; 104 sets, consisting of 460 eggs, were laid by Bluebirds. There was one Crested Flycatcher nest and one Carolina Wren nest, both successful, and several attempts by House Sparrows.

5. Longevity of the Oven-bird. Illustrated by lantern slides. (10 minutes.) H. W. HANN, *Zoology Department, University of Michigan, Ann Arbor, Michigan.*

The report was based on the returns of thirty-six adult Oven-birds, twenty males and sixteen females, which were banded with metal and colored bands during the years 1933-1936.

The average return of the adult population during 1934-1938 was 51.7 per cent for the second year, 26.7 per cent for the third year and 11.4 per cent for the fourth year. Three males at least four years old and one at least three years old were present in 1938.

The average length of life of adults based on survival rate is 2.57 years, and is a little greater in males than in females.

The survival rate of 51.7 per cent for the second year appears to hold good for all ages of adult birds except perhaps those of four or more years.

6. Territorial Behavior of the Eastern Chipping Sparrow. (15 minutes.) RICHARD L. WEAVER, *Dartmouth College, Hanover, New Hampshire.*

A discussion of three summers' research at Cornell University in which 350 birds were marked with bands and feathers and followed through several nestings each summer. Family and individual records were kept. Extent of territory and factors involved, including "territorial fights," are described.

- A Recognition of the Fiftieth Anniversary of the Wilson Ornithological Club*
7. A Brief History of the Wilson Ornithological Club. (15 minutes.) R. M. STRONG, *Loyola University School of Medicine, Chicago, Illinois.*
 8. The Wilson Ornithological Club of Today. A Study of the Present Organization Based on the Recent Questionnaire to Members. OLIN SEWALL PETTINGILL, JR., *Carleton College, Northfield, Minnesota.*

FRIDAY AFTERNOON

A SYMPOSIUM ON THE NINTH INTERNATIONAL ORNITHOLOGICAL CONGRESS
AT ROUEN, FRANCE, MAY 9-13, 1938

Introduction by MARGARET M. NICE, *Chicago, Illinois.*

9. The Scientific Program. Illustrated by lantern slides. (15 minutes.) EMIL WITSCHI, *The State University of Iowa, Iowa City, Iowa.*
10. The Art Exhibit. (10 minutes.) GEORGE MIKSCH SUTTON, *Laboratory of Ornithology, Cornell University, Ithaca, New York.*
11. A Month's Study at Altenberg, Austria. MARGARET M. NICE, *Chicago, Illinois.* (15 minutes.)
12. Observations on European Birds. (10 minutes.) LAWRENCE E. HICKS, *Ohio State University, Columbus, Ohio.*
13. More Wildlife Sanctuaries in the National Park System. (15 minutes.) MRS. C. N. EDGE, *New York, New York.*

A discussion of two recent policies of the Department of the Interior with special reference to the opportunity offered for the protection of wild life, both birds and mammals. These two policies as defined by the Secretary of the Interior are:

"Part of the duty of our government is to save the finest forests that are still left in America, of this centuries-old primeval growth. The way to save them is to turn such forests into national parks. Judging from the rate at which forests are being cut, it is probable that in a hundred years the only important remnants of the virgin forest to be found anywhere in the country will be in national parks.

"It is also a duty of the government, and one of its most important duties, to preserve and manage forests for commercial use, to protect the headwaters of streams, and to reforest the lands that are more valuable for trees than for agriculture. The way to do this is by maintaining national forests. Trees in these forests, if not needed to prevent erosion, will be cut, and will grow again, but will never reach the magnificent size of the trees in the primeval forests."

14. Some Toronto Bird Cycles. Illustrated by lantern slides. (15 minutes.) J. MURRAY SPEIRS, *University of Illinois, Champaign, Illinois.*
Some of the species of birds that have wintered in the Toronto region have fluctuated markedly in numbers from year to year. The peaks of abundance of the American Rough-legged Hawk, the Snowy Owl, and the Northern Shrike have usually occurred at intervals of three to five years; peaks of the Pine Grosbeak have occurred at intervals of five or six years; and peaks of the Goshawk and Horned Owl have occurred at intervals of nine to eleven years.
15. Growth and Development of Young Wood Thrushes. Illustrated by lantern slides. (15 minutes.) FLORENCE B. WEAVER, *Hanover, New Hampshire.*
Summaries of growth as evidenced by tabulation of measurements taken over a period of three summers at Cornell University. Graphs and charts were used to illustrate rate of growth, while photographs portrayed the feather development and size increases.
16. Illinois Crow Roosts. Illustrated by lantern slides. (20 minutes.) C. THEODORE BLACK, *University of Illinois, Champaign, Illinois.*

A wintering population in excess of 1,000,000 Crows was present in Illinois in the winter of 1937-38, an average density of about twenty birds per square mile. These birds gathered nightly in over 100 roosts, located typically in upland natural groves, osage orange hedgerows, or low bottomland timber of large rivers, but occasionally in orchards and other artificial plantations, such

as evergreens or catalpas. Each roost has a well-defined feeding area, usually of fifteen or twenty miles radius. Largest and densest aggregations are formed during periods of low temperatures and incipient or actual precipitation. Moderate temperatures and fair weather produce scattered and even ground roosting, and when accompanied by moonlight, produce restless behavior on the roost. Sex and age ratios obtained from central Illinois roosts, January 11 to March 3, 1938, indicate an influx of adult females early in February, followed by a steady increase in the proportion of immature birds through that month. The ratio of adults to immature birds in central Illinois in winter is 3:1.

17. Factors Influencing the Growth of Young Turkey Vultures. Illustrated by lantern slides. (Read by Title.) VICTOR COLES, *Cincinnati, Ohio*.

SATURDAY MORNING

18. The Dispersal of 40,000 Banded Starlings. (20 minutes). LAWRENCE E. HICKS, *Ohio State University, Columbus, Ohio*.

From January 1, 1920 to July 1, 1937, 81,000 European Starlings were banded in the United States. More than 700 of these have been recovered in states other than where banded at distances of 100 to 1000 miles. Of these, 43,000 were banded in Ohio. Of 56,000 Starlings captured by the writer in central Ohio, 34,000 were banded. Of these, 31.6 per cent were eventually retaken after banding, 68.4 per cent were never heard from again. Of the birds banded, 14.9 per cent were taken as repeats 1 to 3 months after banding; 14.0 per cent were taken as returns 1 to 7 years after banding and 2.7 per cent were heard from as recoveries mostly in Ontario, New York, Quebec and Pennsylvania. Fifteen maps and graphs indicated the dispersal of these Starlings. Of the recoveries, 49.7 per cent were during the four winter months, 37.5 per cent during the four breeding months, and only 12.8 per cent during the four months of fall migration.

19. A Short History of the Great Lakes Ornithological Club. (15 minutes.) J. H. FLEMING. *Toronto, Canada*.

About the year 1900 a group of six persons W. E. Saunders, P. A. Taverner, B. H. Swales, A. B. Klugh, J. S. Wallace, and J. H. Fleming formed the Great Lakes Ornithological Club. The membership of the Club was never added to. This Club published a unique kind of manuscript bulletin which proved a useful means of communication.

20. The Plovers Come Back. (10 minutes). FRED T. HALL, *Crawfordsville, Indiana*.

This is a vivid example of the results of true conservation. The Upland Plovers, once common birds in the prairie regions of Indiana, disappeared completely and were so diminished in numbers throughout the entire country that many ornithologists thought them doomed to extinction. After effective laws and a program of conservation education the ruthless killing was so greatly reduced that some species of birds have made remarkable comebacks. The Upland Plover was one of the quickest to return to native habitats and today it is reestablishing itself in many of its favorite spots.

21. Territorial Studies of the Eastern Goldfinch. (15 minutes). MARGARET DRUM, *University of Michigan Biological Station and Owatonna, Minnesota*.

A discussion of studies made at the University of Michigan Biological Station during the summers of 1937 and 1938. The following questions were considered: Do Goldfinches have territories with definite boundaries? When are these territories established? Are these territories defended from other members of the same species? How large are these territories? What activities take place within the boundaries of these territories?

22. Environmental and Internal Factors of Seasonal Sexuality. Illustrated by lantern slides. (15 minutes). G. M. RILEY, *The State University of Iowa, Iowa City, Iowa*.

An investigation has been made of factors which influence seasonal sexual activity in birds with special reference to the cycle of the House Sparrow. The development of the gonads and secondary sexual characters during the breeding season is found to be dependent upon a mechanism involving: (1) certain environmental factors of which lengthened daily light period appear

primarily important; (2) endocrine factors, such as the activity of the anterior pituitary and the sex hormones; and (3) responsiveness of the gonads to gonadotropic substances. The study permitted a comparison of the relative importance of the role these factors play in the cycle of the two sexes.

23. Breeding Greater Prairie Chicken in Southern Iowa, 1938. Illustrated by lantern slides. (15 minutes). GEORGE O. HENDRICKSON and MAURICE F. BAKER, *Department of Zoology and Entomology, Iowa State College, Ames, Iowa.*

In the summer of 1938 a nest with eggs, and later two broods of young of Greater Prairie Chicken were observed in Davis County, southern Iowa. The corner of the several sections of land occupied by the birds was approximately 75 per cent timothy, harvested for hay and seed, and lightly grazed blue grass, and 25 per cent corn and oats.

24. Development of Body Temperature Control in House Wrens. Illustrated by lantern slides. (15 minutes). S. CHARLES KENDEIGH, *Baldwin Bird Research Laboratory and University of Illinois, Champaign, Illinois.*

The rate of metabolism of nestling House Wrens of ages 0, 3, 6, 9, 12 and 15 days was measured at air temperatures of 105, 100, 95, 90, 80, and 70 degrees Fahrenheit and below by collecting the carbon dioxide output in a modified Haldane apparatus over a period of three hours in each experiment. Correlations are made between carbon dioxide output, body temperature, age, water loss, respiratory quotient, weight loss, activity, rate of heart beat, and muscle tremors. The development of temperature regulation is a gradual one, beginning soon after hatching and not reaching full perfection until after the autumn molt. A study of the steps involved and the correlation of the various physiological functions in this development permit a more intimate analysis of the mechanism for body temperature regulation and a better appreciation of the way birds become adjusted to their environment.

25. Observations and Experiments on Melanism in Birds. Illustrated by lantern slides. (15 minutes). NICHOLAS W. FUGO and EMIL WITSCHI, *The State University of Iowa, Iowa City, Iowa.*

During the progress of research on birds in their laboratory there has come to the authors' attention in the common House Sparrow and in several species of African weaver finches the occasional occurrence of melanistic individuals. In addition, they recently observed in the domestic fowl (New Hampshire Red) that removal of the pituitary primordia early in embryogenesis results in a characteristic melanism of the down. These cases have been investigated from an endocrine point of view in an attempt to explain the excessive melanization of the plumage, special attention being paid to the thyroids, parathyroids, sex glands and also to the basal metabolism.

26. Recording Heart Beat, Activity, and Respiration of Incubating Birds at the Nest. Illustrated by lantern slides. (15 minutes). EUGENE P. ODUM, *Baldwin Bird Research Laboratory and University of Illinois, Champaign, Illinois.*

Successful field use of a specially devised instrument for recording heart beat and other movements of birds was accomplished during the summer of 1938. The sensitive pickup crystal unit was placed under the nest and recording instruments operated from a blind. Analysis of records at two house wren and two catbird nests showed that heart rate during undisturbed rest varies from minute to minute or even second to second in a cyclic manner as previously observed in most species and individuals under laboratory conditions. The heart rate of the two species under various conditions of air temperature, activity, time of day and night was compared with standard rates obtained under controlled conditions. Data on respiratory movements, muscular movements and activity in general during incubation periods are also available from such recordings. The aim of these studies is to obtain information on the physiological-ecology of birds, *i.e.*, the ways in which birds function in nature.

27. Observations on the Distribution of Birds in Mountainous Parts of Utah. (15 minutes). C. LYNN HAYWARD, *Brigham Young University, Provo, Utah, and University of Illinois, Champaign, Illinois.*

The paper dealt with the habitat preferences of various species of mountain-dwelling birds as they have been observed in the principal mountain ranges

- of Utah, with special reference to Mount Timpanogos of the Wasatch Range. Emphasis was placed on such physical factors as degree of ruggedness, exposure and snowslides as they effect vegetation and consequently bird distribution.
28. The Establishment and Maintenance of Territories by Yellow-headed Blackbirds. (15 minutes). REED W. FAUTIN, *University of Illinois, Champaign, Illinois*.

Two nesting colonies of Yellow-headed Blackbirds in the vicinity of Utah Lake near Provo, Utah, were kept under observation from the time the birds arrived in the spring until they departed in the autumn. Soon after he arrived each male was found to establish an individual territory in which several females would nest. The time of establishment, size, populations, and maintenance of individual territories were determined and observations made on the behavior of both males and females within and outside their territories.

29. Birds of the Oak Openings near Toledo, Ohio. (15 minutes). LOUIS W. CAMPBELL, *Toledo, Ohio*.

West of Toledo is a series of fossil post-glacial beaches which has attracted a great variety of nesting birds because of the great diversity of habitats found there. Within areas of one square mile can be found bogs, wet prairie, swamp forest, open oak woods, and sand dunes. Many northern and southern forms approach the limits of their breeding range at this point.

30. Incidence of Lead Poisoning in Minnesota Waterfowl. (10 minutes). GUSTAV SWANSON, *Division of Economic Zoology, University of Minnesota, St. Paul, Minnesota*.

The viscera of 353 waterfowl, representing 18 species, taken throughout Minnesota by duck hunters, were examined. Over 6 per cent contained one or more lead shot in their gizzards. In the case of the mallard, 7 per cent contained shot while for diving ducks the figure was 12 per cent. These figures strengthen the belief that next to the direct kill in hunting lead poisoning is probably the most important mortality factor which waterfowl face.

31. Waterfowl on Four Allegheny Lakes. (10 minutes). MAURICE BROOKS, *West Virginia University, Morgantown, West Virginia*.

This paper treated a study of waterfowl populations on four recently created artificial lakes in the central portion of the Allegheny mountains, in a region entirely without extensive natural bodies of water. Two of the lakes are in West Virginia, and two in western Maryland, the elevations ranging between 900 and 2600 feet. Since the region lies at the edge of the flyway between Lake Erie and Chesapeake Bay, there are often heavy flights of waterfowl, a five-year count having recorded something near 40,000 individuals in this mountain section.

Creation of these lakes has profoundly modified the waterfowl fauna of the region, five new species having been added locally to the West Virginia list, and twenty-six new species to the list for western Maryland. A notable feature is the occurrence of loons in flocks of one hundred or more. Species of special interest are Red-throated Loon, Holboell's Grebe, all three of the eastern Scoters, and Western, Baird's, and Stilt Sandpipers.

SATURDAY AFTERNOON

32. Hawk Protection Made Popular. (15 minutes). MRS. C. N. EDGE, *New York, New York*.

A description of the educational and conservation work being accomplished at Hawk Mountain, Pennsylvania. The favorable reaction of the general public to the Hawk Mountain undertaking is most encouraging and shows greater hope for the protection of predatory birds.

33. A Nest of the Black-throated Green Warbler. Illustrated by lantern slides. (15 minutes). FRANK A. PITELKA, *University of Michigan Biological Station and University of Illinois, Champaign, Illinois*.

A Black-throated Green Warbler's nest was studied near Douglas Lake in northern Michigan from early collection of nesting material to the departure of the young from the nest. Certain of the more interesting observations on

nesting habits and behavior with comments on songs and calls, and particularly those made during a full day's stay in the blind (young 5 days old), were given.

34. Tropical Bird Populations. Illustrated by lantern slides. (20 minutes). C. BROOKE WORTH, *Swarthmore College, Swarthmore, Pennsylvania*.

The author found fledgeling mortality at Chiriqui, Panama, to be as low as 20 per cent or even less. He also observed that Passerine birds laid only two eggs per clutch. The parent birds made no outcries when their nests were disturbed.

Birds in the jungle existed in a large variety of species but in small absolute numbers.

These facts, many of them corroborated by consultation with other workers in tropical ornithology, led the author to advance a number of theories as to the means of regulation of tropical bird populations. These theories, contrasted with known conditions of the Temperate Zone, led further to an attempt to delineate paths of radiation and dispersal of Passerine birds over North, Central, and South America during recent geological times. Numerous phases of the ecology of birds of the Temperate Zones were considered in the light of the foregoing dissertation.

35. Notes on the Social Organization Among Certain Colony Nesting Birds. Illustrated by lantern slides. (20 minutes). ROBERT A. JOHNSON, *State Normal School, Oneonta, New York*.

The paper dealt with the variations in the nature of the social life among the sea bird colonies of the Razor-billed Auk, Atlantic Murre, Atlantic Puffin, and Black Guillemot. Consideration is given to the relations among individual birds and to the different species patterns relative to the relation of their feeding grounds, play grounds, and nest spots.

36. Notes on the Distribution and Habits of the Sharp-tailed Grouse in Michigan. Illustrated by lantern slides and motion pictures. (25 minutes). FREDERICK M. BAUMGARTNER, *Department of Conservation, Lansing, Michigan*.

The status of the Prairie Sharp-tailed Grouse in Michigan has changed markedly since the species made its first appearance about 1920. The Sharptails apparently followed extensive burns into the west end of the Upper Peninsula from Wisconsin. After the first invasions into Gogebic and Ontonagon Counties these birds spread eastward rapidly and by 1934 had extended their range to the west end of the Escanaba River Tract. By 1938 the advancing front had reached Munising, Seney Marsh, and Manistique.

In order to encourage the Sharptail, which gives promise of becoming one of the outstanding game birds in Michigan, the Conservation Department has devoted considerable study to the habits and requirements of this species. These studies have considered the following subjects: dancing ground distribution and habits, nesting habits and brood requirements, food and cover preferences at all seasons of the year, hunting season distribution, winter distribution, diseases and parasites, trapping and banding for the purpose of determining winter movements, and the planting of wild trapped birds in new locations in order to hasten their natural dispersal.

37. The Relationship of Wildlife to Recent Developments in Agricultural Drainage and Mosquito Control. Illustrated by lantern slides. (15 minutes). GEORGE ANDREW AMMANN, *Bureau of Biological Survey, Milwaukee, Wisconsin*.

A short history of the incidents leading to the present procedure of reviews by the Biological Survey of drainage projects carried on under the W.P.A.; explanation and difficulties of the present procedure; the general types of drainage work disapproved by the Bureau for the good of wildlife.

38. A Proposed Great Plains National Monument. Illustrated by lantern slides. (20 minutes). VICTOR H. CAHALANE, *Wildlife Division National Park Service, Washington, D. C.*

The federal system of national monuments includes not only areas of historic and archeologic importance, but biological communities as well. Eventually, at least one example of each important vegetation type and habitat of each major vertebrate species should be preserved in the system. Among the

most conspicuous and important plant and animal associations of the entire United States is the grassland. After extensive field investigation by the National Park Service, the Ecological Society of America and the National Research Council, a suitable area has been located in southwestern South Dakota and adjacent Nebraska. Some 1,500,000 acres are involved, of which about 75 per cent are in public ownership. The vegetation has suffered severe abuse but, it is believed, would recover if protected from over-use. Much of the original avian fauna remains, the most important species are several water-fowl, raptores, prairie chicken and sharp-tail grouse, whooping crane, upland plover and numerous smaller forms. The larger mammals must be restored, as the bison, elk and deer were extirpated long ago. The local race of bighorn, however, is now extinct. Restoration of the larger predators presents difficult problems that must be worked out, together with management of the grazing mammals and plans for public use. If established, such a grassland area would serve as a refuge for several important species of birds as well as mammals, and as a unique exhibit of the western plains of the past era.

39. The W. K. Kellogg Bird Sanctuary in Color. Illustrated by natural color motion pictures. (25 minutes). MILES D. PIRNIE, *W. K. Kellogg Bird Sanctuary, Battle Creek, Michigan, and Michigan State College, East Lansing, Michigan.*
40. Natural Color in Muscongus Bay, Maine—Home of the Audubon Camp. Illustrated by natural color motion pictures. (15 minutes). JOHN H. BAKER, *National Association of Audubon Societies, New York, New York.*
41. Bird Portraits in Color. Illustrated by natural color motion pictures. (Read by title). KARL H. MASLOWSKI, *Ohio Division of Conservation, Columbus, Ohio.*
42. Minnesota Birds in Color and the Story of the Blue Goose. Illustrated by natural color motion pictures. (30 minutes). WALTER J. BRECKENRIDGE, *Museum of Natural History, University of Minnesota, Minneapolis, Minnesota.*

THE ANNUAL DINNER

One hundred and twelve members and visitors attended the Annual Dinner of the Wilson Ornithological Club in the Michigan Union on Saturday evening. An attractive menu bore on its cover a drawing of the Long-eared Owl by George Miksch Sutton. This drawing was the one recently chosen by the Library Committee as the official book-plate of the Wilson Club Library.

Directly following the dinner, members and visitors moved to another room in the Union. Dr. George Miksch Sutton gave a fascinating story of "Bird Hunting in Mexico,"—a vivid résumé of recent field work done in that country by the J. B. Semple-Carnegie Museum Expedition. To illustrate his account Dr. Sutton passed among the audience many of his remarkable water-color field sketches. Some of them showed birds never before portrayed. The Secretary presented his latest natural color motion pictures entitled "Adventures with Birds." His film depicted numerous episodes in the life histories of such common birds as the Bluebird, Black-billed Cuckoo, House Wren, Black Tern, and Goldfinch.

EXHIBIT OF LIFE HISTORY MONOGRAPHS

Near the Registration Desk was a display of American bird life history monographs. While it was not the plan of this exhibit to present a complete collection of such monographs, it was sufficiently comprehensive to show the great progress made in this phase of Ornithology.

THE WILSON CLUB LIBRARY

Members availed themselves of the opportunity of inspecting and using the Club's library located in the Bird Division of the Museum of Zoology.

THE ORNITHOLOGICAL ART EXHIBIT

During the meeting an Ornithological Art Exhibit was held jointly by the Wilson Ornithological Club and the Ann Arbor Art Association in the new Rack-

ham Building. The following twenty-two artists were represented by at least one work:

Frank Benson	Lynn Bogue Hunt
Courtenay Brandreth	Francis L. Jaques
Paul Bransom	William Montagna
W. J. Breckenridge	Arthur Nelles
Allan Brooks	Ralph S. Palmer
Carl Burger	Egbert W. Pfeiffer
Edward von Siebold Dingle	S. Morris Pell
Louis Agassiz Fuertes	Roger T. Peterson
Fred T. Hall	Karl Plath
Albert Hochbaum	Earle L. Poole
R. Bruce Horsfall	George Miksch Sutton

One outstanding feature of the exhibit was a group of twenty-two etchings by Frank Benson, loaned for the occasion by Mrs. William A. Comstock of Ann Arbor. One hundred and sixteen pictures were hung in the exhibit.

On Friday evening members and guests enjoyed an informal reception in the rooms adjoining the Art Exhibit. An excellent opportunity was provided for visiting members to meet the Wilson Club's large number of Ann Arbor members. Just before the reception Dr. George Miksch Sutton gave a short gallery talk in which he traced the development of ornithological art up to the present time. This event provided a most appropriate background for appreciating the works of art on display.

ATTENDANCE

Altogether 261 persons registered at the Ann Arbor Meeting. This attendance figure is the largest in the history of the organization, exceeding even the Indianapolis meeting of last year when 238 were present.

A careful examination of the registration books shows that the persons in attendance consists of one Founder, 111 members, and 149 visitors. Twenty states, the District of Columbia, and the Dominion of Canada, were represented. The Michigan contingent was notably large with 45 members and 109 visitors on hand. Future meetings will have difficulty in breaking the great record of local attendance. Next to Michigan, the state with the largest representation was Ohio, with 14 members and 13 visitors.

The list of members in attendance follows:

From **Alabama**: 1—Fred S. Barkalow, Jr., Auburn. *Visitor*, 1.

From **California**: 1—Mrs. H. J. Taylor, Berkeley.

✓ From **Illinois**: 10—Mrs. M. M. Nice, Mrs. W. D. Richardson, Mrs. A. S. Park, R. M. Strong, Miss Amy G. Baldwin, L. B. Nice, Chicago; C. T. Black, E. P. Odum, Frank A. Pitelka, S. C. Kendeigh, Champaign. *Visitors*, 3.

From **Indiana**: 6—Miss M. R. Knox, Miss M. F. Campbell, Miss Elizabeth Mullin, Indianapolis; F. B. Ebersole, Fort Wayne; F. T. Hall, Crawfordsville; S. W. Witmer, Goshen. *Visitors*, 3.

From **Iowa**: 8—Emil Witschi, N. W. Fugo, G. M. Riley, P. L. Risley, Iowa City; B. C. Buchanan, T. C. Stephens, Sioux City; G. O. Hendrickson, T. G. Scott, Ames.

From **Kansas**: *Visitors*, 4.

From **Kentucky**: 1—B. L. Monroe, Louisville.

From **Michigan**: 45—R. E. Morrill, W. H. Burt, Josselyn Van Tyne, H. W. Hann, N. A. Wood, Mrs. R. L. Kahn, M. B. Trautman, Pierce Brodtkorb, A. E. Staebler, D. P. Duncan, M. M. Peet, B. J. Bujak, T. D. Hinshaw, R. W. Allen, A. D. Tinker, D. C. Kahn, M. S. Anning, Ann Arbor; L. H. Walkinshaw, M. D. Pirnie, E. M. Brigham, Jr., Battle Creek; Miss M. E. Gross, H. L. Creswell, Grand Rapids; F. C. Huggett, Bellevue; F. J. Hinds, Miss Theodosia Hadley, L. C. Kuitert, Miss La Verne Argabright, Kalamazoo; Mrs. Oliver Kamm, Grosse Pointe Farms; W. G. Fargo, Jackson; M. T. Sturgeon, Ypsilanti; C. C. Ludwig, R. D.

Burroughs, F. F. Tubbs, Lansing; B. M. Jessman, D. B. Hillmer, Alexander Blain, Detroit; J. W. Stack, F. M. Baumgartner, L. C. Hulbert, Miss M. E. Pyke, East Lansing; B. A. Barber, Hillsdale; R. E. Olsen, Pontiac; D. L. Allen, Allegan. *Visitors*, 109.

From Minnesota: 6—W. J. Breckenridge, Minneapolis; G. N. Rysgaard, Gustav Swanson, St. Paul; Miss Margaret Drum, Owatonna; O. S. Pettingill, Jr., Northfield; Mrs. C. E. Peterson, Madison. *Visitors*, 5.

From New Hampshire: 1—R. L. Weaver, Hanover. *Visitor*, 1.

From New York: 5—G. M. Sutton, Ithaca; Miss Theodora Nelson, J. H. Baker, Mrs. C. N. Edge, New York City; R. A. Johnson, Oneonta. *Visitor*, 1.

From North Carolina: *Visitor*, 1.

From Ohio: 14—D. T. Katz, L. E. Hicks, E. J. Thomas, Columbus; J. T. Stophlet, L. W. Campbell, L. D. Hiatt, J. M. Shepherst, Toledo; Miss M. E. Morse, Miss Vera Carrothers, H. G. Smith, Cleveland; T. W. Porter, Oak Harbor; E. L. Moseley, Bowling Green; H. T. Gier, Athens; E. A. Seaman, Wooster. *Visitors*, 13.

From Oregon: *Visitor*, 1.

From Pennsylvania: 1—C. B. Worth, Swarthmore. *Visitor*, 1.

From South Carolina: *Visitor*, 1.

From Tennessee: 2—A. F. Ganier, Mrs. A. R. Laskey, Nashville.

From Utah: 2—C. L. Hayward, R. W. Fautin, Provo.

From Washington, D.C.: 1—V. H. Cahalane.

From Wisconsin: 2—H. C. Wilson, Ephraim; G. A. Ammann, Milwaukee. *Visitors*, 4.

From West Virginia: 3—Maurice Brooks, I. B. Boggs, Morgantown; W. A. Lunk, Fairmont; *Visitor*, 1.

From Dominion of Canada: 3—J. H. Fleming, Mrs. D. H. Mills, J. M. Speirs, Toronto, Ontario.

Summary of Attendance: Total registration, 261 (Members, 112; Visitors, 149); Total from Ann Arbor, 63 (Members, 17; Visitors, 46); Total from Michigan, 154. (Members, 45; Visitors, 109). Total outside of Michigan, 107. (Members, 68; Visitors, 39). Maximum number at each program session: Friday morning, 85; Friday afternoon, 125; Saturday morning, 105; Saturday afternoon, 260. Number at Annual Dinner, 112. Number of persons in group photograph, 131.

REPORT OF THE LIBRARIAN FOR THE YEAR ENDING OCTOBER, 1938

I have the honor to present herewith the eighth annual report of the Librarian of the Wilson Ornithological Club.

Again this year as in the past I have availed myself of the help offered by the Works Progress Administration and made further improvement of the library. With the aid of a capable assistant I have been able to make a complete list of all the books, pamphlets, and cards showing the holdings we have of all periodicals.

A shipment of periodicals from the editor of *The Wilson Bulletin*, Dr. T. C. Stephens, was received in August of this year. The editor obtained these by exchange with other bird societies or academies of natural science. Many of these periodicals were new titles in the library while others filled in sets that were incomplete. The volumes that were complete were bound while the unbound numbers have been placed in suitable boxes and put on the shelves in their places.

In addition to the large shipment of periodicals from the present editor, another large group came from the former editor, Dr. Lynds Jones. Of this latter group many were *Wilson Bulletins* which were added to the stock on hand. There were, however, some new titles which were added to the Wilson Club Library. These titles will be found in the catalogue of the library.

The library has continued to receive as exchanges directly from academies and societies the following publications: *Natural History*, *Bird-Lore*, *Archives Suisses d'Ornithologie* and *Proceedings of the Iowa Academy of Science*.

We have received a large number of gifts this past year. Besides the gift from Dr. Lynds Jones, we have received a number of pamphlets and books from W. L. Willis of New York City, Ralph Beebe of Ecorse, Michigan, O. A. Stevens of Fargo, North Dakota, and Paul L. Errington of Ames, Iowa. Others that have contributed to the library are Miss Marcia B. Clay of Bristolville, Ohio, Mr. B. W. Cartwright of Winnipeg, Canada and Dr. Harry Hann of Ann Arbor, Michigan. Two hundred and seventy nine unbound pieces and eleven bound books were received during the year. All of these have been recorded and placed in their places on the shelves of the library.

October 8, 1938

Respectfully submitted,
F. RIDLEN HARRELL, *Librarian*.

REPORT OF THE ENDOWMENT FUND COMMITTEE OF THE WILSON ORNITHOLOGICAL CLUB

The Endowment Fund Committee of the Wilson Ornithological Club was appointed by the President in March, 1938 with the purpose of advising the Wilson Ornithological Club as to the accumulation and proper care of an Endowment Fund. That committee made report after it was appointed, relative to its decision in connection with the investments of funds in the Endowment Fund. The Endowment Fund Committee authorized the investment of \$806.25 from the funds in the Endowment Fund account to be expended for United States Postal Savings Bonds. Said investment was consummated as set out in the report of the Treasurer.

Nov. 22, 1938

Respectfully submitted,
MRS. H. J. TAYLOR
THEODORA NELSON
SAMUEL E. PERKINS III, *Chairman*

REPORT OF THE WILDLIFE CONSERVATION COMMITTEE

I hope you agree with our President that there is a service which this kind of committee can and should be doing, not only for our members and for wildlife itself, but also to aid in worthwhile Conservation effort in all the states. We do not wish it said of this Club that in our zeal for studying and enjoying wildlife we fail to serve it.

With its members scattered from Denver to New York and from Minnesota to Mississippi, a meeting of your committee has been out of the question prior to this meeting, and now only two of the eight have met together. By correspondence, however, I have gathered several very worthwhile suggestions, and I invite your serious consideration of these suggestions, which follow:

A. That the *Club*

1. Devote at least a few pages of *The Wilson Bulletin* to wildlife conservation communications, news items, requests for data, etc.
2. Plan wildlife conservation symposia of one or two hours for the Annual Meetings.

B. That the *Committee on Wildlife Conservation*

1. Inventory wildlife needs in the various states.
2. Offer aids to legislative committees and to state and national agencies dealing with wild bird problems.
3. Consider plans for educational campaigns, first among our members, and, later perhaps, with the public.

C. That *Each Member*

1. Take more interest in wildlife affairs in general and be alert for chances to cooperate with *deserving* conservation efforts.
2. Report wildlife emergencies to your President and Chairman.

3. Send to the Editor of *The Wilson Bulletin* news items on protection needs, local abuses, and other wild bird problems.

Most wildlife conservation leaders, whether local, state, or national, tend to become biased and one-track. Few are aware of the scope and intricacy of wildlife relations—or the so-called ecological factors. As yet wildlife objectives have not been agreed upon and real progress is slowed down by the lack of stated objectives.

We, as a group, should try to come to some agreement as to what we wish to do, or your Wildlife Conservation Committee will accomplish little more than a waste of some postage, stationery, and time. (I am not too confident we can agree, however, either as to how many hawks or ducks there were once, are now, or should exist in the future). Certainly we should be able to devote some time and well-directed energy in keeping alert for the welfare of the birds. This, we believe, is the primary function of this committee.

Respectfully submitted,
MILES D. PIRINE, *Chairman*

REPORT OF THE COMMITTEE ON AN INDEX OF THE WILSON CLUB PUBLICATIONS

A committee was appointed by President Nice, soon after the December 1937 meetings, consisting of the following members: Thomas D. Hinshaw, Edwin A. Kalmbach, Phoebe Knappen, Charles C. Sperry, and R. M. Strong, chairman. There has been some correspondence with the members of the committee. Considerable progress has been made by Mr. Hinshaw, who had begun work on the index before the appointment of the committee. At the time of the meeting in Ann Arbor, he had accumulated the following numbers of entries for the year 1889 to 1933, each entry on a separate card: author-titles, 3100; literature reviews, 1000; miscellaneous topics, 300; names of species, 2400.

A policy was discussed by Mr. Hinshaw and the chairman at the Ann Arbor meeting, which involves features of the last *Auk* ten-year index, the last *Condor* ten-year index and the scheme adopted for the preparation of an index for the *Journal of Mammalogy*. The committee hopes to push the completion of the work rapidly. This will involve cooperation by several persons who will undertake to cover certain volumes, especially for topic and species entries.

The index will be made as complete as is financially feasible. No plan for financing its publication has been adopted as yet, but it will be necessary, apparently, to find some way of underwriting the cost. At the Ann Arbor meeting Mrs. H. J. Taylor, of Berkeley, California, generously offered to make a contribution to such a fund.

Respectfully submitted,
R. M. STRONG, *Chairman*

THE REPORT OF THE SECRETARY FOR 1938¹

Last year the Executive Council agreed to send the program of this Annual Meeting to each member a week or ten days in advance. The Secretary has carried out its wishes. Thus, every member, regardless of where he may live, has in his hands at this time a copy of the program now being distributed from the Registration Desk. This innovation should be most worthwhile. To members who do not customarily attend these meetings, it should make them more aware of the fact that we hold Annual Meetings; it might be sufficiently attractive to encourage them to attend either this or future meetings. Members who plan to attend this meeting and take part in the program, should be helped in making their plans and in knowing when and where certain events will take place.

All of the members of the Michigan Audubon Society received by mail programs and individual invitations to be present at this meeting.

¹ Revised through December 31, 1938.

The arrangement of the program has been intrusted to a newly appointed Program Committee. This committee would appreciate any suggestions for the improvement of future meetings or any comments on the present program.

Much of the Secretary's time has been taken up with the work of membership solicitation. Over 3000 letters inviting individuals to join the Club have been sent out by his office. The Secretary has been aided in this work by the President, who has herself sent out several hundred letters.

The Secretary is not satisfied with the present system of membership solicitation. His reasons are three-fold: (1) It does not seem fair for the Secretary, or for the other officers of the organization, to bear the brunt of membership solicitation, when there are necessarily other official duties that occupy their time. He feels that other members who enjoy *The Wilson Bulletin*, the Annual Meetings, and other Club activities should share in support of the organization. (2) It is not humanly possible for one individual to be in contact with enough prospective members. To be sure, each year members are requested to return nomination blanks filled out with the names of candidates for membership, but it is well known to persons, aware of the workings of organizations in general, that the results of requests for nominations are never satisfactory. This year, as last, no more than 150 names have been submitted to the Secretary. The Secretary has, therefore, resorted to the use of membership rolls of other natural history organizations, but naturally the percentage of return has been low, for generally persons already belonging to organizations of a similar nature do not feel it financially possible to join others. To receive substantial returns, it has been necessary to send out a large number of letters. The letters have not been personal because the number has been too great. (3) The present method of sending out quantities of mimeographed letters with enclosed printed matter seems to the Secretary much too commercialized and unethical in an organization of this sort. It makes the Wilson Ornithological Club appear as a subscription list rather than an organization in which the members are nominated and elected.

The Secretary proposes the appointment of a strong membership committee with the following organization. There should be a chairman from each state. It should be the duty of each state chairman to appoint a committee to gather together the names of all personal acquaintances in the state interested in birds and to locate all local natural history organizations and obtain the membership lists. The names of persons gathered should be submitted to a general chairman of the committee. It should be the duty of the general chairman and his committee to forward personal letters and invitations to the names submitted. The general chairman should be provided by the Club with stationery, postage, and secretarial help. The Secretary proposes a second recommendation, namely, the preparation of the above-mentioned personal letters in the following fashion: each personal letter should be brief; it should invite the prospective candidate to join the organization and should present the candidate with two pieces of enclosed printed matter: (1) an attractively printed folder containing the historical background, objectives, and activities of the Club; (2) an application card.

Until such Membership Committee is firmly established, the Secretary is willing to continue his present solicitation duties. He realizes, as all of you realize, that without membership solicitation and the obtaining of a new group of members each year the Club will drop radically in numbers.

The need of better membership solicitation can be shown in the present status of our roll. During 1938 we have lost 127 members: 85 were delinquent in dues; 32 resigned; 10 were taken by death. We have obtained 160 new members giving us a total of 871. We have thus received a net gain over last year of just 33 members!

There is no reason why a greater gain in membership cannot be made. With a progressive Membership Committee the size of the Wilson Ornithological Club

should be increased to several hundred more members in one year. At this meeting the Secretary asks for volunteers for this all-important work.

Our membership continues to be distributed principally in the midwestern states, with Ohio containing the greatest numbers of members, 94 in all, with Michigan following second with 79, and with Illinois, New York, California, and Iowa following close thirds.

The total distribution of members by states, provinces, and foreign countries is given below. The figures in parentheses indicate the number of members *new* to the organization in 1938.

UNITED STATES			
Alabama	1	New Jersey	12 (5)
Arizona	5	New Mexico	6 (1)
Arkansas	5 (1)	New York	59 (12)
California	47 (5)	Ohio	94 (17)
North Carolina	4	Oklahoma	13 (7)
South Carolina	2 (1)	Oregon	5 (1)
Colorado	9	Pennsylvania	39 (5)
Connecticut	5	Rhode Island	1
North Dakota	8 (1)	Tennessee	21 (2)
South Dakota	6 (1)	Texas	18 (3)
Delaware	2 (1)	Utah	7 (2)
Florida	6 (2)	Virginia	13
Georgia	11	West Virginia	11 (2)
Idaho	5 (2)	Vermont	1
Illinois	73 (22)	Washington	7
Indiana	23 (5)	Washington, D.C.	26 (1)
Iowa	43 (6)	Wisconsin	26 (4)
Kansas	3	Wyoming	5 (1)
Kentucky	16 (2)		
Louisiana	5	CANADA	
Maine	5	British Columbia	5
Maryland	8	Manitoba	3
Massachusetts	26 (1)	Ontario	18 (3)
Michigan	78 (30)	Quebec	3
Minnesota	29 (8)	Saskatchewan	2 (1)
Mississippi	6 (1)	FOREIGN COUNTRIES	
Missouri	21 (3)	Cuba	1
Montana	2	Finland	1
Nebraska	11 (1)	Holland	1
Nevada	1	Italy	1
New Hampshire	3	New Zealand	1
		Virgin Islands	1
		South America	1

The 160 new members are classified as follows: Sustaining, 5; Active, 38; Associate, 117. The total membership is classified as follows: Honorary, 4; Life, 9; Sustaining, 37; Active, 215; Associate 606.

Respectfully submitted,

OLIN SEWALL PETTINGILL, JR., *Secretary*

November 25, 1938

REPORT OF THE TREASURER FOR THE YEAR 1938

RECEIPTS FOR 1938

Balance as shown by last report dated Dec. 24, 1937	\$ 395.34
Dues:	
Associate	777.85
Active	501.76
Sustaining	168.50
Subscriptions to "Wilson Bulletin"	103.12
Sale of back numbers of "Wilson Bulletin"	16.22
Contribution toward Publication	40.00
Miscellaneous receipts	14.80
Total	\$2,017.59

DISBURSEMENTS FOR 1938

President's expense, postage	\$ 13.57	
Annual Meeting expense (1937)	213.09	
Membership, Ecological Society of America	1.00	
Book plate	3.28	
Secretary's expense, postage, supplies, secretarial aid, printing ..	170.56	
Editor's expense, postage, supplies, bulletin	1,342.12	
Treasurer's expense, postage, printing, secretarial aid	74.71	
Subscription refunds	5.85	
Miscellaneous bank charges	5.77	1,829.95

Balance on hand in Fletcher Trust Co., Nov. 23, 1938 \$ 187.64

ENDOWMENT FUND

Total Endowment Fund shown by report dated

December 24, 1937:

Bonds in safety deposit box of Fletcher Trust Co., at Indianapolis in the sum of \$1,455.00

Balance cash in savings account, Fletcher Trust Company at Indianapolis in the sum of \$ 888.65

Received during the year:

Interest coupons on U. S. Postal Savings 2½% Coupon Bonds due January 1, 1938 and July 1, 1938 and deposited in savings account 19.50

Interest received on amount on deposit in Fletcher Trust Co., Indianapolis, payable May 1, 1938 and Nov. 1, 1938 7.13

\$ 915.28

Bonds purchased during the year:

Registered U. S. Savings Bonds purchased with funds in savings account on deposit in Fletcher Trust Co., Indianapolis, as follows:

1—\$ 25.00 paid \$ 18.75

1— 50.00 paid 37.50

1— 1,000.00 paid 750.00

Total value date of maturity 1,075.00

Total cost August 18, 1938 806.25

806.25

Total Endowment Fund as shown herewith this 22nd day of November, 1938:

Bonds in safety deposit box of Fletcher Trust Co., at Indianapolis in the sum of \$2,261.25

Balance cash in savings account, Fletcher Trust Co., at Indianapolis in the sum of \$ 109.03

Grand total of Endowment Fund November 22nd, 1938 \$2,370.28

Respectfully submitted,
Nov. 22, 1938 SAMUEL E. PERKINS III, Treasurer