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1955

A STUDY OF CONSERVATION
EDUCATION PRESENTED AT
THE IOWA TEACHERS
CONSERVATION CAMP
FROM 1950 THROUGH
1953

by

NOVELLA DOROTHY BREDBENNER

August 1954

A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE
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CHAPTER I

INTRODUCTION

I. THE PROBLEM

PURPOSE OF THE STUDY. It was the purpose of this study to present a summary of the conservation education program of the Iowa Teachers Conservation Camp located at Springbrook State Park near Guthrie Center, Iowa. The study involved four problems:

1. To record the history and philosophy of the camp.
2. To present a summary of each summer's camp program from 1950 through 1953.
3. To secure the campers' appraisals of their camp experience.
4. To prepare recommendations for future camp programs.

IMPORTANCE OF THE STUDY. Educators today realize that there is an urgent need for conservation understandings and practices if America and the other nations of the world are to enjoy long-term security and prosperity. In 1949 the National Education Association indicated the need for conservation education when the Representative Assembly adopted the following resolution:

The National Education Association believes that the depletion of human and natural resources, is today a national problem of great gravity. Because it is a problem of the American people, it is also a problem of American education. The Association urges the development of research to determine control, classroom technics, and teachers education essential to the construction of a program of conservation education in all levels of our schools. . . .¹

The American Association of School Administrators corroborates this view in a statement in its recent yearbook:

To bring about the prudent use of natural resources in a democracy large dependence must fall on education. This is not something to be accomplished by fiat or decree. Instead, children now in school and grownups in the world of business and industry must learn the true importance of natural resources and acquire both the incentive and the "know how" to use them wisely. Schools, here and there, have given some attention to the problem, but much more needs to be done. Unless conservation education becomes much more general and effective than it has been in the past, needless shortages soon will undermine the prosperity and welfare of our people.²

A difference of opinion regarding the school's part in conservation education has been apparent. H. M. Strong of the Educational Relations Section of the Soil Conservation Service states that educators realize the fundamental character of conservation and have taken the lead in integrating conservation into school work and the school curriculum.³ Taking the opposite view, Ward who was formerly Education Specialist of the U. S. Forest Service comments that the movement for conservation education has gone ahead of teachers and leaders in education. "What is now needed is *not* 'to make the public conscious of wildlife and the need of doing something' to preserve our natural resources. The public has already grasped the idea, in some groups firmly, in other vaguely. But the teachers are still groping for the light."⁴

¹Resolution of the Representative Assembly of the National Education Association, *National Education Association Journal*, 38:449, September, 1949.

²*Conservation Education in American Schools*, Twenty-ninth Yearbook, American Association of School Administrators (Washington, D.C.: National Education Association, 1951), p. 7.

³Helen M. Strong, "Soil, Water, and Forest in Life and Education," *Progressive Education*, 16:174, March, 1939.

⁴Henry B. Ward, "Biology as the Foundation of Conservation Education," *The Foundations of Conservation Education*, Pamphlet No. 3 (Washington, D.C.: The National Wildlife Federation, 1941), p. 239.

The investigator has assumed that if teachers are to do an effective job of teaching conservation, it is imperative that they have a basic understanding of the principles of conservation and of the most effective teaching methods. Caldwell has stated: "You cannot expect teachers to teach conservation if they know nothing about the subject or how to teach it. . . . The next step in our teachers' colleges will be to teach teachers how to teach conservation. That is absolutely necessary."⁵

More than 30 states have indicated their recognition of the need of conservation training by establishing central workshops or conservation schools of some type.⁶ Johnson reports in his study that approximately all of the states have established some type of leadership training course in conservation. In 1936 only one "special conservation school for teachers" existed, but in 1950 there were about 150 such schools holding 250 or more sessions.⁷

In 1948 the National Committee on Policies in Conservation Education recommended that a course in conservation, with appropriate field work of a general or survey nature, equivalent to at least three semester hours credit, should be a basic part of the training of all teachers. The committee also recommended that conservation should be emphasized in all related areas, and especially in methods and techniques of teaching.⁸

In Iowa an awareness of the need of outdoor education was evidenced in the following statement of the Iowa Conservation Handbook Committee:

One can hardly over-emphasize the importance of using the out-of-doors for a laboratory, and of making all possible use of firsthand experience with the environment. Such experiences should be a part of every teacher's background and training.

The study of our resources in their natural setting can provide valuable experiences which can never be equalled within the four walls of a classroom. . . .⁹

This same Iowa committee states that if teachers are to achieve the desired aims of conservation education for youth, the teachers themselves must first be instilled with the wholehearted belief in conservation.¹⁰

Since this urgent exigency of conservation education is recognized by educators, it was the purpose of the investigator to summarize the program of the Iowa Teachers Conservation Camp, which was instituted to provide teacher training in this field. Previously no consecutive record had been made concerning the establishment of the camp and its yearly program. It was the author's hope that this record might prove interesting not only to Iowa educators but to all Iowans who are concerned about conservation. Perhaps it may be of assistance to educators in other states who are contemplating the establishment of similar teacher training programs in conservation education. Those state institutions which already have such teacher training programs may find it interesting to compare their program with that of ITCC.

The reports of the visitations to various classrooms of former campers offer suggestions for possible conservation activities in the elementary grades.

Chapter VII, the section of the study devoted to recommendations for future camp programs, provides suggestions to the staff of the Iowa Teachers Conservation Camp as they plan for future camps.

⁵John Caldwell, "Conservation Education in Tennessee," *Conference on Education in Conservation*, Pamphlet No. 1 (Washington, D.C.: The National Wildlife Federation, 1939), p. 28.

⁶*Training Teachers for Conservation Education*, Report of the Eagle River Workshop Conference, National Committee on Policies in Conservation Education (Laramie, Wyoming: The Committee, 1949), p. 8.

⁷Carl S. Johnson, "Teacher Education for Conservation," (unpublished Doctor's thesis, Ohio State University, Columbus, Ohio, 1951).

⁸*Report of the Workshop Conference*, National Committee on Policies in Conservation Education (Laramie, Wyoming: The Committee, 1948), p. 7.

⁹*The Teaching of Conservation, Iowa Elementary Teachers Handbook*, Department of Public Instruction (Des Moines, Iowa: State of Iowa, 1949), p. 9.

¹⁰*Ibid.*, p. 8.

DELIMITATIONS OF THE STUDY. The delimitations of this study were as follows:

1. The time available for the study was from July, 1953 to June, 1954.
2. The letter requesting an appraisal of the camp was sent only to former campers who are elementary teachers. Secondary teachers were not contacted. Letters did not reach a few of the elementary teachers due to unknown present addresses.
3. An appraisal of this type required a subjective response from the camper and a somewhat subjective interpretation by the investigator.
4. The visitations to the schools of former campers had to be limited in number, because the lack of time and money did not permit personal interviews with all the campers. Visitation was restricted to areas where bus or train transportation was available from Cedar Falls or to areas where Iowa State Teachers College Extension Service personnel were driving. Since the investigator was enrolled in classes at Iowa State Teachers College, the time available for visitation was rather limited.

II. PREVIOUS RESEARCH AND RELATED STUDIES

Since the Iowa Teachers Conservation Camp is a relatively new project in the state, there has been no previous research pertaining to the conservation education presented at the camp.

RELATED STUDIES IN IOWA. The fact that some Iowa educators are interested in conservation education is evidenced by the following studies which the investigator examined to select pertinent information applicable to her problem:

Black, Margaret J., *Conservation of Natural Resources as Part of the Curriculum*. Master's Thesis, Drake University, 1946.

As a part of this study, a review was presented of the development of conservation in education, the ways in which some states have attacked the conservation problem, and the need for better trained teachers in conservation education. The conservation education situation in Iowa was summarized with this statement: "In the state of Iowa, to date, there is not much concerted effort on the part of schools in general to present the problems of conservation to the children of the schools." The study also includes a report of a teaching unit in conservation with a science class in Callanan Junior High School in Des Moines.

Voss, John E., *A Survey of the Status of Conservation Education in Junior High Schools of Eight Selected Counties in Northwest Iowa*. Master's Thesis, South Dakota State College of Agriculture and Mechanic Arts, 1953.

To determine the status of conservation education in northwest Iowa, questionnaires were sent to 110 junior high school teachers and to 69 administrators. Results showed that (1) conservation education is of sufficient importance to warrant a thorough study in the seventh and eighth grades; (2) the teaching of conservation is not adequate at this grade level; (3) conservation is best taught as a unit in a subject matter area (science and geography) rather than as a separate school subject; (4) considerably more special training in conservation and methods of teaching it are needed by most teachers; (5) conservation cannot be adequately taught as a textbook subject but must include the use of experience-type activities; (6) more use could be made of the Iowa Elementary Teachers Handbook, *The Teaching of Conservation*. Only seventeen teachers out of the sixty-three who responded to the questionnaire indicated that they had a college course in the teaching of conservation; only three had attended the Iowa Teachers Conservation Camp.

Wievel, Bernard F., *Attitudes toward and Knowledge of Conservation Possessed by Students in Iowa High Schools*. Doctor's Thesis, Iowa State College, 1947.

Although Wievel's study is not directly related to the present investigator's problem, the study is listed here to denote that research in conservation education has been carried on in the secondary schools of the state.

RELATED STUDIES IN THE UNITED STATES. A survey of the research conducted in the general field of conservation education in the United States indicates that such studies are numerous. The following related studies were selected to contribute background and knowledge relative to the investigator's problem:

Farley, Melvin L., *An Evaluation of a State College Summer School Community Resources Workshop*. Doctor's Thesis, Stanford University, 1948.

Funderburk, Robert S., *The History of Conservation Education in the United States*. Contribution to Education, No. 392, George Peabody College for Teachers, 1948.

Johnson, Carl, *Teacher Education for Conservation*. Doctor's Thesis, Ohio State University, 1951.

Miller, Dorothy C., *A Study of the Educational Situation in the Nature, Woodcraft, and Handicraft Program of 113 Camps during the summer of 1945*. Doctor's Thesis, Cornell University, 1946.

Mouser, Gilbert W., *A Study of Opportunities for Leadership Training in Outdoor Education*. Doctor's Thesis, Cornell University, 1951.

Pitluga, George E., *Science Excursions into the Community*. Doctor's Thesis, Columbia University, 1943.

Ross, Helen B., *A Study of Conservation Education in the Elementary Schools of the United States*. Doctor's Thesis, Cornell University, 1950.

Shelar, Eugene, *A Study of the Use That Is Being Made of the Out-of-Doors in Teaching in the Public Schools and in the Teacher Training Schools*. Doctor's Thesis, Cornell University, 1949.

Warner, C. Kent, *A Survey of Conservation and Science Education in Teacher Training Institutions of the United States*. Doctor's Thesis, Cornell University, 1949.

At various places in this study specific reference is made to data obtained from several of these related studies.

III. METHOD OF PROCEDURE

In order to secure the necessary information for the various phases of this study, several procedures were employed. These procedures consisted of documentary research, examination of literature, personal interviews, correspondence, visitation of the schools of former campers, and appraisal requests to all elementary teachers who had attended the Iowa Teachers Conservation Camp.

DATA FOR THE CAMP HISTORY AND PROGRAM. To obtain the necessary data regarding the camp history and the camp program of ITCC the following techniques were utilized:

1. Documentary research. Minutes of the meetings of the Iowa State Conservation Commission and the Iowa Teachers Conservation Camp Committee, official camp reports, mimeographed outlines of the yearly camp programs, personal correspondence of the camp staff, and the author's personal notes of various camp sessions were scrutinized to obtain information relative to the problem.

2. Examination of literature. Publications of various types, i.e. pre-camp brochures, magazine articles, radio scripts, and newspaper articles pertinent to the Iowa Teachers Conservation Camp, were carefully studied. In addition to

these materials, theses of related studies and available periodical literature concerning conservation workshops and camps in other states were reviewed. This literature is listed in the bibliography.

3. Personal interviews. In order to clarify certain details regarding the history of ITCC, personal interviews were conducted with G. W. Mouser, the first camp director, and H. S. Fowler, present camp director; Dorothy Miller Matala and Clifford McCollum, members of the resident camp staff; Dr. C. W. Lantz, Head of the Science Department at Iowa State Teachers College; George Worley, Superintendent of Public Relations of the State Conservation Commission; Miss Jessie Parker, State Superintendent of Public Instruction; and Miss Gladys Horgen, Supervisor of Elementary Education with the State Department of Public Instruction.

4. Correspondence. In some instances correspondence with the aforementioned persons was necessary to supplement some of the data acquired through the interviews. Additional facts relative to the camp history and program were secured through correspondence with Dr. Emery Will, a former camp director; Mrs. Addison Parker, a former member of the State Conservation Commission who assisted in establishing the Iowa Teachers Conservation Camp; and Miss Ivah Green, former Rural Supervisor with the State Department of Public Instruction.

The information that was obtained through documentary research, examination of literature, personal interviews, and correspondence has been summarized in Chapters II, III, and IV. The three chapters present the philosophy, history, and program of the Iowa Teachers Conservation Camp.

DATA FOR CAMP APPRAISAL. Securing data for the appraisal of the conservation education program at the Iowa Teachers Conservation Camp involved a slightly different approach. The following data-collection devices were used:

1. Visitations and interviews with campers. Thirty-six former campers at their respective schools were interviewed as a check on the ways that campers have utilized the camp training in their teaching. During the interviews the former campers were asked to indicate the areas of the camp training that were of significant help in teaching and the areas that had been of little assistance to them. A guide consisting of a series of questions rather than a check list was used in the interview to avoid providing suggestive answers for the teacher. The thirty-six campers who were interviewed were selected from rural schools, town schools, and city schools in various geographical areas of the state. Chapter V records in detail the results of typical interviews.

2. Letter to campers. In November an informal letter was sent to each elementary teacher who attended camp during any of the sessions that the camp has been in operation. The teachers were asked to reply by letter giving information concerning areas of the camp program that were most helpful to them and ways in which they had used the camp training in their conservation teaching. A letter instead of a questionnaire was used in order to facilitate free expression and an unbiased appraisal of camp. The investigator realizes that the percentage of return probably diminished because a letter was requested in reply; however, freedom of expression was attained.

The investigator assumed that by November even the most recent campers would have had an opportunity to have introduced some conservation education into their school program. They would also have had a few months following camp to reflect on the effectiveness of their camp experience.

A follow-up letter to the 1950, 1951, and 1952 campers was sent by Dr. Dorothy Matala, a member of the camp staff who knew those campers. A follow-up letter to the 1953 campers was sent by Director H. S. Fowler, who was acquainted with the recent group of campers. Chapter VI constitutes a report of the camp appraisals secured through the letters of the former campers.

It has already been indicated that the appraisal of the camp experience was limited to elementary teachers. Since this appraisal included numerous rural teachers with seventh and eighth graders in their schools, urban teachers of seventh and eighth graders were also included. For the purpose of this study, elementary teachers could be defined as those teachers teaching in the kindergarten to eighth grade, inclusive.

For the final portion of the thesis, suggestions secured from the camp appraisals were utilized in formulating recommendations for future camp programs.

CHAPTER II

THE PHILOSOPHY OF IOWA TEACHERS CONSERVATION CAMP

The idea of the wise "use of the natural resources for the greatest good of the greatest number for the longest time"¹ was inherent in the minds of the founders of the Iowa Teachers Conservation Camp. They realized that if this wise use of resources is to become a reality in their state, nation, and world, proper attitudes and understandings must first be instilled within the hearts and minds of the citizens.

DEVELOPING AN APPRECIATION OF NATURE. Before anyone becomes deeply concerned about conservation, he must first understand his relationship to his environment and his responsibility in effectively working with nature to preserve that environment. He must have a genuine interest in becoming a steward of the natural resources of his land, or he will care little about conserving those resources for the common good of all.

The camp founders realized that teachers have a great opportunity to help develop those attitudes and understandings within the youth of America. These camp leaders were in agreement with Jay N. Darling, longtime champion of conservation and former cartoonist for Iowa's *Des Moines Register and Tribune*, who wrote the following to the rural teachers of America:

Conservation is not just a sentimental hobby nor a fanciful hope of idle dreamers, of duck hunters, of fisher-men, of bird lovers. Conservation is a science whose principles are written in the oldest legal code in the world—the laws of nature.

Ignorance of the laws of nature has been, and still is, more responsible for the violations than wilful malpractice. It is therefore necessary before any real progress toward conservation can take place that the schools shoulder a large part of the responsible burden. They must educate their students for conservation; prepare them to accept and work for improved care and use of the natural resources. It is obviously hopeless to divert our mass population from their ingrained destructive habits when they are not aware of either the natural laws or the dire consequences of their violation.²

There are difficulties in getting the real job of conservation done and it probably cannot be done at all unless the teachers of America, and especially the rural teachers, are willing to take upon themselves the responsibility for the major part of the work which lies ahead. Don't let that "large responsibility" scare you. It is right down your alley. You will not be expected to go out and stop the building of useless hundred-million-dollar dams with your bare hands nor tangle with political problems. All you are asked to do is to find a way to teach the principles of conservation to your classes.³

¹Gifford Pinchot, *Breaking New Ground* (New York: Harcourt, Brace and Company, 1947), p. 326.

²Jay N. Darling, "Why King Midas Starved," *Conservation Education in Rural Schools*, 1943 Yearbook, Department of Rural Education, ed. by Effie G. Bathurst (Washington, DC.: National Education Association, 1943), p. 9.

³*Ibid.*, p. 20.

The leaders who organized the Iowa Teachers Conservation Camp recognized the fact that many teachers do not clearly understand the problems of wise resource use and, therefore, do not know how to stimulate their pupils to develop this concern. The Iowa State Department of Public Instruction, one of the co-operating agencies in the Conservation Camp, was cognizant of this need, as is indicated in the following comment from the *Iowa Elementary Teachers Handbooks*:

It is easy enough to say to teachers in the elementary grades, "Teach Conservation," but we cannot stop there. We know that if teachers are to achieve the desired aims of conservation education for youth they themselves must first be instilled with wholehearted belief in conservation's meaning and filled with the fervor of a crusader in projecting those beliefs into action. . . . As teachers believe, so can they teach. As they are inspired, so can they inspire.⁴

Therefore, one of the basic points in the philosophy of the camp is the conviction that an appreciation of nature and a familiarity with it is essential to arouse interest in the wise use of resources. As a part of the camp instruction, the staff assists in the development of this appreciation and understanding of soil, water, forests, and wildlife. As for example, a planned hike through the woods aids in the recognition of the trees and flowers of the area. An early morning bird hike helps to develop an acquaintance with the birds of the locality. A trip to several farms familiarizes the group with various types of soil. The basic assumption is, that a person does not become interested in conserving something until he has an acquaintance and understanding of it.



Figure 1. The group returns after observing the ecological aspects of a bottom-land forest.

DEVELOPING AN UNDERSTANDING OF THE INTERRELATIONSHIPS IN NATURE. Following the recognition and acquaintance with natural phenomena, there must develop an understanding of the interdependence and interrelationships in nature. Developing this understanding also forms a basic part of the camp teaching. No area of conservation can be isolated from the others, for all are interrelated. The outline for the camp sessions is organized on the basis of four large areas of conservation: soil, water, forests, and wildlife. However, as each area is being considered, its interrelationship with the others is stressed. The balance in nature is an important aspect of the camp work. For

⁴*The Teaching of Conservation, Iowa Elementary Teachers Handbook*, Department of Public Instruction (Des Moines, Iowa: State of Iowa, 1949) p. 10.

example, when a field trip is taken to a forest, the types of trees in that particular environment are noted. In addition, the slope of the land, the amount of moisture present, the type of soil, the duff that has been built up on the forest floor, and the vegetation that has developed are observed. The tiny animals that inhabit the soil and the wildlife present in the area are also studied. Ecology is a concept of prime importance in the camp teaching. (See Figure 1. The campers are not just "walking through the woods"; they have been learning about the ecology of a bottom-land forest.)

As is indicated in the Twenty-ninth Yearbook of the American Association of School Administrators, educators are realizing the necessity of teaching this ecological aspect of conservation. Listed among the basic concepts of a sound program of conservation is:

Natural resources must be thought of as having an essential unity rather than separate categories. They are interrelated and interdependent. This unity, the closely linked interdependence of soil, water, minerals, plants, animals, and man, constitutes the seamless web of life and matter.⁵

In the same Yearbook another reference is made to teaching ecology:

The ecological approach which focuses attention on the uses of resources and their interrelationships, affords a more meaningful and dynamic way to study plants and animals than the conventional study of the cross-section of a leaf, or the structure of an animal. Is it not possible for the science student to think of water as something more than H₂O? How much more interesting is the story of the drops of rain as they fall to the ground, penetrate the soil, and either run off underground towards a spring or return to the air through the roots of a plant!⁶

In a recent article, Lorenzo Lisonbee, a high school instructor in biology, says that conservation is becoming a way of life with a close relationship between soil, plant cover, rainfall, and animal life including man. He states further:

This points up the ecological aspects of conservation. Barren soil lacks the absorbing layer provided by plant cover. Precipitation instead of being held and permitted to soak into the ground, runs off and culminates, in too many cases, in devastating floods. Flood water is water that should have soaked into the ground to recharge underground reservoirs and to supply the needs of plants. Continuous heavy runoff consequently drops the water table, drying springs and eroding lands. Proper plant cover tends to prevent floods, builds up ground water supplies, and provides food for livestock and man. Wildlife demands clear streams, plant cover, and wooded areas. Man, for the general welfare, must manage soil and plant cover in such a way that soil will be saved and made productive, plant cover maintained, and wildlife of many kinds encouraged to inhabit our watersheds.⁷

To develop similar understandings of the interdependence of man and his natural environment and of the balance in nature is another of the basic purposes of the Iowa Teachers Conservation Camp. (See Figure 2. Teachers investigate the interdependence of plants and animals in a marsh.)

"LEARNING BY DOING." The interrelationships which establish a balance in nature can be best understood by actual observation and experience. Therefore, "learning by doing" is the theme of Iowa Teachers Conservation Camp.

This idea of studying nature by actual observation is not new. The great nature teacher, Louis Agassiz, is responsible for the axiom, "Study nature, not books." In writing about this well-known teacher, James Teller says:

⁵*Conservation Education in the American Schools*, Twenty-ninth Yearbook, American Association of School Administrators (Washington, D.C.: National Education Association, 1951), pp. 72-73.

⁶*Ibid.*, p. 67.

⁷Lorenzo Lisonbee, "Teaching Approaches to Conservation," *The American Biology Teacher*, 16:34, February, 1954.



Figure 2. A muskrat house and emergent vegetation in Lakin Slough furnish one example of the relationship of plants and animals.

Agassiz was a firm believer in the pedagogical principle of activity; we learn to observe by observing; we learn to compare by comparing; we learn to generalize by generalizing.⁸

Agassiz was the apostle of the great book of nature. He unceasingly admonished his students to "read Nature, not books" explaining to them that, "If you study Nature in books, when you go out-of-doors you cannot find her."⁹

The campers at Springbrook State Park have little difficulty in "finding her," for their classroom is actually the out-of-doors. George Shane, reporter for the *Des Moines Register*, writes about this classroom in the following manner:

It doesn't even have a roof, but the school which 27 Iowa teachers are attending for a three-week period near here may well be called "the finest in Iowa."

In the schools which have roofs, the air never can be so fresh, never so beautiful the surroundings. This is because this remarkable school is nothing less than the great outdoors, filled with timbered hills, a flashing blue lake, prairie carpets, wildflowers and birds, and fleecy clouds overhead.¹⁰

This outdoor laboratory provides innumerable learning experiences. The teachers who attend conservation camp have ample opportunities to test the familiar maxims, "Seeing is believing" and "Experience is the best teacher." According to George Worley, Superintendent of Public Relations of the Iowa State Conservation Commission:

Teachers need to know much more about conservation than they can read in books, or see in pictures. Learning to chop wood takes experience with axe and wood. Learning conservation well enough to teach it requires experience, too—experience with soil, water, plants, animals and minerals. Experience makes clear what words or pictures can never tell.¹¹

. . . Field trips take the place of classroom lectures. Students see, feel and actually work with resources instead of only hearing about them. The whole out-of-doors becomes a classroom. Teachers learn to use materials at hand to

⁸James D. Teller, "Great Teachers of Science," *Science Education*, 28:253, December, 1944.

⁹*Ibid.*, p. 259.

¹⁰*Des Moines (Iowa) Sunday Register*, June 11, 1950.

¹¹George Worley, "Conservation School for Teachers," *Iowa Conservationist*, 9:17, March 15, 1950.

construct teaching aids. They live together, eat together, and work together in an area rich in variety of resources. Better learning and better teaching result.¹²

Several national educational groups have realized the great value and necessity of outdoor experiences in conservation education. In 1948 the National Committee on Policies in Conservation Education recommended that "Field work and other first-hand learning experiences should be included in the education of teachers, both pre-service and in-service. Such activities as field trips, excursions, outdoor living, camping, and the liberal use of all outdoor learning facilities should be encouraged."¹³

In 1951 the American Association of School Administrators pointed out that: Conservation education lends itself well to direct outdoor experience; and wherever practicable such experience should accompany the vicarious classroom experience. . . . Several teachers colleges conduct workshops and out-of-door laboratories where their students may observe the natural environment firsthand. These types of direct experiences are needed . . . if pupils are to gain the most valuable kind of education for the wise use of natural resources.¹⁴

Other educators have expressed similar opinions concerning the effectiveness of this type of outdoor teaching. Dexter feels that field study is the very backbone of conservation education and says, "To study living things as such one must go out where plants and animals are living and observe them in their natural surroundings and in their ecological relationships."¹⁵

Wood believes that the out-of-doors is the "perfect textbook" to be used in nature study. "Why have a second-hand imitation when you can get the genuine article?" she asks. "Of course, you'll want to do some reading, too, but it's the field trips that vitalize the subject, that make ideas concrete, that arouse a spirit of inquiry, such as you will never get from books alone."¹⁶

Shelar, in a study of the use being made of the out-of-doors in teaching, reached the conclusion that "the ability to appreciate nature is not attained from reading books, but must come through an intimate acquaintance with things of nature."¹⁷ Shelar also comments that the erosion of unprotected land doesn't mean much until a person has seen the effects of such erosion.

Through its use of the outdoor classroom and actual experience with soil, water, forests, and wildlife, the Iowa Teachers Conservation Camp is attempting to provide experiences that are real and meaningful to Iowa's teachers. Each day the group of campers goes out into the field where they can actually see, hear, smell or feel the natural resources about which they are studying. When the conservation of soil is the topic for study, the group takes several field trips to become acquainted with the bed-rock formations and the glacial drift sheets of Iowa. This provides a background for understanding that soils are formed from weathered and decomposed rocks. Next, the soil itself is examined to see and feel the difference in the physical structure of the various soil types in Iowa. (See Figure 3.) A soil scientist from the U. S. Department of Agriculture and an agronomist from Iowa State College takes the campers to adjoining counties to observe several different soil associations. Then comes a trip to a farm operated under Soil Conservation Service recommendations, where grassed waterways, contour farming, terracing, and strip cropping can be observed.

¹²George Worley, "Guthrie County Birds Complain—No Privacy," *Iowa Conservationist*, 10:155, August 15, 1951.

¹³*Report of the Workshop Conference*, National Committee on Policies in Conservation Education (Laramie, Wyoming: The Committee, 1948), p. 8.

¹⁴*Conservation Education in the American Schools*, *op. cit.*, p. 67.

¹⁵R. W. Dexter, "Field Study—the Backbone of Biology and Conservation Education," *School Science and Mathematics*, 43:509, June, 1943.

¹⁶Dora Wood, "Planned Field Trips—An Integral Part of Science Units," *School Science and Mathematics*, 41:28, January, 1941.

¹⁷Eugene Shelar, "A Study of the Use That Is Being Made of the Out-of-Doors in Teaching in the Public Schools and in the Teacher Training Schools." (unpublished Doctor's dissertation, Cornell University, Ithaca, New York, 1949), p. 317.

The teachers also learn how soils are tested, how soil profiles are made, how soil maps are used, and how soil nutrients are supplied. These field trips in the outdoor classroom are conducted by visiting specialists and staff members. Not only are the teachers learning valuable information about soil conservation, but they are also learning techniques for conducting field trips.



Figure 3. Campers "feel" samples of silt while Soil Scientist Grant describes a soil profile.

A field trip is of little value unless a person knows what to look for. Just looking for the sake of looking is not much help. The staff of the Iowa Teachers Conservation Camp checks to see that the campers understand what they are seeing and that the new knowledge is applicable to various teaching situations. As Conrad states, "But somehow the teachers do have to be trained. There is no special virtue in just going out-of-doors except that the air is always better. The teacher has to know what to do when he gets out there."¹⁸

"Learning by doing" at conservation camp includes more than just the experience in fieldwork. Using the field experiences as a background, teachers perform simple experiments and demonstrations that can be used in teaching conservation to their youngsters. Teaching aids and equipment for use in the classroom are constructed in the Industrial Arts Mobile Unit. Each camper is also responsible for some observational study while at camp. These individual or small group projects vary greatly, but all consist of actual observation and construction rather than vicarious experience.

The teachers who attend the Iowa Teachers Conservation Camp feel that this actual experience is a valuable part of their camp training. This feeling is indicated in the following selected comments which were written by teachers at the close of a camp session:

I believe the camp gives us a living experience which is invaluable. We now

¹⁸Lawrence A. Conrad, *The Teacher Out-of-Doors*, Bulletin Secondary School Principals, Vol. III, 1947, p. 37.

realize that what we see is more real than what we read or hear about. It has given me a new insight on learning by way of field trips and slide projection. The spirit of the camp adds to learning as well as to enjoyment.

In my opinion this is an ideal way to study science. I feel I have learned more about nature and conservation in the past three weeks than I have from any other science course I've taken in the past.

Iowa Teachers Conservation Camp is a thrilling experience of contact with soil, wildlife and plants. It is the kind of experience that yields enthusiasm for conservation, appreciation of resources and love of nature. Understandings derived from such experience are lasting, usable and practical. They are not bookish or unattached to life and soil.

I found this three week session just as interesting as I had hoped for and more. It was a refreshing change from other summer school sessions. I felt I learned more from field trips, visual aids and first hand experience than I ever have in a regular six week session of summer school.¹⁰ (See Figure 4 which shows campers securing first hand experience in testing the oxygen content of pond water.)



Figure 4. Students use the Winkler test for dissolved oxygen to help determine the optimum fish population for this farm pond.

LEARNING HOW TO TEACH CONSERVATION. A firm belief that teachers need to know *how* to teach conservation is another essential part of the philosophy of the Iowa Teachers Conservation Camp. After the teachers have become acquainted with nature and through actual field experiences have secured a basic understanding of the interrelationships of natural resources, this knowledge is then applied to techniques of teaching.

Carl S. Johnson, who has studied the development of the conservation education movement in the United States, feels very definitely that teachers need to be instructed in *how* to teach conservation. Johnson says:

A teacher needs two things besides a suitable personality and a willingness to work for low monetary returns. He needs information and understanding concerning the problems he should help his students solve. He also needs to know how to effectively help his students learn to obtain information for the solution of problems. He must know both the *what* and the *how* of teaching. One proponent of information *versus* method in a conservation workshop said, "A teacher must

¹⁰Comments from Evaluation Sheets of Iowa Teachers Conservation Campers, 1951.

have some sand in her basket just as a farmer needs some wheat in the drill." True, but the farmer *also* needs to know how to operate the drill and when, where, and how to plant that wheat.

The effective teaching of conservation requires that teachers be given the opportunity to understand wise resource management and helped to find good ways of teaching it. The *adequate* teaching of conservation necessitates that a large proportion of the nation's teachers obtain that education.²⁰

E. Laurence Palmer, whose name is almost synonymous with conservation education, has advocated for many years that teachers need to know how to use their immediate environment in teaching science. Palmer states in a recent article:

One cannot justify educationally or otherwise much of the emphasis on purely academic accomplishment now representative of much elementary-school science. What good does it do one to be able to find out what direction north is if he does not know where he is or what is to be found to the North? . . . The possession of new knowledge may not be so important as knowing what to do with the knowledge we have.²¹

The Iowa Teachers Conservation Camp staff, who are all trained in conservation education, assisted by the Elementary Supervisor from the State Department of Public Instruction, help the teachers to know what to do with the knowledge they have. Aid is given in curriculum development in conservation, and the knowledge that the teachers have gained at camp is applied to local teaching situations. During informal discussion periods, campers share their ideas for conservation teaching. Former campers are asked to return to camp to explain ways in which they have applied their camp training in their own schools.

The campers are introduced to conservation books and materials through the Conservation Camp library. These books include both children's books and references for the teachers. Much free conservation literature from various government agencies, industrial companies, and conservation organizations is presented to the campers. They are also given lists of sources for obtaining additional supplementary material.

Stress is placed upon audio-visual aids and their use in the school curriculum. Teachers become acquainted with many films, film strips, sets of slides, and recordings as these are used in the conservation instruction at camp. Many of the visual aids are evaluated according to their suitability for use at various grade levels. Lists of available visual aids and their sources are supplied.

Numerous simple demonstrations and experiments are performed by the campers. Typical experiments are those dealing with soil compactness, permeability of soil to water, effect of rain on land with and without cover, the splash effect of raindrops, rate of percolation in different types of soils, and capillarity in soils. The campers learn how to measure slope, how to lay out contours, and how to construct and use a cruising stick. Mimeographed instruction sheets for conducting the experiments and demonstrations are distributed, so that the teachers will have directions available if they need to refer to them when they use the experiments in their own schools.

While at camp the teachers construct various teaching aids for use in their classrooms. These teaching aids may include a terrarium, observation mounts, an "antarium" (the name coined by the campers for an observation container for ants), animal cages, boxes for rock collections, bird houses, bird feeders, or electric charts. The campers are given instruction in the use of nature crafts,

²⁰Carl S. Johnson, "Teacher Education for Conservation," (unpublished Doctor's thesis, Ohio State University, Columbus, Ohio, 1951), p. 167.

²¹E. Laurence Palmer, "Laymen and Lay Organizations Will Help," *Science for Today's Children*, Thirty-Second Yearbook of the Department of Elementary School Principals (Washington, D.C.: National Education Association, 1953) p. 198.

such as spatter painting, blue printing, leaf printing with printer's ink, ozalid printing, and making plaster casts of animal tracts. Collections of leaves, weeds, rocks, and insects are gathered to be used as reference sources later in their classrooms.

During the field trips, the campers become acquainted with many resource leaders from various conservation organizations. They learn how these resource personnel can be contacted and used in their local schools. Mimeographed lists of conservation organizations, which can be called upon to supply resource leaders, are distributed.

Teachers find that these sessions which are devoted to learning *how* to teach conservation are very helpful, as is indicated in the following comments:

This camp was very outstanding because we were taught by so many specialists. Also, we were shown different teaching aids and found out where we can get information about conservation when we need it.

This is the type of course for which many elementary teachers have been looking, as many of the college courses cannot be put into practical use in the schoolroom.

I have gained a valuable understanding of conservation. The staff and the visiting instructors certainly gave generously of their time and knowledge. The demonstrations and teaching materials were especially helpful.

I enjoyed my three weeks at camp very much. It was exactly the type of course I needed. I am going home with many valuable teaching aids, and my notebook so full of directions for ideas that I can hardly wait for school to start.²²

H. S. Fowler, the present director of Iowa Teachers Conservation Camp, says of the camp program:

The Iowa Teachers Conservation Camp has just recently presented its fourth year of successful "down-to-earth" training in conservation. In those four years many Iowa teachers have had an opportunity to build a background in conservation at Camp. Many have been extremely successful in carrying back to Iowa schools their experiences while at Camp. This is the manner in which the Camp training pays dividends since those who are public school students today become land owners tomorrow.²³

CHAPTER SUMMARY. Thus, during its four years of operation, the fundamental concepts guiding the philosophy of the Iowa Teachers Conservation Camp have been:

1. Teachers or pupils do not become interested in conserving something until they have an acquaintance and understanding of it; therefore, knowing and recognizing the various aspects of nature is basic in the camp program.

2. An awareness of the interdependence and the interrelationship in nature is essential for understanding wise resource management; thus, ecology is stressed in the camp teaching.

3. "Learning by doing" is a good educational procedure; therefore, emphasis is given to field trips, individual observations, and simple experiments in which the campers participate.

4. Teachers must know *how* to teach conservation; consequently, stress is placed upon curriculum development, conservation materials that are usable in the classroom, audio-visual aids, use of resource leaders, simple demonstrations and experiments that can be performed by youngsters, and the actual construction of teaching aids.

²²Comments from Evaluation Sheets of Iowa Teacher's Conservation Campers, 1951.

²³H. Seymour Fowler, "Iowa Teachers Conservation Camp," *Iowa Soil Districts and Watersheds Bulletin*, 1:12-13, September, 1953.

CHAPTER III

HISTORY OF THE IOWA TEACHERS CONSERVATION CAMP

Various organizations and individuals in Iowa had long been interested in conservation and had recognized the need for teacher training in that field. However, it was not until 1950 that this interest culminated in the establishment of the Iowa Teachers Conservation Camp. This camp, sponsored jointly by Iowa State Teachers College, the State Conservation Commission, and the State Department of Public Instruction, was the result of the dreams and plans of many people. A brief review of some of the developments that led to the establishment of the camp would be pertinent at this point.

I. EARLY PLANS FOR THE CAMP

NEED FOR CONSERVATION EDUCATION. The people of Iowa had been alerted to the conservation need through the clever cartoons of Jay N. Darling, member of the Editorial Staff of *The Des Moines Register*. Many an Iowan stopped to think after seeing one of "Ding" Darling's appropriate conservation cartoons. But *thinking* alone was not enough. Action, too, was required if Iowa were to preserve the richness of her resources. As Chief of the U. S. Biological Survey, "Ding" Darling realized that a nationwide program of conservation was impossible unless conservation education became an important part of the school program. He forcibly expresses this opinion in the following statement:

After a generation has reached the adult stage its members are too busy with the affairs of living to take on a new layer of education. If a nationwide job of conservation is to be done, the principles will have to be instilled in youth in the public schools. Men and women who toiled long and diligently for the cause of conservation have come to the conclusion that unless we can begin with the youth of this country and have them grow up into a nationwide majority, with an understanding knowledge of the fundamental principles of conservation, we will go on wasting and squandering our soils, waters, forests, and other gifts of nature until it is too late to mend and patch and restore.¹

PLANS OF THE STATE CONSERVATION COMMISSION. Mrs. Addison Parker, who worked with J. N. Darling through the State Conservation Commission, relates their "crusading" efforts for conservation as follows:

Those were depression years. Many people were so concerned with the economic situation that they showed little interest in the problems of conservation. But countless meetings were held in this State to arouse interest, and whenever such a group met someone in the audience always arose to say, "What we need in this State, is a program of Education; we need to teach our children in the schools the results of waste of our natural resources and of the great benefits that would come from flood control, proper land use, pollution control, better protection of wildlife cessation of drainage of lakes and swamps, etc.

And then someone else, a teacher perhaps, would arise to argue that the "teaching load" was too heavy now; that teachers could not accept new subjects in their present heavy programs.

It was somewhat later that the State Conservation Commission considered the possibility of setting up a summer camp for teachers, where conservation could be taught "in the field."²

¹J. N. Darling, "Why King Midas Starved," *Conservation Education in Rural Schools*, 1943 Yearbook, Department of Rural Education, ed. by Effie G. Bathurst (Washington, D. C.: National Education Association, 1943), p. 20.

²Personal Correspondence of the Author, letter from Mrs. Addison Parker, who served for 12 years as a member of the State Conservation Commission, February 7, 1954.

At the May, 1948 meeting of the State Conservation Commission, Mrs. Parker presented a report on the conservation education movement of the state of Tennessee. After hearing of the close cooperation of the State Department of Conservation and the State Department of Education in Tennessee, where the schools and conservationists coordinate their work, Mr. G. L. Ziemer recommended that something along that line and under the same general terms be done in the state of Iowa. It was suggested that Mrs. Parker and Mr. Ziemer, Director of the Conservation Commission, contact Miss Jessie Parker, State Superintendent of Public Instruction, in regard to this proposal.³

When Mrs. Addison Parker conferred with Miss Jessie Parker concerning the conservation education program in Iowa, she was referred to Miss Ivah Green, Rural Supervisor with the State Department of Public Instruction.⁴ Mrs. Addison Parker learned of the handbook for elementary teachers which had been issued in 1943 by the State Department of Public Instruction.⁵ She later reported to the Conservation Commission that the rural school program included study outlines and project work for subjects such as wildlife, birds, insects, trees, mapping the skies, weather, balance in nature, soil nutrients and "many other subjects to intrigue the interest of young students."⁶ Mrs. Parker and Miss Green discussed ways in which the State Conservation Commission might aid in the program of conservation education and "talked over the possibility of there one time being a conservation camp for Iowa teachers."⁷

During the November, 1948 meeting of the Conservation Commission, it was suggested that the Commission furnish the facilities needed for a group camp in one of the state parks for one week of teacher training in conservation. Mr. Bruce Stiles, State Conservation Director, suggested that perhaps the camp might be held one week for rural teachers and another week for town teachers.⁸ According to Mrs. Parker:

Various ideas for a program of conservation education were suggested to the Conservation Commission at various times. In the 40's conservation workshops were being tried out in other states, and the idea of a conservation camp followed that plan.⁹

The suggestion of the possibility of establishing a Chair of Conservation in a state college or university had been advanced by J. N. Darling. The State Conservation Commission decided to investigate such a possibility.¹⁰ Iowa State Teachers College at Cedar Falls, Iowa was contacted regarding the feasibility of establishing such a Chair of Conservation.

CONSERVATION EDUCATION AT IOWA STATE TEACHERS COLLEGE. No Department of Conservation existed at I.S.T.C., but for many years the college had offered a conservation course in the Geography division of the Science Department. In fact, this course, No. 468, Conservation of Natural Resources, was first taught by Professor Alison Aitchison in 1915,¹¹ a time when few colleges in the country had added conservation to their curriculum. According to Robert Funderburk, who studied the history of conservation

³Minutes of the State Conservation Commission meeting, May 3, 1948.

⁴Personal Correspondence of the Author, letter from Mrs. Addison Parker, January 19, 1954.

⁵*Science and Nature Study, Iowa Elementary Teachers Handbook*, Vol. V, Department of Public Instruction (Des Moines, Iowa: State of Iowa, 1943).

⁶Minutes of the State Conservation Commission meeting, November 15, 1948.

⁷Personal Correspondence of the Author, letter from Ivah Green, former Rural Supervisor with the State Department of Public Instruction, September 25, 1953.

⁸Minutes of the State Conservation Commission meeting, November 15, 1948.

⁹Personal Correspondence of the Author, letter from Mrs. Addison Parker, February 7, 1954.

¹⁰Minutes of the State Conservation Commission meeting, November 15, 1948 and January 10, 1949.

¹¹*Bulletin of Iowa State Teachers College*, Catalog and Circular, College Year 1914-1915, Vol. XV, No. 1 (Cedar Falls, Iowa: Iowa State Teachers College, 1914), p. 73.

education in the United States, only two of the 107 colleges and universities included in his survey had introduced conservation courses prior to 1915.¹²

Upon receipt of the inquiry from the State Conservation Commission regarding a Chair of Conservation, C. W. Lantz, Head of the Science Department at Iowa State Teachers College, appointed a Conservation Committee to make a study of "conservation education as it might reflect upon teacher training in Iowa."¹³ This committee mailed a questionnaire in February of 1949 to all county superintendents in Iowa and in April to selected urban administrators.¹⁴ The purposes of the questionnaire were to determine to what extent conservation education was being included in the curriculum of the public schools of Iowa, and to determine if Iowa State Teachers College should add conservation courses, rearrange major and minor requirements, or offer other opportunities for special teacher training.

The results of the questionnaire indicated that both county superintendents and school administrators agreed that conservation was not being emphasized sufficiently in their schools, teachers were not trained adequately for outdoor teaching, and there should be greater opportunity for educators to be trained in the area of conservation.¹⁵ The majority of the county superintendents agreed that special courses in conservation would contribute most effectively to teacher training in conservation education. Their second choice was a two-week summer workshop in conservation; the third was a sequence of courses leading to a 20-hour minor in conservation.¹⁶

Using the questionnaire results as a basis, the Conservation Committee recommended, in part, that two new courses in conservation be added to the curriculum; that it would not "be in line with the practice of the college to establish a 'Chair of conservation'"; that a minor in Conservation be considered; and that a "Summer Workshop in Conservation" be held in one of the state parks the next summer.¹⁷

When County Superintendent Cleone Miller of Marengo returned the conservation questionnaire, she inquired about the possibility of the Extension Service from Iowa State Teachers College offering a conservation course in Iowa County. She suggested that local conservation agencies assist with the inservice training program. Plans for this type of Extension Service were later formulated.¹⁸

At Marengo during the fall of 1949 G. W. Mouser conducted a ten-week extension class in Biological Science for Elementary Grades. The emphasis in this course was placed on local problems in conservation; the basic objectives being to develop an interest in the out-of-doors and an attitude of wise use, based on a *desire* to do something about resource waste. Each Friday evening Mouser drove to Marengo for a two hour lecture session, remained in the community overnight, and then conducted an all morning field trip the next day. Local and regional conservation officers provided assistance both in lectures and field trips.¹⁹ The twenty-four teachers who enrolled for the course were very enthusiastic about it. "Local interest and cooperation contributed much to the success of this venture which was the first of its kind in Iowa."²⁰

The value of this type of field course in conservation was recognized by

¹²Robert S. Funderburk, *The History of Conservation Education in the United States*, Contribution to Education No. 392, George Peabody College for Teachers (Nashville, Tennessee: George Peabody College for Teachers, 1948), p. 55.

¹³Personal Interview with Dr. C. W. Lantz, September 22, 1953.

¹⁴Gilbert W. Mouser, "A Study of Opportunities for Leadership Training in Outdoor Education," (unpublished Doctor's dissertation, Cornell University, Ithaca, New York, 1950), pp. 822-30.

¹⁵*Ibid.*, p. 842.

¹⁶*Ibid.*, p. 817.

¹⁷Correspondence of Marguerite Uttley, Chairman of the Conservation Committee, letter to President Malcolm Price of I.S.T.C., September 19, 1949.

¹⁸Correspondence of C. W. Lantz, letter to Cleone Miller, February 23, 1949.

¹⁹Mouser, *op. cit.*, pp. 396-417.

²⁰"Into the Field on Conservation," *Midland Schools*, 64:21, December, 1949.

Iowa State Teachers College; therefore, during the following summer of 1950, a new course entitled Local Problems in Conservation was offered in the Biology Department. This course included many field trips which stressed the inter-relationship between soils and local plant and animal communities. The college catalog indicated that a part of the course dealt with "recognition of typical forms encountered in the field with emphasis upon growth habits and behavior patterns important in the teaching of conservation."²¹

The writer has attempted through the preceding account to show that Iowa State Teachers College, the State Conservation Commission, and the State Department of Public Instruction were each working toward the goal of better training in conservation education for teachers. Through its courses in conservation Iowa State Teachers College was attempting to give teachers a knowledge of the problems of conservation. Through its nature study handbook the State Department of Public Instruction was directing teachers in use of many projects to help broaden "the child's interest in the inanimate and living things that make up his environment."²² Likewise, the State Conservation Commission was anxious to assist the schools in conservation education but was not sure of the best procedure for getting the job done. Therefore, until the spring of 1949, there was little coordinated effort of the three agencies.

AN EDUCATIONAL ASSISTANT IN THE STATE CONSERVATION COMMISSION. In order to help coordinate its educational program, the State Conservation Commission decided to hire an Educational Assistant.²³ On April 18, 1949 George Worley assumed that position in the Public Relations Section of the Commission. Worley came to Iowa from Missouri, where he had held a similar position with the Missouri Conservation Commission. As a part of his work, Worley began a series of visits to the Science Departments of colleges and universities in Iowa. Various materials and methods of teaching conservation education were discussed with individual members of the science faculties. On May 13 Worley visited the campus of Iowa State Teachers College and became acquainted with Doctor C. W. Lantz, Gilbert Mouser, Dorothy Miller (now Mrs. Raymond Matala), and other members of the science faculty. This was the first of his many visits to Iowa State Teachers College, for during this meeting the possibility of a conservation education camp was discussed.²⁴

A few days after this initial visit at Iowa State Teachers College Worley joined C. W. Lantz, G. W. Mouser, and E. L. Ritter, Director of the Extension Service at I.S.T.C., when the group met with County Superintendent Miller at Marengo. These five persons assisted by two representatives from the Soil Conservation Service, the local Conservation Officer, and two rural teachers, laid the plans for the extension class which Mouser conducted there in the fall.²⁵ Reference has already been made to this course on page 23.

Worley describes the early efforts to establish a conservation camp in Iowa in the following manner:

The idea for a teacher training camp probably began here with one of our women commissioners, Mrs. Addison Parker. She is very active in women's club activities and at first had in mind only a short workshop session similar to those held in Michigan and Wisconsin, to which the women's clubs could send teachers.

The State Conservation Commission was sympathetic to Mrs. Parker's suggestion, but they did not at that time have anyone to really put the program into gear.

²¹*Bulletin of the Iowa State Teachers College, Catalog Issue, 1949-50, Vol LI, No. 1, (Cedar Falls, Iowa: Iowa State Teachers College, 1950), p. 141.*

²²*Science and Nature Study, op. cit., Department of Public Instruction, Foreword.*

²³Minutes of the State Conservation Commission meeting, March 14, 1949.

²⁴George Worley, personal memo book, May 13, 1949.

²⁵*Ibid.*

When I came to the Iowa State Conservation Commission in 1949, it was obvious, as I contacted various representatives of our State Teachers College, State University, State Agriculture College and small denominational teachers colleges, that there were many people who were interested in this sort of thing, but there was little co-ordination of their activities.

We are fortunate in having only one official Iowa State Teachers College and I approached Dr. Lantz, head of the Science Department there, with the idea that we were willing to help but did not know exactly what direction to take. On the staff at Iowa State Teachers College were Dr. Dorothy Matala, and Dr. Gilbert W. Mouser. Both of them did their doctoral work under E. Laurence Palmer of Cornell University. Dr. Mouser, in particular, literally jumped at the chance to work on a teacher training camp project. From there on it was a matter of approaching the State Department of Public Instruction, and agreeing that the State Conservation Commission would furnish the group camp at Springbrook State Park, resource personnel and my part-time services. Iowa State Teachers College agreed to furnish the staff, provide equipment, and arrange for accrediting and all the other academic requirements.²⁶

CONSERVATION HANDBOOK OF THE STATE DEPARTMENT OF PUBLIC INSTRUCTION. During the fall of 1949 additional impetus was given to conservation education through the introduction of a conservation handbook for teachers. Miss Ivah Green, Rural Supervisor with the State Department of Instruction, served as chairman of the Conservation Handbook Committee, the group which prepared this guide. For three years prior to this time a mimeographed form of conservation units prepared by Miss Green had been used in the schools. The new handbook, *The Teaching of Conservation*, is a guide for teaching conservation in grades one to eight and is based on a three-year cycle. Pupils who re-study a topic after three years study more advanced material and do more mature activities. The following conservation units make up the cycle:

FIRST YEAR OF CYCLE: Conservation of Soil; Conservation of Wildlife; Balance in Nature.

SECOND YEAR OF CYCLE: Conservation of Mineral Resources; Conservation of Forests and Timberlands; Water Conservation and Flood Control.

THIRD YEAR OF CYCLE: Maintaining Soil Fertility; Farm Conservation Planning; Legumes and Grasses.²⁷

At the Multiple County Institutes in September, 1949 this handbook was presented to the teachers of Iowa. Representatives from several conservation agencies appeared on the Institute programs to introduce the handbook and offer the teachers the help of their organizations as the various units were taught. At the Institutes in the Southeast Region of Iowa, Mouser and Worley were among the speakers. While speaking in the eight Institutes in that region from September 12 to September 23, Mouser, Worley, and Green had an opportunity to discuss the proposed conservation camp with Robert Moorman of the Extension Service of Iowa State College and with representatives of the Soil Conservation Service, who also appeared on the programs.

II. CONSUMMATION OF THE PLANS

TENTATIVE CAMP PROPOSALS. On October 6, 1949 Worley paid another visit to I.S.T.C. and further plans for the proposed camp were discussed. It

²⁶Correspondence of George Worley, letter undated.

²⁷*The Teaching of Conservation, Iowa Elementary Teachers Handbook*, Department of Public Instruction (Des Moines, Iowa: State of Iowa, 1949), p. 17.

was decided to again contact the State Department of Public Instruction to determine what specific action had been taken regarding plans for the proposed camp. Worley learned from Miss Jessie Parker, State Superintendent of Public Instruction, that the dates for the conservation workshop at Springbrook State Park had been set for June 5 to June 23, 1950.²⁸

On October 26, 1949 Worley, Green, Lantz, and other interested members of the Science Faculty met with M. J. Nelson, Dean of the Faculty at Iowa State Teachers College, to formulate tentative camp plans. One of the recommendations of this group was that two sessions of the conservation camp be held instead of one. Worley checked this possibility with Wilbur Rush, Superintendent of Parks of the Conservation Commission, and found that the camp facilities would be available for a second session between the dates of June 26 and July 14.²⁹

APPOINTMENT OF THE IOWA TEACHERS CONSERVATION CAMP COMMITTEE. In order to coordinate the plans for the conservation camp, it was essential that representatives from the various organizations interested in conservation plan and work together. The State Superintendent of Public Instruction appointed such a coordinating body, later known as the Iowa Teachers Conservation Camp Committee. The first meeting of this committee was held at the State House in Des Moines on Nov. 29, 1949, with the following people serving as members of the committee:

Miss Jessie M. Parker, Superintendent of Public Instruction; Miss Ivah Green, Rural Supervisor; Dr. C. W. Lantz, Head of Science Department, Iowa State Teachers College; Dr. G. W. Mouser, Science Department, Iowa State Teachers College; Mrs. Addison Parker, Natural Resources Council; Mr. I. N. Seibert, County Superintendent, Guthrie County; Mr. Kenneth King, Assistant State Conservationist, Soil Conservation Service; Mr. Lester Clapp, Extension Conservationist, Iowa State College; Mr. Wilbur Rush, Superintendent of Parks, Conservation Commission; Mr. George Worley, Educational Assistant, Conservation Commission; Mr. Wayne Pritchard, Secretary of the State Conservation Committee.

This committee made several definite decisions concerning the summer camp:

1. They agreed that the workshop should be conducted for elementary teachers and decided to hold two separate workshops of three weeks each. The first session was to be from June 5 to June 24 and the second from June 26 to July 15. The courses were to be identical.

2. They decided that the most desirable way of publicizing the camp was through a brochure showing pictures of the park and workshop groups. The Department of Public Instruction was delegated to send copies of the brochure with a letter about the workshop to each County Superintendent, who in turn, would distribute the brochures to all elementary teachers in his county. The Department of Public Instruction and the Conservation Commission were given the responsibility for planning and printing the brochure. Fifteen thousand brochures were tentatively considered.

3. Worley suggested that the Izaak Walton League was willing to provide financial help in this project. Worley was asked to contact Mr. Rector, Executive Secretary of the Izaak Walton League, regarding a possible contribution from the various chapters.

4. They agreed to ask other organizations to contribute to a general fund from which certain expenses connected with the workshop might be paid. Bathhouse privileges, busses and cars making trips, publishing the brochures, and purchasing field glasses were considered as possible expenses for which

²⁸Correspondence of George Worley, letter to G. W. Lantz, October 21, 1949.

²⁹Correspondence of George Worley, letter to Dorothy Miller, Science Instructor at Iowa State Teachers College, November 10, 1949.

money would be needed. Mouser was asked to confer with a representative of a sportsman's group regarding a possible contribution to such a fund.

5. Iowa State Teachers College was delegated the responsibility of planning and directing the workshop course. Various staff members and resource leaders were suggested.

6. Seibert was asked to check on the available transportation for field trips and bus service from the park to town. It was suggested that the tuition fee include a certain amount for transportation expenses.³⁰

It is evident from these committee decisions that the conservation camp for teachers had begun to "crystallize." Much planning remained to be done, but, at least, various responsibilities had been delegated to specific individuals or organizations.

APPROVAL BY THE COLLEGE AND STATE BOARD. Following the meeting of the Iowa Teachers Conservation Camp Committee, Lantz and Mouser met with Dean Nelson and President Price at Iowa State Teachers College and secured their approval of the camp plans. The tuition fee for a three weeks term was set at \$15.00, which would include the transportation costs for the field trips. Dean Nelson was authorized to submit the camp plans to the State Board of Education for final approval.³¹ On December 14 at a meeting of the Iowa State Board of Education "approval was given to conducting a workshop sponsored jointly by the Department of Public Instruction, the State Conservation Commission, and the Iowa State Teachers College."³² At last the plans for the Iowa Teachers Conservation Camp were officially launched.

PUBLICITY FOR THE CAMP. On December 19 Worley, Green, and County Superintendent Seibert visited Springbrook State Park in Guthrie County. The three agreed that the facilities at Springbrook State Park were adequate for a conservation workshop.³³

Preparation of a brochure to advertise the workshop, then, was the next step. Worley and Green collected materials for a brochure and early in January presented the plans for the brochure to Jessie Parker, State Superintendent of Public Instruction, for additional suggestions.³⁴ On January 30 Worley and Green met at Cedar Falls with Lantz, Mouser, Miller, and Miss Pauline Sauer, another interested I.S.T.C. staff member, to secure their approval of the brochure.³⁵

The Iowa Division of the Izaak Walton League of America was contacted relative to underwriting the printing of the camp brochure, and they willingly agreed to give financial aid. It was understood that they would have the privilege of placing their emblem on the brochure,³⁶ a copy of which appears in Appendix C.

If the teachers of Iowa were to be adequately informed about the *new* conservation workshop, news releases must be another phase of the camp publicity. At the first meeting of the Iowa Teachers Conservation Camp Committee it had been agreed that news releases would be sent out from the Conservation Commission office and by the Publicity Director at Iowa State Teachers College.³⁷ Thus, on April 6 an official news release from the Conservation Commission appeared in numerous Iowa newspapers. This alerted the teachers to the possibility of camp attendance during the summer.

³⁰Report of the Conservation Workshop Committee meeting, November 29, 1949. (Mimeographed).

³¹Correspondence of C. W. Lantz, letter to Ivah Green, December 7, 1949.

³²Correspondence of Malcolm Price, letter to M. J. Nelson, January 3, 1950.

³³Correspondence of G. W. Worley, letter to C. W. Lantz, December 21, 1949.

³⁴Correspondence of Ivah Green, letter to G. W. Worley, January 9, 1950.

³⁵Ivah Green, "Report to the Springbrook Park Conservation Camp Committee," February 9, 1950. (Mimeographed).

³⁶Correspondence of G. W. Worley, letter to C. W. Lantz, December 21, 1949.

³⁷"Report of the Conservation Workshop Committee Meeting," November 29, 1949. (Mimeographed).

In addition to the newspaper articles the committee felt that publicity should be given in the publications of the three sponsors;³⁸ therefore the March issues of the *Iowa Conservationist*,³⁹ publication of the State Conservation Commission, and *Midland Schools*,⁴⁰ publication of the Iowa State Education Association, contained articles about the summer camp. The *Educational Bulletin* of the State Department of Instruction⁴¹ and the summer quarter *Bulletin*⁴² of Iowa State Teachers College assisted, too, in informing the teachers of Iowa about the camp.

SPECIFIC RESPONSIBILITIES OF THE CAMP SPONSORS. Since the State Conservation Commission, Iowa State Teachers College, and State Department of Public Instruction were each assuming the responsibility for specific tasks, James Harlan, who was then Superintendent of Public Relations of the Conservation Commission, suggested drawing up a "statement of agreement relative to the responsibilities and contributions of the co-sponsors for the workshop."⁴³ This seemed to be a desirable procedure, and the following statement was formulated:

STATEMENT OF AGREEMENT RELATIVE TO THE
1950 IOWA TEACHERS CONSERVATION CAMP

In view of the fact that plans for an extension course in Conservation Education during the summer of 1950 are taking definite form, it would appear that a statement of agreement relative to the responsibilities and contributions of the sponsors is in order.

Be it agreed that:

1. Iowa State Teachers College, the Iowa State Department of Public Instruction, and Iowa State Conservation Commission are co-sponsors of the proposed 1950 Iowa Teachers' Conservation Camp.

2. Curriculum development, direction of instruction, and administration of the Workshop shall be the responsibility of Iowa State Teachers College, with such assistance from other sponsors and interested groups or institutions as is available and is requested by Iowa State Teachers College. The acceptance of or request for assistance of any nature will not imply an obligation to allow interference in administrative matters.

College shall assume responsibilities for registering the students and collecting tuition and transportation fees.

3. It shall be the responsibility of the State Conservation Commission to provide physical facilities for the housing, general comfort and well-being of those enrolled in the course, and for staff members (whether permanent or temporary). Such facilities shall include group cabins complete with bunks and mattresses, screens, heaters, lights, and cleaning equipment; toilet and shower facilities with hot and cold water; recreation hall-classroom combination with heat and lights; dining hall complete with dishes, silverware, cooking utensils, stoves, hot and cold water, heat, lights, and gas for cooking; provision for the disposal of garbage and other refuse. Janitorial service for all buildings, except sleeping cabins, will be provided by the Commission.

Commission personnel will arrange for individuals to care for food service. Collection of fees from students to cover this service and turning this money over to the caterers will also be cared for by Commission personnel.

³⁸*Ibid.*

³⁹George W. Worley, "Conservation School for Teachers," *Iowa Conservationist*, 9:17, March 15, 1950.

⁴⁰"ISTC Offers Summer Camp for Conservation Education," *Midland Schools*, 64:31, March, 1950.

⁴¹"Conservation Camp," *Educational Bulletin*, 21:1, June 1950.

⁴²*Bulletin of the Iowa State Teachers College*, Summer Quarter Issue, Vol LI, No. 2, (Cedar Falls, Iowa: Iowa State Teachers College, 1950), p. 9.

⁴³Correspondence of G. W. Worley, letter to G. W. Lantz, December 21, 1949.

Students and staff will be expected to provide for all bedding except mattresses, all personal toilet articles and other necessities, and will be expected to cooperate in keeping inside and outside premises clean and to exercise reasonable care in the use of all facilities at the group camp.

Students and staff will be expected to observe park rules. (Certain exceptions may be granted by the Commission if by so doing the educational program could be benefited without hazarding physical equipment or plants and animals of the park and wildlife area.

4. As its share in sponsoring the Conservation Camp Laboratory School, the Department of Public Instruction agrees to furnish enough copies of the Conservation Handbook for use of the staff and students as well as any other materials dealing with conservation that it is able to provide. The Department will also assist in any way it can to encourage the selection of qualified teachers to take the course. It offers the assistance of any staff members needed by the State Teachers College staff. It offers to assist in evaluating the success of this experimental course in conservation. It will give the Springbrook laboratory course all possible publicity in the *Educational Bulletin* and by word of mouth.⁴⁴

Reference has already been made to certain contributions of each of the co-sponsors. However, a summary of the aforementioned items and the additional services performed by each sponsor may help to clarify their specific tasks.

STATE DEPARTMENT OF PUBLIC INSTRUCTION

1. Appointed the Iowa Teachers Conservation Camp Committee which consisted of representatives from various conservation organizations within the state.

2. Assisted in the planning of the camp brochure and in the distribution of the same to the County Superintendents.

3. Furnished camp publicity through its *Educational Bulletin*.

4. Secured desks for the camp office at Springbrook State Park from surplus stock in State storage.

5. Contributed copies of the Conservation Handbook for the campers.

6. Furnished a curriculum consultant during the second session of the camp. This staff member was Ivah Green, Rural Supervisor, who had assisted with much of the camp planning.

STATE CONSERVATION COMMISSION

1. Furnished without charge the site of the group camp at Springbrook State Park and the physical facilities such as cabins, heat, water, and electricity.

2. Assisted in the preparation of the camp brochure and secured the financial support of the Izaak Walton League for the brochure.

3. Publicized the camp in the *Iowa Conservationist* and prepared various other news releases.

4. Provided a liaison for the three sponsors through its Educational Assistant, George Worley. Ivah Green remarked about this when she wrote, "I am sure that George Worley must have carried the ball more than anyone else I can think of. It seems to me he was the intermediary between the Department of Public Instruction, the College, and the Conservation Commission."⁴⁵

5. Arranged for Mrs. Chris Peterson of Audubon, Iowa to provide meals for the 1950 Conservation Camp at a rate of \$2.25 per person per day.

6. Selected personnel from the State Conservation Commission to act as resource leaders at camp.

⁴⁴Statement of Agreement Relative to the 1950 Iowa Teachers Conservation Camp" from the Conservation Commission files. (Typewritten copy).

⁴⁵Personal Correspondence of the Author, letter from Ivah Green, September 25, 1953.

7. Provided the services of George Worley as an instructor and coordinator of the activities at camp which involved State Conservation Commission equipment and personnel.

IOWA STATE TEACHERS COLLEGE

1. Secured the Approval of the State Board of Education for a conservation camp for teachers.

2. Provided for the mechanics of the administration of the course by (a) offering Biology 105: Local Problems in Conservation, (b) giving five hours of credit for three weeks of camp work, and (c) setting the fees for the workshop at \$15.00, which included field trip transportation.

3. Publicized the camp through the office of the Publicity Director.

4. Appointed Gilbert W. Mouser, whose doctoral work at Cornell University had been in outdoor education,⁴⁶ as the camp director.

5. Selected Dorothy Miller and Pauline Sauer, instructors in the Biology Department, as members of the camp staff. Dorothy Miller's doctoral work at Cornell University had also involved camp work.⁴⁷

6. Planned the camp curriculum to provide a study of soil conservation during the first week, water conservation the second week, and forest conservation the third week.⁴⁸

7. Determined the educational objectives of the camp and the means for arriving at those objectives.⁴⁹

8. Arranged for field trips and resource specialists to assist in the camp program.

9. Supplied much camp equipment, such as books, field glasses, microscopes, laboratory tables, chairs, woodworking tools, office supplies, laboratory supplies, etc.

10. Received teachers' applications for camp admission.

Thus through the cooperation of the three sponsoring groups the promotion and administration of the camp was accomplished. By sharing in the responsibilities no single agency was overburdened with details of organization.

MATERIALIZATION OF THE CAMP PROJECT. Many of the ultimate details of the camp program were under the jurisdiction of the Camp Director. It was his responsibility to plan the camp curriculum and make the final arrangements for the resource personnel to assist in the camp program. To help accomplish this task G. W. Mouser made a trip to Iowa State College at Ames, where Lester Clapp, Extension Soil Conservationist, assisted in selecting college personnel to aid in the instruction at camp.⁵⁰ As a result of this contact and those with other organizations, thirty-one specialists in soil, water, or forest management were secured for the camp program.⁵¹ The following table indicates the agencies or organizations participating:

⁴⁶Mouser, "A Study of Opportunities for Leadership Training in Outdoor Education," *op. cit.*

⁴⁷Dorothy C. Miller, "A Study of the Educational Situation in the Nature, Woodcraft, and Handicraft Programs of 113 Camps during the Summer of 1945," (unpublished Doctor's dissertation, Cornell University, Ithaca, New York, 1946).

⁴⁸See Chapter IV for a complete description of the camp curriculum.

⁴⁹See pages 53, 54, 55 for a copy of the objectives.

⁵⁰G. W. Mouser, "A Report of the First Iowa Teachers Conservation Camp, June 4 to July 15, 1950," October 13, 1950, p. 11. (Duplicated bulletin).

⁵¹G. W. Mouser, "A Supplement to the Report of the First Iowa Teachers Conservation Camp, June 4 to July 15, 1950," October 13, 1950, p. 5. (Duplicated bulletin).

TABLE I
1950 CAMP RESOURCE LEADERS

Organization supplying specialist	Number of specialists
Iowa State Conservation Commission	14
Soil Conservation Service	6
Iowa State College	5
Iowa State Teachers College	3
Iowa Resources Council	1
Iowa State Soil Conservation Committee	1
United States Forest Service	1

As the time for the opening of camp drew nearer, Director Mouser, Dorothy Miller, George Worley, Wilbur Rush, who was Superintendent of Parks, and Harold Carter, Custodian of Springbrook State Park, visited Springbrook Park to check details relative to the physical arrangements for the camp. Various buildings and rooms were tentatively assigned as to their probable function during the operation of the camp. This included providing for student quarters, staff cabins, an office, library, lecture room, cooks' quarters, accommodations for guest instructors, etc. During this visit at Springbrook Park, the camp staff met with J. E. Bishop, Guthrie County Extension Director, and Mark Huntley, Farm Planner, to discuss their participation in the camp program. I. N. Seibert, County Superintendent, was also contacted regarding transportation for students from Guthrie Center to camp.⁵² Little by little, each detail was dismissed.

Interested teachers who received camp brochures from their County Superintendents or noticed articles about the conservation camp in the newspapers and magazines submitted letters of application to the Director of the Camp. A personal letter from Director Mouser was sent in reply. This was followed later by a letter of instructions which gave suggestions for equipment for camp, required materials, a tentative daily schedule, transportation facilities to Springbrook, a list of the campers planning to attend, and the procedure for registration at camp.⁵³

Thus, when the first session of the Iowa Teachers Conservation Camp formally began on June 4, 1950, twenty-four women and one man from various parts of the state reported at Springbrook State Park.

III. CONTINUATION OF THE CAMP PROGRAM

CAMP SITE. Springbrook State Park, the site of Iowa Teachers Conservation Camp, has an excellent location for such a camp. Examples of wise and unwise use of resources are within easy driving distance. Located in Guthrie County, Springbrook Park is seven miles northeast of Guthrie Center and sixty miles west-northwest of Des Moines. The park consists of approximately 700 acres of wooded hills, prairie areas, and an area of farm land that is returning to natural vegetation.

Springbrook Park received its name from the woodland stream, Spring Brook, which has been impounded to form a 27 acre lake. The upper area of the lake has become an extensive delta, formed since the lake was made. As sediment is brought down by the brook, it is dropped when it reaches the quiet waters of the lake. This sediment has formed the delta upon which is well illustrated the succession of vegetative cover. Muskrats and beavers are found

⁵²George Worley, "Memorandum to the First Iowa Teachers Conservation Camp Committee," May 11, 1950. (Mimeographed).

⁵³See Appendix B for a copy of the letter and the check list.

in this area. In order to prevent excessive erosion of the watershed and silting in of the lake, erosion-control structures have been put in upstream to help hold back the sediment.

Spring Brook meanders through a large area of the park. A larger stream, the middle fork of the Raccoon River, forms a part of the park boundary. These two streams and the lake itself furnish an excellent outdoor laboratory for aquatic life. The park is located on the border of the last glacial deposit, and the Middle Raccoon River has cut a deep valley along the edge of this moraine.

Dr. Charles S. Gwynne, a popular geology instructor at the Iowa Teachers Conservation Camp, explains the area surrounding the park in the following manner:

There is a great contrast between the country west and east of the river. Westward, in the rest of Guthrie County and beyond, hills and valleys are everywhere. The country is well drained. Also, much of the subsoil is loess, the wind-blown silt. East of the park it is a different story. For a mile or so there is a belt of upland hills. These have gentle slopes and more than the usual number of large and small stones. This belt trends northwest-southeast rather parallel to the river. It is the end deposit, the terminal moraine, of the last glacier.

Eastward from the terminal moraine the country is very gently rolling, except where streams are flowing in shallow valleys. Here we are on the main deposit of the glacier. The natural drainage is poor. Erosion by running water has not yet had time to produce drainage systems like those of the country west of the river. Glaciers once covered that area, too, but so long ago that running water has had plenty of time to cut up the country into hills and valleys. Also, the windblown silt, loess, has been deposited on top of the drift. There is no loess in the park or east of the river.⁵⁴

Springbrook Park, therefore, is an area well adapted to the study of geology. From one of the hilltops near the park, campers can view evidences of both the Wisconsin Glacial Drift Sheet and the Kansan Drift Sheet. Glacial erratics are numerous in the park and are available for the study of rocks. Also, on the side of the river valley is exposed the bed rock of this area. Along the highway just west of the park the Dakota Sandstone bedrock can be easily examined. This deposit of an ancient sea provides some good examples of cross-bedding. Here, too, the role of lichens and other plants can be seen in the decomposition of rocks into soil. Coal outcrops and shaft mines may be visited within a few miles of the park.

The Springbrook Park area provides for a fine understanding of soils, for within twenty miles of camp there are three different soil associations. Trips with soil specialists are taken to the Clarion-Webster, the Marshall, and the Shelby-Sharpsburg-Winterset Associations.

The park area provides a variety of trees for study. A bottom-land type of forest is found in the valley of the Middle Raccoon River and an oak-hickory climax abounds on the hillsides. Likewise, there is a variety of shrubs, grasses and flowers. Many forms of wildlife are abundant in the prairie, marsh, lake, stream, roadside, and wooded habitats.

The actual quarters for the Iowa Teachers Conservation Camp are the buildings originally constructed for a Civilian Conservation Camp, but which were later remodeled and used as a group camp. This setting is well adapted to an instructional program, for the group camp is more or less isolated from the picnic areas, the beach, and the cabin camp. Even on Sundays when the rest of the park is crowded with visitors, the group camp area is relatively free from outsiders. "The fact that the area is one of natural beauty having a minimum

⁵⁴Charles S. Gwynne, "Springbrook Geologic Story," *Iowa Conservationist*, 11:25, 32, April, 1952.

of the commercialized and resort atmosphere contributes much to the educational possibilities of the type which the college and associated groups are undertaking," reports G. W. Mouser.⁵⁵

PHYSICAL FACILITIES. The buildings at the group camp consist of nine cabins, a kitchen-dining hall, a staff cabin, and a general administration building. The L-shaped administration building is used as a laboratory, lecture room, office, and library.

The laboratory, "Happy-Hunting-Grounds," is a large room equipped with laboratory tables and fluorescent lights. One end of the room is paneled with knotty pine and has a fireplace. This room is used for laboratory class work and as a study room.

The lecture room is approximately the same size as the laboratory. It is used for presenting visual aids, lectures, and discussions which accompany the camp work. The lecture room serves as the meeting place each evening for the campers to preview the next day's field work. The camp staff believe that in order to effectively use field trips as a means of learning, the "ground work" must be carefully laid before the trip and must be followed by a summary after the trip. That summary and review also take place in the lecture room or Council Chamber, as it is sometimes called. During the first year of the camp, the Council Chamber was equipped with park benches and rustic chairs, but in 1951 the Conservation Commission replaced these with more comfortable "easy chairs."

A smaller room which adjoins the lecture room and laboratory is used as a library. From materials supplied by the Department of Public Instruction, two combination cabinet-bookcases were constructed by the Conservation Commission. Study tables and bulletin display tables for this room were furnished by Iowa State Teachers College. Books for the library have been contributed by numerous publishers. In the report for the first year of the camp, Director Mouser lists twenty-eight publishers who donated science books.⁵⁶ Each year additional books supplied by publishers have been added to the library. Besides these books which are the property of the camp, many personal copies are loaned by the camp staff. Books are also borrowed from the Iowa State Teachers College Library. This camp library aids in introducing teachers to new and worthwhile books in the field of science.

Another small room in the administration building serves as an office. Here each resident staff member is provided with a desk for personal use, and here the camp secretary performs her tasks. The desks in the office were supplied by the Department of Public Instruction.

Equipment for use in the laboratory, library, and office is supplied by both the Iowa State Teachers College and the Conservation Commission. This consists of such materials as laboratory tables, fluorescent table lamps, folding chairs, projectors, field glasses, microscopes, cages for animals, equipment for collecting and mounting leaves and insects, articles for simple experiments with soil, plants, and animals, equipment such as seines, sieves, and plankton nets for the study of aquatic life, office supplies, etc. In Mouser's 1950 report 292 specific items, excluding books, are listed as being secured through the I.S.T.C. Business Office, the Men's Residence Hall, the Ladies Physical Education Department, the Buildings and Grounds Department, faculty offices, the Science Department, and by special requisition.⁵⁷ Much detailed planning is necessary to secure all these items, transport them to Springbrook State Park, and at the close of camp transport them back to Cedar Falls.

⁵⁵G. W. Mouser, "A Supplement to the Report of the First Iowa Teachers Conservation Camp, June 4 to July 5," October 13, 1950, p. 2. (Duplicated).

⁵⁶*Ibid.*, pp. 18-21.

⁵⁷*Ibid.*, pp. 12-17.

Showers, laundry facilities, and toilet facilities are found on the ground level of the administration building. In 1952 a second-hand washing machine was purchased for the use of campers. This was secured through the Camp Trust Fund, which is explained on page 46. Most of the campers do not attempt to do all of their laundry at camp, but the washing machine is a very convenient appliance when the campers' clothes have become muddy or dusty from field trips.

The staff cabin, which is located between the administration building and the kitchen-dining hall, has been altered considerably since the beginning of camp. During 1950 this cabin was used as living quarters for the cooks and as storage space for camp equipment. In 1951 some of the staff members also lived in the cabin. During 1952 the cabin was remodeled to provide separate rooms for the staff members; a large room at the rear of the kitchen was likewise remodeled to serve as living quarters for the cooks. Since all the staff members could now be housed in one cabin, this freed an extra cabin for the use of campers.⁵⁸

The second L-shaped building with dimensions similar to the administration building is used as a kitchen, dining hall, pressing room, and living quarters for the cooks. Tables and benches in the dining hall will accommodate more than 100 individuals. The kitchen is equipped with a large coal range and a bottle-gas range. In 1952 the Conservation Commission installed a 30 gallon bottle-gas hot water heater. Dishes and cooking utensils are a part of the permanent kitchen equipment of the group camp. The cook is secured by the Conservation Commission, and she supplies her own kitchen helpers and waitresses.



Figure 5. The group camp at Springbrook State Park is the site of ITCC. Building at lower right is staff cabin; next is the administration building. On the hillside is one of the nine camper cabins.

Six of the nine cabins which house the students are on the hillside above the level of the administration building; on the level with it are the other three cabins. (See Figure 5.) These large, single room cabins are identical in structure and are equipped with one or two rustic tables, benches, folding chairs, iron cots and mattresses, an automatic oil burning stove, and individual open clothes closets. There are many screened windows with wooden shutters. The cabins are rustic but comfortable. Eight campers are housed in a cabin, and these eight persons become intimately acquainted before the end of the three week period.

It has already been indicated that field trips are an essential part of the camp program. During the first year of the camp, an auto caravan provided

⁵⁸Emery L. Will, "Progress Report of the 1952 Iowa Teachers Conservation Camp," January 21, 1952. (Duplicated).

the necessary transportation for the field trips. Campers volunteered to drive their cars and were paid mileage for the trip. In 1951 Iowa State Teachers College provided a station wagon and a 36 passenger bus for use on field trips. The use of the bus made field transportation much simpler and supplied a congenial atmosphere for a large group of campers. Campers affectionately call the green colored bus "The Green Hornet." (See Figure 6.)

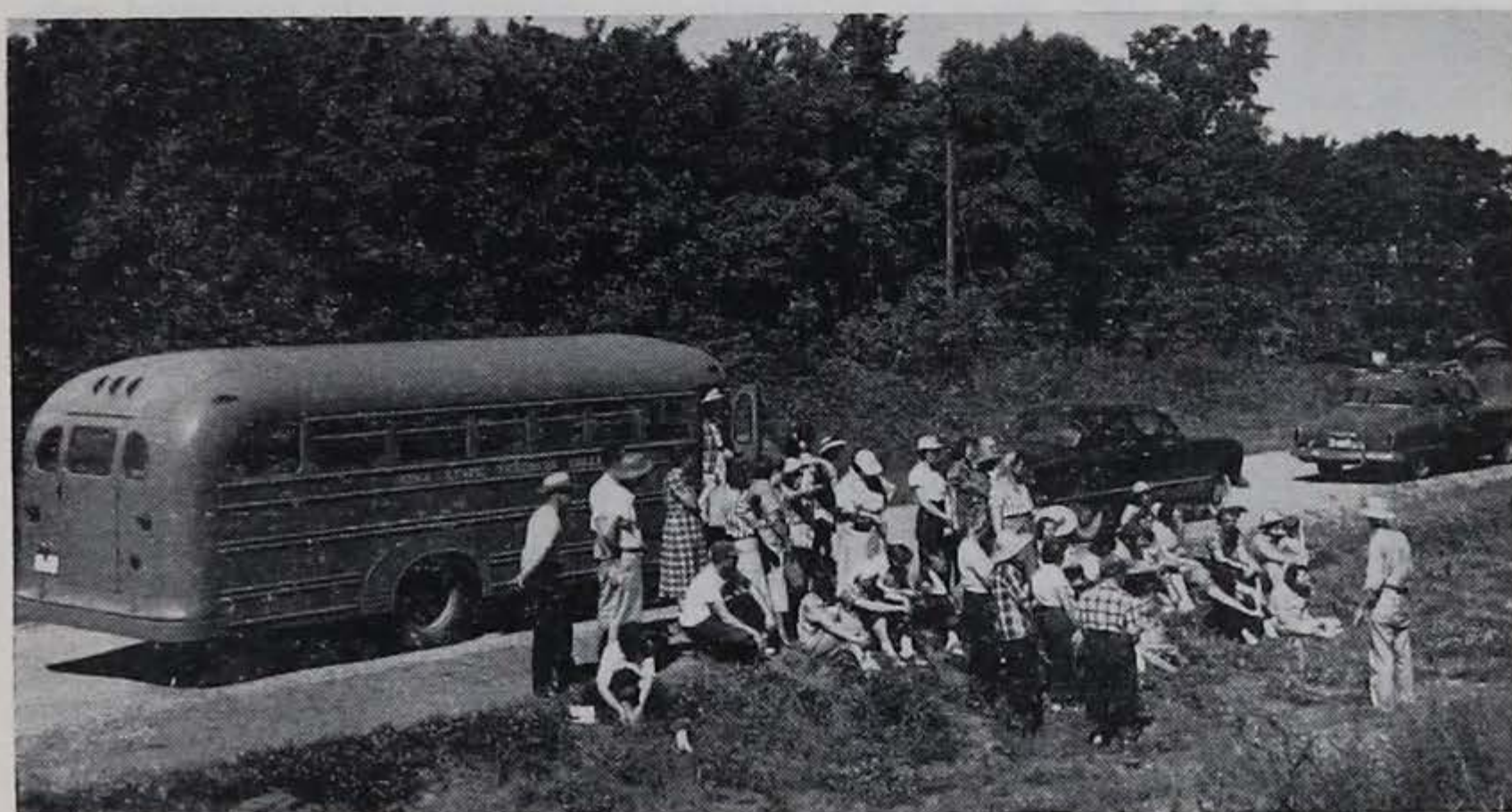


Figure 6. Leaving "The Green Hornet" (bus), campers listen to Dr. Charles Gwynne explain the topography

Another facility that has proved very popular with the campers is the Industrial Arts Mobile Unit. Iowa State Teachers College owns an industrial arts laboratory on wheels, which during the school year visits numerous schools in the state to provide an opportunity for youngsters to try their hand at industrial arts. This semi-trailer contains a wide variety of power and hand tools. Harold G. Palmer, Head of the Industrial Arts Department at I.S.T.C., states the following about the equipment in the unit:

The machines which may be used are the wood lathe, the wood table, saw, the wood jig saw, wood jointer, metal lathe, metal shaper, and metal milling machine. The pupil may try his hand at gas or electric welding, may use the machine drill, or operate an electric grinder. He may work on sheet metal, spinning, folding or cutting with a nibber. He may form metal by the use of forming rolls that are included in the sheet metal area; or he may work with plastics, electricity, or a radio set.⁵⁹

The Industrial Arts Mobile Unit is transported to Iowa Teachers Conservation Camp during the summer to be used by the campers. It greatly facilitates the construction of teaching aids and handicraft materials. During 1951 the Mobile Unit was sent to camp on an experimental basis, but it has proved so popular that it has become a permanent part of the camp. A materials fee of \$2.50 is added to the camp tuition to cover overhead in bringing the Unit to camp, to pay the board of the industrial arts instructor, and to cover the cost of certain materials which will be used for projects by the entire group. Additional materials for special individual projects are paid for by the students using them.⁶⁰

Emery Will, Director of ITCC in 1952, points out the following things about the use of the Mobile Unit:

⁵⁹H. G. Palmer, "Industrial Arts Takes to the Road in ISTC Mobile Unit," *Midland Schools*, 64:16-17, November, 1949.

⁶⁰Correspondence of J. W. Maucker, President of I.S.T.C., letter to Gilbert Mouser, May 23, 1951.

We planned well in advance of the camp season a number of things for the activity at the Unit for the summer, and a "job requirement" sheet was prepared which showed the instructor exactly what would be expected of him. Definite hours were set for "open" times for the Unit, and numerous appropriate teaching aids were planned for mass production. Sample models of each were assembled, and supplies were readied for any teaching aids which would be made by all campers. For all other items to be constructed, materials were purchased only upon request, usually following a demonstration of these samples and crafts during a set hour early in the first week of each session.⁶¹

Following is the "job requirement" sheet to which Director Will referred:

1. Care and operation of I.A. Mobile Unit:
 - a. Guidance and assistance in construction of teaching aids and models.
 - b. Handicraft instruction for recreational purposes.
 - c. Obtain materials for (a) and (b), prepare them for use, as necessary.
 - d. Tentative hours when Mobile Unit would be open:

Daily, Monday through Friday	— 3:30 to 5:15 P.M.
One evening per week	— 6:30 to 8:30 P.M.
First Sunday of each session	— 2:00 to 5:00 P.M.
*First Saturday of each session	— 1:00 to 2:00 P.M.
Second Saturday of each session	— 1:15 to 4:00 P.M.
 - e. When classes are in session, during field trips, etc., the Mobile Unit will not be open.
 - f. Insofar as is possible, materials and hand tools will be made available in the I.A. workshop end of Cabin #1. In this way, campers can work on projects independently.

*It is possible that materials can be obtained by campers for later use in this workshop, earlier in the day on the first Saturday of each session.

2. Care and Operation of other vehicles:
 - a. Responsible for care of bus and station wagon.
 - b. Shall be the operator of the bus:
 - (1) The bus will be used for field trips. A maximum average of one all-day trip each week. (7 or 8 A.M. to 5 or 6 P.M.) All-morning field trips regularly (probably on a majority of the days). A few early-morning trips for bird study. Possibly one evening field trip.
3. Miscellaneous:
 - a. This person will be expected to help out with miscellaneous duties necessary to the functioning of the camp.
 - (1) I.E.—Driving to town to get lumber, craft materials, laundry, groceries; helping to fuel the hot water heater; helping to move equipment.
 - (2) General assistance in opening and closing the Camp. This would mean helping on Saturday and Sunday, June 7-8, and on Friday and Saturday, August 15-16.⁶²

During their periods of work at the Mobile Unit in the afternoon and evening, the teachers construct many aids for use in their schools. Bird feeders, animal cages, bird houses, terrariums, electric charts, "antariums," insect mounts, rock boxes, and plant presses are among the popular items. Handicraft articles such as aluminum trays, plastic jewelry, and leather billfolds, belts, and purses are also made by some persons. Some of these crafts have been later used by the teachers in art classes in their schools.

During 1953 the cabin which had previously been used to house part of the camp staff, was converted into an industrial arts workshop. The Mobile Unit was just a few feet from this cabin, so the arrangement was very convenient.

⁶¹Personal Correspondence of the Author, letter from Emery Will, August 2, 1953.

⁶²E. L. Will, "Position Information Sheet, Industrial Arts Mobile Unit Assistant at Iowa Teachers Conservation Camp, Summer 1952, "January 16, 1952. (Typewritten copy.)

RESIDENT STAFF. Iowa Teachers Conservation Camp has been extremely fortunate in having a well-qualified and genial staff each year. (See Table II for a complete list of the resident staff.)

The three men who have served as directors of the camp, G. W. Mouser, E. L. Will, and H. S. Fowler, have been exceptionally capable leaders in outdoor education. All three of them received their doctoral degrees from Cornell University.

Reference has already been made to the study in outdoor education conducted by Gilbert Mouser.⁶³ (See page 10.) Thus, he gained much background information which was of great assistance in setting up the initial Iowa Teachers Conservation Camp. Director Mouser possessed leadership qualities accompanied by a sense of humor which greatly appealed to the campers and was essential in building a strong camp morale. Mouser left Iowa in 1951 to join the faculty of the Department of Land and Water Conservation at Michigan State College.

Emery Will, who had served as an ITCC instructor during 1951, assumed the duties of camp director for 1952. He expresses his feeling regarding the camp morale as follows:

The philosophy and spirit which were evident at the inception of ITCC were naturally the same ones which I tried to continue in the 1952 camp. When I joined the camp staff in 1951, it struck me that these items were outstanding.⁶⁴

Will, too, was extremely well-qualified as a conservation camp director. As a part of his doctoral work, he visited numerous schools throughout the United States in an endeavor to find how conservation was being taught.⁶⁵ This visitation gave him first-hand knowledge of conservation education, which proved valuable in his work at ITCC. Will did much to incorporate business-like procedures in the camp planning and administration. He left the Iowa State Teachers College campus in 1952 and is now Head of the Biology Department of State Teachers College at Oneonta, New York.

H. Seymour Fowler, the third and present director of the camp, came to Iowa State Teachers College from Southern Oregon College. Fowler, too, possessed the requisite for a successful understanding of the ITCC problems. Much of his doctoral study involved experimental work in an out-of-doors laboratory where he studied the ecology of living things in their natural setting. He improvised simple equipment for testing soil temperature, amount of rainfall, compactness of soil, rate of water penetration into soil, raindrop impact patterns, etc.⁶⁶ Iowa Teacher Conservation Campers have benefited from his experiences in science education. The camp is successfully moving forward under Fowler's direction. One of the founders of the camp, Mrs. Addison Parker, comments that Fowler has given splendid leadership to the project.⁶⁷

The integral part that George Worley had in establishing ITCC has already been discussed. His work as an instructor at camp has also been of inestimable value. Worley's experience as a high school science teacher and his work with schools as Education Assistant for the Conservation Commissions in Missouri and in Iowa contributed to his effectiveness as a camp instructor. (See Figure 7.) "Much of the success of this experiment in conservation education is attributable to Mr. George Worley, Superintendent of Public Relations,⁶⁸ State Conservation Commission," says Mrs. Addison Parker.⁶⁹

⁶³Mouser, "A Study of Opportunities for Leadership Training in Outdoor Education." *loc. cit.*

⁶⁴Personal Correspondence of the Author, letter from Emery Will, August 2, 1953.

⁶⁵Emery L. Will, "A Study of Conservation Education in the Secondary Schools of the United States," (unpublished Doctor's dissertation, Cornell University, Ithaca, New York, 1949).

⁶⁶Horatio Seymour Fowler, Jr., "The Study of a Small Depleted Pasture Land Area as a Vehicle for the Teaching of High School Biology," (unpublished Doctor's dissertation, Cornell University, Ithaca, New York, 1951).

⁶⁷Personal Correspondence of the Author, letter from Mrs. Addison Parker, January 19, 1954.

⁶⁸George Worley was promoted from Education Assistant to Superintendent of Public Relations in 1951.

⁶⁹Personal Correspondence of the Author, letter from Mrs. Addison Parker, February 2, 1954.

TABLE II
RESIDENT STAFF OF IOWA TEACHERS CONSERVATION CAMP

	Iowa State Teachers College	Conservation Commission	State Department of Public Instruction	Others
1950	Director Gilbert Mouser Dorothy Miller Pauline Sauer (Session I)	George Worley	Ivah Green (Session II)	Lena Petersen (Cook)
1951	Director Gilbert Mouser Dorothy Miller Matala Emery Will Roy Long (Indus. Arts & Bus Driver)	George Worley	Ivah Green (Part time)	Lena Petersen (Cook)
1952	Director Emery Will Dorothy Miller Matala Clifford McCollum	George Worley	Gladys Horgen (Part time)	Lena Petersen (Cook) Joan Pogemiller (Secretary) Harlan Rigby (Industrial Arts)
1953	Director H. S. Fowler Dorothy Miller Matala Clifford McCollum	George Worley	Gladys Horgen (Part time)	Lena Petersen (Cook) Joan Pogemiller (Secretary) Harlan Rigby (Industrial Arts)

Dorothy Miller Matala, a member of the camp staff for four years, has aided in planning the camp program and has been an excellent field instructor. When she was working on her doctor's dissertation at Cornell University, she accompanied Mouser on his visits to more than a hundred camps. Doctor Matala's study was made from the standpoint of the nature, woodcraft, and handicraft programs of the camps. Thus, she acquired much insight into numerous phases of camp life. She also had experience as a park naturalist in Indiana for several summers. At ITCC Dr. Matala has served as a counselor for the women campers. She states:

The camp situation in which a camper must live in close relationship to other campers for twenty-four hours a day for a week or more, will necessitate that some social adjustment be made by the campers if they are to be happy during their camp period. The need to cooperate is not something remote and intangible, but is very concrete. . . .⁷⁰

The camp staff at ITCC have assisted greatly in developing a closely-knit fellowship and a feeling of loyalty and comradeship among the campers. They have been cognizant of teachers' problems and needs, for they have all served as elementary or high school teachers.

Pauline Sauer, an instructor in Biology at Iowa State Teachers College, was only at camp for one session, but she was very popular with the campers. Miss Sauer had experience as an elementary teacher and had also attended the Biological Field Station of the University of Michigan.

Clifford McCollum, a science instructor at Iowa State Teachers College, was a valuable camp instructor during 1952 and 1953. Doctor McCollum was very well-liked by the campers, for he was always willing to share his knowledge and to give them assistance. His quiet "Missouri humor" added much joviality to the camp.

Previous reference has been made to the conservation work in the rural schools of Iowa that had been instigated by Ivah Green, Rural Supervisor of the State Department of Public Instruction. During the "curriculum-period" at camp in 1950 and 1951, Miss Green offered many suggestions of ways that conservation education might be developed in the schools.

Gladys Horgen, who succeeded Miss Green as Supervisor of Elementary Education with the State Department of Public Instruction, has continued to aid at camp through curriculum discussions and demonstrations.

Harlan Rigby, who served as Industrial Arts instructor in 1952 and 1953, was a high school principal with "a deep and sincere interest in teachers."⁷¹ He did an excellent job of assisting the teachers with their work at the Industrial Arts Mobile Unit. Rigby's witty remarks and effervescent spirit greatly enlivened the camp.

During the first year of the conservation camp, clerical help was provided by two campers. For the first session one of these campers remained at headquarters during the day, while the second camper accompanied the classes on field trips. During the second session of the camp, the positions of the campers were reversed. Tuition and meals were provided for those two students. During 1951 the director's young daughter did the necessary clerical work. In 1952 a camp secretary was added to the staff to relieve the instructional staff of many of the details of camp operation. Miss Joan Pogemiller assisted very efficiently in this capacity during 1952 and 1953.

Mrs. Chris Petersen of Audubon, Iowa has served as the camp cook each year and has provided excellent meals for hungry campers.

Director H. S. Fowler in his Camp Report makes the following comments about the 1953 staff:

⁷⁰Miller, *op. cit.*, p. 36.

⁷¹Personal Correspondence of the Author, letter from Emery Will, August 2, 1953.

The Director wishes to express his sincere appreciation for the efforts, cooperation, and splendid achievements of the members of the permanent staff. It is impossible to single out individuals as examples of outstanding performance. Each participated actively in the Camp program. All are worthy of commendation. The continued work of George Worley in behalf of the Iowa Teachers Conservation Camp is a major factor in the success of the Camp. The Director has appreciated his cooperation and guidance. Dr. Dorothy Matala again served effectively in her role as teacher-planner-counselor. Her assistance at Camp is greatly appreciated. Dr. Clifford McCollum was of great importance in the camp program. His ability as a teacher, and as a leader of Camp activities was of importance in the success of the camp program. Mr. Harlan Rigby, Greenfield, Iowa worked long and hard and continued to make the Industrial Arts program an integral part of the Camp experience. The secretarial work of Miss Jo Pogemiller is worthy of special notice. Her efforts made possible the relief of the permanent staff members from routine duties. The continued excellence of meals was a factor in the Camp's success. Mrs. Lena Petersen continued her achievements in this capacity. The Director wishes to recommend the use of the same staff for the 1954 Camp Sessions.⁷²

Toward the end of the 1951 camp a rotation of responsibility among the camp staff was tried on a limited scale in order to relieve the camp director of the complete responsibility each day. The "chief-of-the-day" plan was a success, and that type of rotation of responsibility has been followed since then. Emery Will describes the plan in this manner:

By this plan, responsibility for any day's field trips, transportation, food purchase, projection equipment, instructional material for distribution, public address system announcements, care of visiting specialists and guests, etc. was delegated to one staff member for that day. The complete schedule was set up at the beginning of each 3-week session. By this plan, the camp director was free to carry on more easily the numerous duties which were solely his responsibilities. However, he, also, served as chief-of-the-day. This plan served to let staff members know on what days they might reasonably be more free to follow up individual projects, although there were very few days on which all of the staff did not participate to some extent in all activities.⁷³

In order to establish a feeling of rapport between the campers and the staff, the formality of titles of address such as Doctor Will and Doctor Matala were dropped in preference to "Chief Emery" and "Chief Dorothy." The fact that the campers appreciated this friendliness of their instructors is apparent in the following comments of some 1951 campers:

Informality of the camp was fine and was a real credit to the staff. The wonderful cooperation among the staff members was unusual and did much to make the camp a success.

The informal, friendly, and personal interest of *each* member of the staff toward *each* individual attending was most gratifying.

Extraordinary instructors—the informality between students and instructors is refreshing for a change.

Instructors are a grand group, each with a good sense of humor. Their genial manner has made this camp a pleasant, learning experience.⁷⁴

The extremely capable people who have served as the resident camp staff have been largely responsible for the success of ITCC. Not only have they helped the campers assimilate much usable knowledge, but they have also provided a congenial atmosphere for camp life and have inspired the campers to promote conservation education in their schools.

⁷²H. S. Fowler, "Report, 1953 Iowa Teachers Conservation Camp," pp. 15-16. (Duplicated).

⁷³Personal Correspondence of the Author, letter from Emery Will, August 2, 1953.

⁷⁴Comments from Evaluation Sheets of Iowa Teachers Conservation Campers, 1951.

CAMP CURRICULUM. During each of the two sessions of the 1950 and 1951 camps, the same course, Biology 105: Local Problems in Conservation, was offered. However, by the end of the first year many campers had expressed an interest in an additional conservation course. (See Appendix B for a copy of G. W. Mouser's letter to 1950 campers.) It did not seem practicable to offer another course in 1951, but plans were formulated for such a course to be offered in 1952.

During 1952 two new courses were offered; one for secondary teachers and a second course for elementary teachers. The courses designed for elementary teachers became known as Biology 105: Conservation for Elementary Grades A and Biology 105: Conservation for Elementary Grades B. Conservation for Elementary Grades A was essentially the same as the former Local Problems in Conservation, with emphasis placed upon conservation of soil, water, and forests. The second course, Conservation for Elementary Grades B, was designed so that it could be taken for credit in addition to Conservation for Elementary Grades A. In this second course emphasis was placed on wildlife, soil nutrients, and balance in nature.

The course for secondary teachers, Biology 505: Iowa Conservation Problems, could be taken for either undergraduate or graduate credit. Emphasis was placed upon conservation of soil, water, forests, and wildlife.

Emery Will explains the addition of the two new courses in the following manner:

When I accepted the 1952 camp directorship in August 1951, the immediate problem was that of possible expansion into two of three different course offerings. Teachers who had attended camp once were demanding a second opportunity to participate in this kind of experience-education. Furthermore, there was the question of whether or not we should offer a session offering graduate credit, which could be attended by junior high and high school teachers. Since I felt strongly that both could be done, and that 1952 was the year when variety should be introduced, I concentrated on thinking *how*, not if, these could be accomplished.

In planning the session for high school teachers, it was decided to offer the same number of quarter hours of credit (5), but this credit was to be either graduate credit or upperclass undergraduate credit. Material was to be condensed somewhat, to permit room for emphasis upon wildlife resources, and each student was to undertake an individual observational project. Naturally, there were a number of topics in which we would need to slant the material, references, A-V aids, etc. toward the high school group. When advance enrollment indicated a small group for this session, it was decided to open the session to any teacher who desired graduate credit. This created additional work for the staff, but things worked out very well, and an unexpected opportunity arose to show teachers of all grade levels what the others were doing in conservation teaching.

The session for former campers was made into a course which could be taken independently of the original. To make this possible, the material was divided into "soil-water-forests" for the original course, and "soil nutrients-wildlife-interrelationships" for the new one. An entirely new set of field experiences, content, etc. was made the basis for the new course.⁷⁵

(See Appendix B for copies of Will's letters in which he describes the new courses to former campers and to secondary teachers.)

During 1953 the same three courses were offered, but the course number of Biology 105: Conservation for Elementary Grades B was changed to Biology 104: Conservation for Elementary Grades B. Also in 1953 the administration at Iowa State Teachers College granted permission for the substitution of either

⁷⁵Personal Correspondence of the Author, letter from Emery Will, August 2, 1953.

TABLE III
CONSERVATION COURSES OFFERED AT ITCC

Year	Session	Dates	Course	Credit (quarter hours)	Cost
1950	I	June 5 - 24	Biology 105: Local Problems in Conservation	5	\$15.00 Tuition \$45.00 Board
	II	June 26 - July 14	Biology 105: Local Problems in Conservation	5	
1951	I	June 17 - July 7	Biology 105: Local Problems in Conservation	5	\$15.00 Tuition \$50.00 Board
	II	July 8 - 28	Biology 105: Local Problems in Conservation	5	
1952	I	July 8 - 28	Biology 105: Conservation for Elementary Grades A	5	\$15.00 Tuition \$ 2.50 Industrial
	II	June 29 - July 19	Biology 505: Iowa Conservation Problems	5	Arts fee \$52.00 Board
	III	July 27 - Aug. 16	Biology 105: Conservation for Elementary Grades B	5	
1953	I	June 14 - July 3	Biology 505: Iowa Conservation Problems	5	\$15.00 Tuition \$ 2.50 Industrial
	II	July 5 - 25	Biology 105: Conservation for Elementary Grades A	5	Arts fee \$52.00 Board
	III	July 26 - Aug. 15	Biology 104: Conservation for Elementary Grades B	5	\$ 3.00 Cabin fee

Biology 104 or Biology 105 for Biology 10, which is a requirement for all persons on the two-year curriculum at I.S.T.C. (See Appendix B for a copy of Fowler's letter to Iowa's rural teachers.)

Table III presents a summary of the courses which have been offered to date at Iowa Teachers Conservation Camp.

The college administration granted permission to offer Biology 505: Iowa Conservation Problems during each session to those desiring Junior, Senior, or graduate level credit. During these sessions when 505 was not the course being taught at camp, students who registered for 505 took either 104 or 105 but received credit for 505. However, they were expected to attain a higher level of achievement on projects and activities, and to complete a special individual problem.

Several graduate students were granted permission to take a *second* course at ITCC. This course was Biology 680: Special Problems in Biology, which consisted of individual research by each student. For example, one graduate student conducted a food study on crappie found in Springbrook Lake; another graduate constructed simple equipment and prepared experiments to be used in the study of insects in the intermediate grades.

Table IV indicates the courses for which students have registered each session at Iowa Teachers Conservation Camp.

TABLE IV
NUMBER ENROLLED IN CREDIT COURSES AT ITCC

Year	Session	Course	Number of students
1950	I	Biology 105: Local Problems in Conservation	25
	II	Biology 105	25
1951	I	Biology 105	52
	II	Biology 105	35
1952	I	Biology 105: Conservation for Elementary Grades A	39
	II	Biology 505: Iowa Conservation Problems	18
	III	Biology 105: Conservation for Elementary Grades B Biology 680: Special Problems in Biology	58 2
1953	I	Biology 505	10
		Biology 105	1
		Biology 680	1
	II	Biology 105	19
		Biology 505	7
		Biology 680	2
III	Biology 104	36	
	Biology 505	7	

CAMP ATTENDANCE. During the four years of the camp program, 295 individuals have enrolled for the conservation courses. Forty of these 295 have returned to camp for a second course. The majority of teachers participating in the camp have been elementary teachers, for the courses have been offered

to secondary teachers only the past two years. Table V indicates the number of elementary and secondary teachers who have attended each session of camp.

TABLE V
ATTENDANCE BY SESSIONS AT ITCC

Year	Session	Elementary teachers	Secondary teachers	Total
1950	I	25		25
	II	25	1	26
1951	I	52		52
	II	35		35
1952	I	39		39
	II	6	12	18
	III	60		60
1953	I	5	7	12
	II	25	3	28
	III	40	3	43

Table VI presents a more complete classification of the students who have attended Iowa Teachers Conservation Camp.

TABLE VI
TYPES OF STUDENTS ENROLLED AT ITCC

Type of student	Number represented
Rural teachers	119
Elementary teachers	130
Junior High teachers	19
Secondary teachers	21
Administrative Assistants to County Superintendents	2
College students with no teaching experience	4
Undergraduate students	257
Graduate students	38
Students attending 2 sessions	40

These students who attended conservation camp came from various parts of the state. Figure 7, a map of Iowa, denotes the present location of the campers. Upon examination of the map, it is evident that the influence of the Iowa Teachers Conservation Camp is widespread throughout the state. Boys and girls in many classrooms in Iowa are benefiting from their teacher's experience at Springbrook State Park. From Figure 7 it can be easily ascertained that campers are now teaching or living in all but 16 of Iowa's 99 counties. If a camper is not teaching at the present time, or if her last available teaching address is known to be inaccurate, she is recorded on the map in her home county.

The symbol within the county indicates the year of camp attendance. If a person has attended camp for two sessions, two of the symbols within the county may represent the *same person but different sessions*. For example, in Emmet County two people attended camp in 1951, and two people attended in

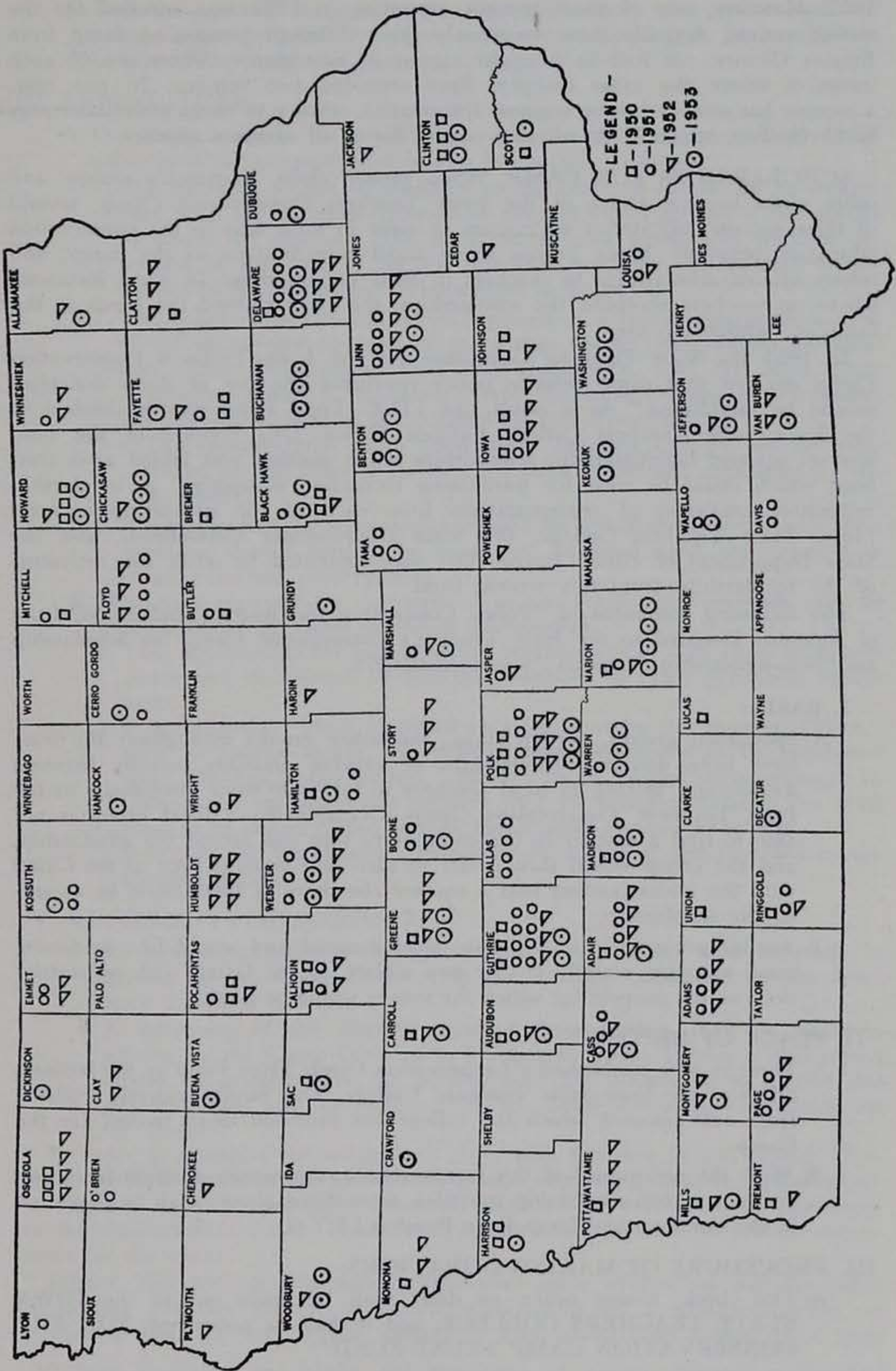


Figure 7. Distribution of ITCC campers in 1954. (See pages 44 and 46.)

1952. However, one of those persons attending in 1952 was enrolled for the second course. Actually there were only three different persons at camp from Emmet County, not four as it might appear at first glance. There are 40 such instances where the same campers have attended two sessions. In one case, a camper has attended three sessions. Information relative to camp attendance may be checked in Appendix A, where a county list of all campers appears.

SCHOLARSHIPS FOR CAMP. When garden clubs, sportmen's groups, and other clubs became aware of the Iowa Teachers Conservation Camp, several of these groups indicated a willingness to assist in some way in the conservation education program. Many groups made small contributions to the camp, and others offered scholarships to teachers in their communities. In some instances, where no teachers accepted the scholarships, the clubs offered the funds to the camp for scholarship use.

In 1951 the State Planning Committee for the Iowa Teachers Conservation Camp decided that some definite policy regarding the use of these donations should be established.⁷⁶ As a result, the ITCC Trust Fund was established in the Iowa State Teachers College Business Office. One division of the fund was set up and designated for scholarships while another was labeled as a trust fund which could be used for purchasing recreation equipment. A scholarship committee consisting of representatives from each of the sponsoring agencies (Iowa State Teachers College, the State Conservation Commission, and the State Department of Public Instruction) was appointed to select the recipients of the scholarships from this central fund.

The following statement of "Policy Concerning the Receipt and Expenditure of Amounts Donated to the Iowa Teacher's Conservation Camp for Scholarship and Non-scholarship Purposes" was formulated:

I. BASIS:

- A. Sportsmen groups, garden clubs, and other groups throughout the state have been donating scholarships of varying amounts, usually between \$15.00 and \$60.00, to local teachers to facilitate their attendance at the Iowa Teachers' Conservation Camp. Occasionally, a local group is not able to find a teacher in the community who can accept the scholarship, and the group would then prefer to turn that amount over to the Camp with the understanding that a teacher elsewhere in Iowa could be awarded the scholarship.
- B. Similar groups within the state have donated and would like to donate small amounts, usually one or two dollars, to the Camp with no restrictions on the purpose for which the money would be spent.

II. PLACE OF DEPOSIT:

- A. There is now established a Conservation Camp Trust Fund at the business office of the Iowa State Teachers' College. This fund is entirely separate from any amounts which the college has provided in its budget for the Camp.
- B. With the acceptance of this memorandum, the money donated for scholarship and non-scholarship purposes, as outlined above, shall be deposited in the Conservation Camp Trust Fund at I.S.T.C.

III. PROCEDURE OF MAKING DONATIONS:

- A. The check, money order, or draft shall be made out to the IOWA STATE TEACHERS COLLEGE, and it shall be prescribed: **FOR THE CONSERVATION CAMP TRUST FUND.**

⁷⁶Emery L. Will, "Report of the Planning Committee for the Iowa Teachers Conservation Camp," October 13, 1951. (Duplicated).

- B. Donations should be sent to the Camp Director, who will record and acknowledge the gifts. Donations will be deposited in the Business Office at Iowa State Teachers College, as outlined in II-B.

IV. EXPENDITURE:

- A. Donations received for scholarships shall be awarded to qualified applicants upon the recommendation of a Scholarship Committee.
1. The amounts of the scholarships so administered should be in accordance with the amounts donated by the individual groups, if the groups so desire. In any case, the recipient of each scholarship shall be informed of the name(s) of the donor(s), and the donors shall be informed of the receipt and disbursement of their gifts.
 2. The Scholarship Committee shall consist of a representative from each of the sponsoring agencies of the Camp (State Conservation Commission, State Department of Public Instruction, and the Iowa State Teachers College). The Iowa State Teachers College representative will act in the capacity of chairman for this committee.
 - a. The representative from Iowa State Teachers College will be nominated by the head of the Science Department and appointed by the president.
 3. Recipients for the scholarships should be qualified teachers, and their selection should further be based on financial need and interest in community and conservation.
- B. Donations received for unrestricted or non-scholarship purposes may be used for the recreational benefit of the campers.
1. This will provide for purchase and replacement of such items as square dance records, softball or volleyball supplies, or other perishable equipment.
 2. If recreational "items classified as equipment by the Business Office," such as fishing tackle, are desired, these items are to be purchased from the equipment budget, and are to be carried on inventory. In such cases, an equivalent amount may be transferred from this trust fund to be added to the Science Department equipment budget.
 3. Selection and purchase of items shall be approved and recorded by the Camp Director.

V. STATEMENTS OF ACCOUNT:

- A. An annual statement of all gifts made to the Camp shall be made in writing by the Camp Director to the Finance Committee of the Iowa State Teachers College.
- B. A statement of the disbursements of these moneys shall be made in writing by the Camp Director in his annual report. Copies of this report should be prepared for the persons who are designated to receive this memorandum, and to members of the State Planning Committee for the Camp.⁷⁷

In order to acquaint the sportsmen's clubs with this new policy, George Worley dispatched letters to the sportsmen's groups requesting them to encourage attendance at camp by providing financial assistance for teachers or to contribute to the Conservation Camp Trust Fund, which could be used to provide equipment for the camp.⁷⁸

Emery Will says of this policy, "However since neither we nor the other sponsoring agencies desired to handle scholarships on a wholesale scale, we publicized the fact that groups wishing to give scholarships should make their

⁷⁷"Policy Concerning the Receipt and Expenditure of Amounts Donated to the Iowa Teachers' Conservation Camp for Scholarship and Non-scholarship Purposes." (Mimeographed).

⁷⁸Correspondence of George Worley, letter to Emery Will, January 8, 1952.

own selections for recipients. We would take care of amounts which could not be disposed of."⁷⁹

In addition to contacting sportsmen's groups, George Worley directed letters to the Conservation Officers acquainting them with the procedure and urging them to assist in securing scholarships. The following is a portion of one of these letters:

Here is how you can help. Suggest to your local clubs that they be responsible for stimulating the attendance of at least one high school or elementary teacher from their community. One of the best ways to do this, of course, is to offer financial assistance. Some clubs will be able to pay the entire cost of tuition and board. Others may find that they can contribute only part of the expenses of a teacher. This will have to be worked out by individual clubs.

We are not asking your clubs to contribute to the cost of printing, publicity, etc., as we have in years past. The sponsoring agencies are now in a position to handle these costs. The important factor in the success of our camp at this time is to increase our attendance to its capacity (60 for each session). That is why we are asking you to suggest to your clubs that they consider the sponsorship of a local teacher. You can guarantee that this project will be among the most effective they ever sponsored. The teachers who have attended Springbrook have really made a name for themselves in their communities.

Last year some clubs voted to pay part or all of the expenses of a teacher and were then unable to find a teacher to accept their offer. If that happens again, we have made provision for the group to turn the amount available over to the Teachers' Conservation Camp Committee with the understanding that a teacher elsewhere in Iowa may be awarded the scholarship. Also, perhaps you have a group which would like to donate a small amount to the camp committee with no restrictions for the purpose for which the money would be spent. A fund for this has been set up and the money received will be used in purchasing expendable equipment.⁸⁰

During 1951-52 a total of \$68.80 was contributed to the non-scholarship fund. From this fund square dance records, fishing tackle repairs, and a second-hand washing machine were purchased for the campers.

From 1951 to 1953 a total of \$275 was contributed by various groups to the scholarship fund. In 1952 the first scholarships from this fund were awarded to:

Winona Sutton, Delhi, Iowa; Lottie Whittenbaugh, Wadena, Iowa; Leonore Turner, Griswold, Iowa.⁸¹

In 1953 four additional scholarships were awarded to:

Alma Pegram, Hartwick, Iowa; Walter De Kock, Newton, Iowa; Duane De Kock, Pella, Iowa; Gertrude Weaver, Sioux City, Iowa.

In addition to these scholarships which were awarded from the Conservation Camp Trust Fund, numerous scholarships have been provided for local teachers by various clubs and organizations. As can be noted in Table VII, a large number of the teachers who attended camp in 1953 were scholarship winners.⁸²

Many local or county clubs conducted conservation contests and awarded scholarships for ITCC as prizes for teachers. Among the types of organizations that provided scholarship assistance in 1953 were the following:

Soil Conservation Districts; County Conservation Groups; County Conservation Clubs; Izaak Walton Leagues; Federated Garden Clubs of Iowa; Bankers Association; Better Homes and Garden Clubs; Fish and Game Clubs; Sportsmen Clubs; Coon and Fox Association; County Farm Bureau; Grange.

⁷⁹Personal Correspondence of the Author, letter from Emery Will, August 2, 1953.

⁸⁰Correspondence of George Worley, letter to all Fish and Game Conservation Officers, January 23, 1952.

⁸¹Emery L. Will, "Report of the 1952 Iowa Teachers Conservation Camp." (Duplicated).

⁸²H. S. Fowler, "Report, 1953 Iowa Teachers Conservation Camp," p. 13. (Duplicated).

TABLE VII
CAMP ATTENDANCE AND SCHOLARSHIPS AWARDED IN 1953

Session	Attendance	Scholarships
I	12	10
II	28	15
III	43	26

TABLE VIII
LOCAL SCHOLARSHIPS PRESENTED BY COUNTIES
IN 1953

County	Session I	Session II	Session III	Total
Audubon		1		1
Benton	1	1		2
Boone	1		1	2
Bremer			1	1
Buchanan	1	2		3
Carroll			1	1
Clinton			1	1
Delaware		2	1	3
Floyd			1	1
Fremont		1		1
Greene			1	1
Guthrie			1	1
Harrison		1		1
Henry			1	1
Howard			2	2
Jefferson			2	2
Jones	1			1
Keokuk			2	2
Linn	1		2	3
Marshall		1		1
Mills			1	1
Mitchell			1	1
Osceola			1	1
Pottawattamie			2	2
Scott		1	2	3
Tama			1	1
Van Buren		2		2
Warren	1	2		3
Washington	1		2	3
Webster		1	1	2
Winneshiek			1	1
Woodbury	1	1		2
State Scholarships	2	2		4
Total	10	18	29	57

Table VIII gives an indication of the wide-spread participation in this scholarship program by clubs in various counties. Director Fowler states that it may not be unreasonable to foresee the time when all students attending camp will be scholarship winners.⁸³

CAMP PUBLICITY AND PROMOTION. In order to publicize the Iowa Teachers Conservation Camp, diverse methods have been employed during the past four years. The forms of publicity used to promote the camp during its initiation have already been discussed. The following section depicts the types of publicity that were utilized in the succeeding years.

(1) Brochures. To acquaint the teachers of the state with the camp program, a brochure has been prepared each year. In 1951 a pictorial story about the 1950 camp plus information about the next camp was prepared and mailed directly to each elementary and rural teacher in Iowa. Copies of this twelve page brochure, "Why Iowa Teachers Leave Home," were also sent to county and city superintendents, publishers of educational periodicals, Iowa colleges, and state and national conservation and education organizations.

In 1952 a smaller brochure was designed for the camp. Then, with the addition of the course for secondary teachers, a special bulletin entitled "Wanted: Secondary and Elementary Teachers" was also distributed. This bulletin contained principally a daily schedule of events at camp.

For 1953 an eight page brochure, "What Iowa Teachers Are Saying," presented information about the camp. (Copies of each of these brochures may be seen in Appendix C.)

(2) Newspapers and magazines. News articles and stories concerning the Iowa Teachers Conservation Camp continued to be released each year through the Conservation Commission, the Public Relations Office of the Iowa State Teachers College, and the State Department of Public Instruction. These articles appeared in Iowa newspapers and in Iowa journals, such as *Midland Schools*, *Educational Bulletin*, *Iowa Conservationist*, and *The Alumnus*. In 1953 articles also appeared in additional journals with a wider circulation, i.e. *The American Biology Teacher*, *Iowa Soil and Water*, and *Soil Conservation*, the official publication of the Soil Conservation Service.⁸⁴ Each summer the *Des Moines Sunday Register* featured a story or pictorial report about the camp.⁸⁵

Through the news stories and the magazine articles, the public as well as the teachers became informed about ITCC.

(3) Audio visual materials. During the first year of the camp, the staff took approximately 500 slides illustrating camp activities, and each year additional slides have been taken. Sets of these kodachrome slides depicting all phases of camp life are available for use through I.S.T.C. and the Conservation Commission. Former campers and staff members frequently show these slides at county teachers' meetings, PTA meetings, and at various clubs.

Mr. Herbert Hake, Director of Radio and Television at Iowa State Teachers College, has made two movies of the camp activities. The first, "*Adventures in Conservation*," is a nineteen minute TV film that was produced in 1951. It has been presented over station WOI-TV, Ames, Iowa. The second is a color movie, "*The Iowa Teachers Conservation Camp*," filmed in 1953. Both of these films are available on a loan basis from the Radio Office, I.S.T.C.

The State Conservation Commission also prepared a TV film during the third session of the camp in 1953. This film, "*The Conservation Camp*," is available through the Conservation Commission.

In 1953 Fred Sederholdm of radio station WSUI, Iowa City, visited the camp and prepared tape recordings of conservation programs. These programs were broadcast over WSUI in the spring of 1954.

⁸³*Ibid.*, pp. 2-6

⁸⁴For exact titles of these articles see the periodicals listed in the Bibliography.

⁸⁵See Newspapers in the Bibliography.

(4) Visitation and talks. The camp director and other members of the staff have appeared on numerous programs presenting talks about ITCC. Former campers themselves have presented programs about camp to various local and county organizations, too. These clubs and organizations have included county and district teachers' meetings, tri-county institutes, county councils, schoolmasters' clubs, PTA meetings, women's clubs, Audubon clubs, the Iowa Academy of Science, and the I.S.T.C. Science Conference.

When members of the camp staff from Iowa State Teachers College have traveled throughout the state on Extension Service, they have had many opportunities to talk with individuals or groups about the Springbrook camp. Similarly, George Worley has presented the camp program as he has met with conservation groups throughout the state.

(5) Iowa State Education Association convention. For the past four years during the ISEA convention in Des Moines in November, a reunion breakfast has been held for ITCC campers. At this time the campers have been encouraged to bring prospective camper friends as breakfast guests. In this way additional teachers have received an insight into camp activities and plans.

As Chairman of the Elementary Science Teachers Section meeting at the ISEA Convention in 1951, the author arranged for a panel of the conservation camp staff and resource leaders to speak to Iowa's elementary teachers. During both succeeding years, members of the camp staff have reappeared on the program.

During 1952 and 1953 an ITCC booth was prepared in the Exhibit Building at the ISEA Convention. In this way several thousand teachers received brochures and information about the camp. One of the features of the exhibit was an automatic slide projector which continuously showed slides of camp activities. The camp staff and former campers were on hand at the booth to answer questions of interested teachers.

(6) Visitors' days at camp. Each year during the camp specific groups have been invited to attend the camp for a day or more. During 1952 four "School Administrators' Days" were included in the program and special invitations were sent to County Superintendents to visit camp. The County Superintendents have been consistently invited each year, but relatively few have taken advantage of the opportunity to learn more about the camp.

Conservation classes from Drake University in Des Moines, a class from Southwestern Missouri State Teachers College, and two classes from an I.S.T.C. Branch Summer School at Denison, Iowa have visited the camp. The inter-institutional meeting of biologists was held at Springbrook in 1951. Representatives from the sponsoring agencies, from conservation groups, and many other individuals have learned about the camp through visitation. This first-hand observation is the best way for others to actually develop an understanding of the camp program. In 1952 there were 188 visitors, not including the friends and relatives of the campers.⁸⁶

(7) ITCC certificate. During the first year of the Iowa Teachers Conservation Camp, the idea developed of awarding a certificate of some type to teachers who completed the conservation course. Campers prepared a rough sketch of the proposed certificate, and an artist in the Conservation Commission perfected the design. The completed certificates were presented to the 1950 and 1951 campers at the reunion breakfast in Des Moines during the 1951 ISEA convention. Since that time, the certificates have been awarded at the close of each camp session. (A copy of the certificate appears in Appendix C.)

(8) ITCC turtle pins. The use of the turtle as the mascot of ITCC was an unplanned development. The publicity brochure for the first year of the camp happened to portray an animated turtle. The design was a popular one, so the

⁸⁶Emery L. Will, "Report of the 1952 Iowa Teachers Conservation Camp." (Duplicated).

turtle was repeated in the publicity for 1951. At the beginning of the second year of the camp, a large ITCC sign was made in the shape of a turtle and was placed at the entrance to the group camp in Springbrook Park.

During the fall meeting of the Iowa Teachers Conservation Camp Committee in 1951, the popularity of the turtle emblem was mentioned. Consideration was given to the use of the turtle as a letterhead and for a decorative pin.⁸⁷ At the reunion breakfast during the ISEA Convention in November, George Worley presented samples of ITCC turtle pins to the campers. They enthusiastically approved the adoption of the turtle pin for the camp.

The State Conservation Commission paid the cost of the dies, and the pins were made available to campers at cost, which amounted to \$3.66. Shaped like an erect turtle, the pins are similar to the turtle sign at the entrance to the camp. The attractive pins are approximately one-half inch in length and are decorated with white, green, and black enamel on the basic gold metal.

As the campers throughout the state proudly wear their pins, the letters ITCC printed on the turtle help to advertise the Camp.

FOLLOW-UP OF CAMPERS. Both Iowa State Teachers College and the Conservation Commission have made a point of keeping in contact with the teachers who have attended camp. Several form letters to the campers have been sent each year by the camp director and by George Worley. These letters are filled with news about plans for future camps and indicate a sincere interest by the staff in the work of the campers. (See examples of this type of letter from Director Will and George Worley in Appendix B.)

In addition to these letters, a general news bulletin called "The Voice of the Turtle" is prepared by George Worley and distributed to campers. This mimeographed bulletin contains news of former campers, accounts of conservation teaching, plans for future camp sessions, camp humor, and pertinent conservation information. To date, June, 1954, there have been five issues of "The Voice of the Turtle."

Reference has already been made to the reunion breakfast which is held each year in Des Moines during the convention of the Iowa State Education Association. The breakfast is a time of renewing acquaintances, general visiting, and a sharing of the conservation activities of the campers. The reunion breakfast is a highlight of the convention for many of the campers. At the last (1953) breakfast 110 campers and staff participated.

During the I.S.T.C. Science Conference and at the Elementary and Junior High School Education Conference at Cedar Falls, coffee hours have been popular with former ITCC campers. These informal meetings have made it possible for the campers and staff to visit together and share conservation ideas.

The Iowa Teachers Conservation Camp has been fortunate in having several members of its staff in Extension Service each year. This enables them to visit the schools of many of the campers and to keep in contact with their conservation teaching. During 1953-54 three members of the permanent camp staff were in Extension Service during the school year. They were not sent by the Extension Service specifically to schools where campers were teaching, but because the ITCC campers are scattered so widely over the state, the instructors did visit many areas where the campers are located.

Thus, through letters to former campers, "The Voice of the Turtle" (news bulletin), the reunion breakfast during the ISEA Convention, coffee hours at conferences, and visits from the staff while they are members of the Extension Service, contact is maintained between the ITCC staff and the campers.

CONSERVATION CAMP COMMITTEE. The Iowa Teachers Conservation

⁸⁷Emery Will, "Report of the Planning Committee for the Iowa Teachers Conservation Camp," October 13, 1951. (Duplicated).

Camp Committee, which was appointed in 1949 by the State Superintendent of Public Instruction to assist in inaugurating the camp, has continued to function as a planning unit for the camp. An annual meeting of the committee is held at the State House each fall. At that time the past summer's camp is evaluated and improvements and suggestions for the next year's camp are considered.

The personnel representing the numerous organizations interested in conservation has changed through the years, but the interest of the committee has remained constant. In addition to the initial camp committee, recorded on page 26, the following persons have served or are serving on the committee:

Walter Loehwing, Dean of the Graduate College, State University of Iowa; C. H. Konarska, County Superintendent of Schools, Guthrie County; William Collins, Secretary, Federated Garden Clubs of Iowa; Arthur Carpenter, Assistant Superintendent, State Department of Public Instruction; Robert Thorne, Department of Botany, State University of Iowa; Othie R. McMurry, Secretary, State Soil Conservation Committee; Mrs. F. I. Moats, President, Federated Garden Clubs of Iowa; R. Glenn Raines, Secretary, State Horticulture Society; Frank Mendell, State Conservationist, United States Soil Conservation Service; Gladys Horgen, Supervisor of Elementary Education, State Department of Public Instruction; Mrs. Ray E. Sterrett, President, State Federation of Garden Clubs.

Thus, many conservation-minded persons in Iowa have worked with the State Conservation Commission, the Iowa State Teachers College, and the State Department of Public Instruction in order to establish and maintain the Iowa Teachers Conservation Camp. Now, as a result of the efforts of these interested persons, teachers not only can receive first-hand information concerning conservation of natural resources but also can learn the most effective ways of using this information in the classroom.

CHAPTER IV

THE PROGRAM OF IOWA TEACHERS CONSERVATION CAMP

The conservation camp program at Springbrook State Park has already been discussed to some extent in Chapter II, "The Philosophy of Iowa Teachers Conservation Camp." The philosophy and the camp program are closely interwoven, for it is the philosophy which determines to a large degree what the characteristics of the program shall be. Likewise, the program of the camp helps to determine the conservation philosophy of the campers. The fundamental concepts underlying the camp program were pointed out to be as follows: (1) a person does not become interested in conserving something until he has an acquaintance and understanding of it; (2) an awareness of the interdependence and the interrelationships in nature is essential for understanding wise resource management; (3) "learning by doing" is a good educational procedure; and (4) teachers need to know how to teach conservation. Chapter II indicated the ways in which the camp program relates to each of these basic points of philosophy.

I. INITIAL CAMP PROGRAM (1950)

GENERAL OBJECTIVES. When the initial plans for the camp were being formulated, the staff as a group determined the general objectives of the camp as follows:

1. To observe soils, plants and animals in their natural or unnatural state as the case may be (in either case where they are now living.)
2. To become familiar enough with specific soils, plants and animals to understand the principles of wise use management.



Figure 8. Chief George Worley and the author use a dredge to take bottom-samples from a farm pond. Contents of the dredge will indicate types of small animals that live in the mud in the pond.

3. To teach basic principles of conservation.
4. To teach in such a manner as to give teachers confidence to teach children out of doors.
5. To teach teachers how to conduct field trips which might be used near their own school.
6. To offer an opportunity for teachers to observe a variety of teaching aids—including pictures and other visual aids—and to prepare such aids in the form of simple equipment and collections as time permits.
7. To have before the teacher constantly a wide variety of supplementary literature suitable for her own reference and also such materials as might be used by children.¹

In order to arrive at the general objectives, the staff proposed the following ways to accomplish their purposes:

- I. To teach basic and fundamental principles of conservation—Local (state) & National.
 - A. In the main, through field experience.
 - B. Through lecture and discussion sessions with specialists.
 - C. Through audio-visual aids.
 - D. Through participation in field and laboratory projects.
- II. To help build confidence in the teacher to teach conservation both in and out-of-doors through:
 - A. Informing teachers as to where they can secure help in teaching conservation.
 1. By example through use of college and state soil and wildlife conservation specialists.
 2. Issuing of bibliographies and film lists.
 3. Displaying professional conservation books.
 4. Using varied audio-visual conservation aids.
 5. Displaying elementary school books and texts.
 6. Securing and issuing bulletins from various conservation agencies and industrial concerns.

¹“General Objectives,” ITCC files. (Duplicated).

- B. Teaching teachers how to teach conservation.
1. Demonstrating and affording actual participation in preparing usable projects and experiments.
 2. Preparing and issuing instruction sheets for conducting projects and experiments.
 3. Giving aid in curriculum building.
- C. Teaching and encouraging teachers to teach conservation out-of-doors.
1. Teaching them animate and inanimate forms they will contact out-of-doors. (Adding to their knowledge and appreciation of the out-of-doors.)
 2. Teaching them how to conduct field trips. (By example and instruction.)²



Figure 9. Geologist C. S. Gwynne points out to campers that common-place objects, such as a rock wall or cut rocks in buildings, can be utilized in rock study.

The specific methods used to accomplish these objectives have already been discussed in Chapter II.

GENERAL WEEKLY PROGRAM. In 1950 during the three weeks of each camp session, three main areas of conservation were studied: soil, water, and forests. Since wildlife habitat depends upon these three resources, the conservation of wildlife was correlated with the study of soil, water and forests. These areas were not treated as isolated subjects, but rather, the interrelationships existing among the resources were stressed. (Refer to page 13.)

To begin the study of soils a geologist from Iowa State College was brought to camp to teach identification of rocks and to explain their importance as parent material for Iowa soil. (See Figure 9.) H. S. Fowler commented in the following manner about the introduction to the conservation course:

Many students are surprised that our course in conservation should have its beginning in a study of rocks. This surprise vanishes when they realize that soils largely are composed of decomposed rock. To understand soils one must first know something about rocks. Some time also is spent in a study of glaciation as much of Iowa's soil was brought in by glaciers many years ago.³

²"Arriving at the Objectives," ITCC files. (Duplicated).

³H. Seymour Fowler, "The Iowa Teachers Conservation Camp," *Soil Conservation*, 19:155, February, 1954.

The first week of camp was devoted to the study of the origin of soils, classification of soil, soil properties, soil associations, and plans for soil management. Many field trips under the direction of resource specialists were a part of this work, for the basic philosophy at ITCC is seeing and doing rather than reading and listening. (See Chapter II, pp. 16 and 17, for an explanation of the way field trips are used in the study of soils.)

During the second week, the source, use, and proper management of water were observed and discussed, as well as various aquatic habitats with their numerous forms of plant and animal life. Students waded in marshes, lakes, and streams to learn which animals and plants inhabited the area and what their relationships were to their environment. Flood control was stressed through a trip to the Little Sioux Flood Control Project in western Iowa, where the Soil Conservation Service and cooperating agencies utilize grassed areas, drop spillways, and storage basins to control erosion and floods.

During the third week, the study included kinds of trees in Iowa, their location, importance, and use. Although the timber resource of Iowa does not compare in importance with the soil resources of the state, the management of state forests and small woodlots on farms was considered. Students became familiar with the ecology of the forest through observation of forest associations, plant succession, and wildlife of forest areas and edges.

Teachers learned about these resources through actual experiences. They spent several hours each day in the field with resource specialists from various organizations and institutions. For example, forest resources were discussed by specialists from the Forestry Extension Service of Iowa State College and the farm foresters from the State Conservation Commission. The field study of soils was conducted by soil scientists from the U. S. Soil Conservation Service and agronomists from Iowa State College. When water conservation was the topic of study, fisheries biologists and conservation officers from the State Conservation Commission and biologists from Iowa State Teachers College guided that particular phase of conservation. The resident staff usually confined their instruction to laboratory work, nature study, and general assistance of the resource specialists and students.

DAILY SCHEDULE. From the time the campers were awakened in the morning by bird calls and frog croaks (recordings over the public address system) until the time they retired with the actual chorus of whip-poor-wills, their day was filled with many, many activities. The morning was devoted to field study; the afternoon to practical means of using the information that was secured during the morning; and the evening to previews of the next day's work, movies, special programs, or individual study.

A typical daily schedule, as recorded by Director Mouser, follows:

5:15 A. M.—On Monday, Wednesday, Friday, students were called for a bird hike.

6:30 A. M.—Arising hour other than on days of bird hikes. Public address equipment augmented by bird, frog and musical records served as the arising signal. The address equipment was employed at a minimum but was used as seemed advisable to keep activities running smoothly.

7:00 A. M.—Breakfast was served with one hour being set aside for eating, announcements and preparing for the morning field trip.

8:00 A. M.—The field trip of the morning began. In some instances, the campers walked but in a majority of cases they were transported by cars to their destination.

Upon arriving at the appointed place in the field, a field specialist immediately took over and proceeded to explain in non-technical terms basic understandings and associated facts required to understand the conservation of the resource

at hand. Such sessions were entirely informal and many interesting discussions resulted.

11:30 A. M.—The respective groups returned to camp. The next thirty

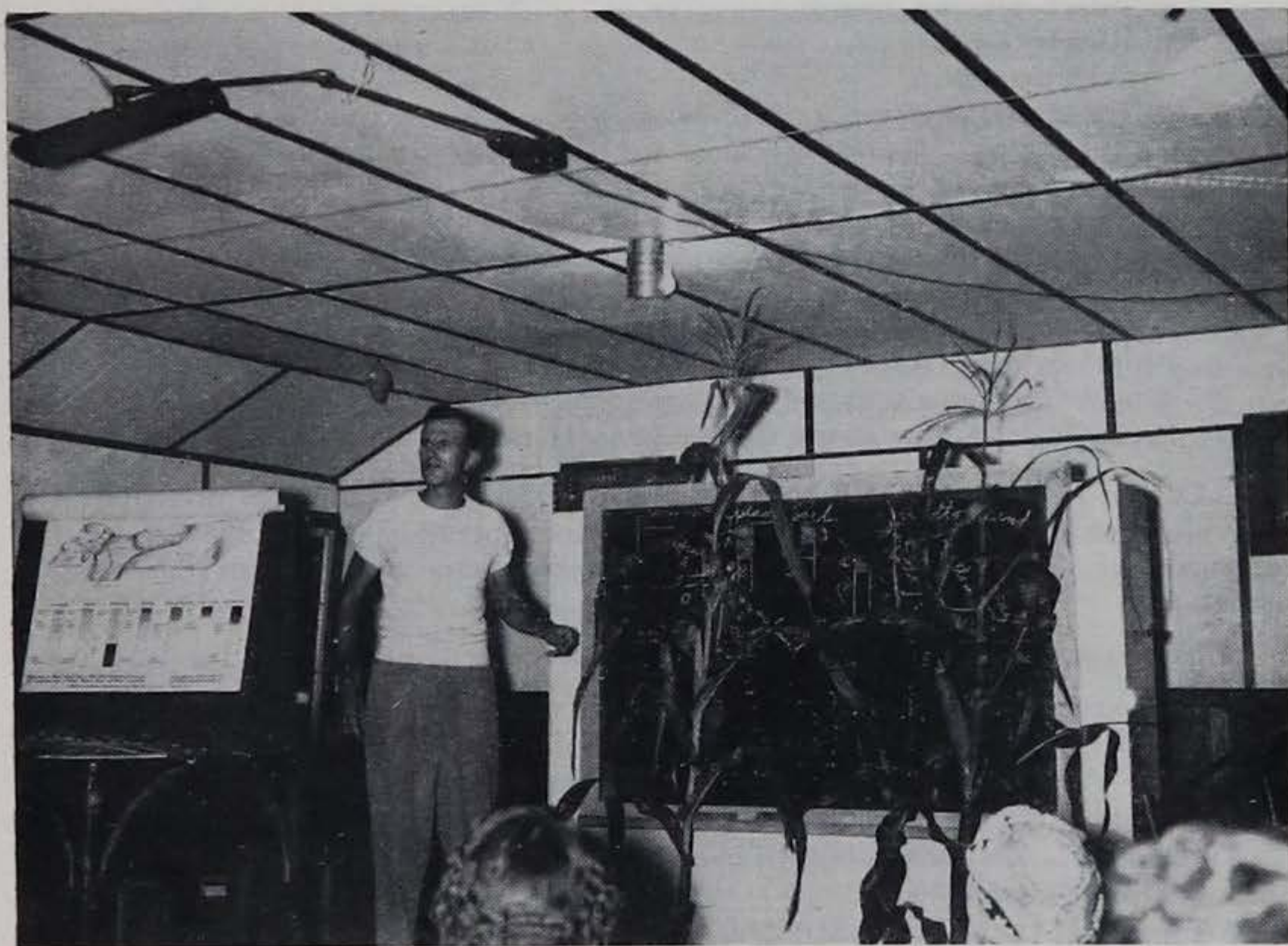


Fig. 10. Preceding the field trip for observing signs of nutrient deficiency in plants, Chief Joe Stritzel brings two corn plants to the lecture room to show the campers the deficiency symptoms.

minutes were consumed by reading mail, and preparing for the noon lunch (a dinner).

12:00—Lunch, general announcements, followed by a rest period.

1:30 P. M.—Campers met with the specialist of the day for a summary and question session relative to materials covered in the morning session.

2:00 P. M.—Students met with a curriculum member of permanent staff. In these sessions simple and inexpensive lab and field equipment was constructed, science texts and reference books were examined and teaching aids of a practical nature were offered to help the teacher in fitting her camp training into the curriculum.

4:00—5:00 P. M.—Free Time

5:30 P. M.—Dinner

8:00 P. M.—Each evening before the introduction of a given subject area, a preview session was held to brief the camper on what would be observed in the field the following day. The preview instruction was effected by means of lecture, visual aids and/or discussion methods.⁴

The schedule indicates that two hours each afternoon were spent with a curriculum member of the permanent staff. Director Mouser listed the following activities that were experienced by the campers:

⁴G. W. Mouser, "A Report of the First Iowa Teachers Conservation Camp, June 4 to July 15, 1950," pp. 6-7. (Duplicated).

1. Insect collection
2. Leaf collection
3. Rock collection
4. Making of
 - a. Insect pinning boards
 - b. Killing jars
 - c. Leaf presses
 - d. Insect nets
 - e. Electric bird charts
 - f. Insect mounts
 - g. Terraria
5. Leaf prints—blue print, ink print, spatter print
6. Reports as children would give
7. Preparing charts, diagrams, pictures to illustrate conservation principles
8. Book lists and reviews
9. Assembling bulletin board displays
10. Explanation of how to use Conservation Handbook for elementary teachers.⁵

DAY BY DAY OUTLINE OF MAJOR EVENTS. In the report prepared at the close of the first ITCC camp, Dr. Mouser presented the following brief summary of major events and visiting specialists who assisted with the camp program:

WEEK ONE—SOILS

Sunday evening—Glacial Evidences—Present and Past (Kodachrome illustrated lecture); Dr. Gwynne.

Monday—A Study of Local Rocks and Topography (Laboratory and field examination of rocks). Geology of Iowa (Kodachrome pictures); Dr. Gwynne.

Tuesday—Factors Determining Physiography of an area Field study of glacial deposits: Dr. Gwynne.

Wednesday—A Study of Soil Make-up. Gross examination of typical soils and soil constituents: Mr. Anderson, Mr. Barnes.

Thursday—A Study of Soil Associations (A trip to three specific soil associations in Guthrie and adjoining counties): Mr. Anderson, Mr. Barnes.

Friday—Local Soil Management Problems (A morning on a Guthrie County farm being farmed according to SCS plan): Mr. Bishop, Mr. Huntley.

Seminar—Soils and the People of the World: Prof. Aitchison.

Saturday Morning—Seminar—Summary of Week's Work: Staff

Saturday Afternoon: Free time.

Sunday until 7:30 P. M.—Free time—This weekend recess pattern followed throughout the 6 week session.

VISITING SPECIALISTS

C. S. Gwynne
Professor of Geology
Iowa State College
Ames, Iowa

M. A. Anderson
Extension Agronomist
Iowa State College
Ames, Iowa

Byron Barnes
State Soil Scientist
Soil Conservation Service

J. E. Bishop
County Extension Director

M. B. Huntley
Work Unit Conservationist

Professor Alison Aitchison
Iowa State Teachers College
Cedar Falls, Iowa

⁵*Ibid.*, p. 7.

WEEK TWO—WATER

Sunday evening—The Water Cycle (An illustrated lecture): Mr. Worley.

Monday—Resources in the Marsh (A trip to the marsh): Mr. Severson, Dr. Bardach.

Local Water Supplies and Demand (Discussion session): Mr. King.

Tuesday—OPEN—July 4—An optional field trip (second session): Dr. Bardach.

Wednesday—Resources in our Streams and Lakes (Illustrated lecture; Field study at the park lake): Mr. Rose, Dr. Bardach, Mr. Cleary, Mr. Harrison.

Thursday—A Day With Your Conservation Officers in Stream Interpretation: Mr. Newel.

Iowa Traveling Wildlife Exhibit on the Grounds: Mr. Tucker, Mr. Huff, Mr. Holmes, Mr. Wilson, Mr. McMahan.

Friday—All day field trip in study of some of the commercial aspects connected with water management; included observation and study of SCS project of Little Sioux River near Ida Grove, Iowa: SCS Representatives, Mr. Schwab, Mr. Griessel.

Saturday—Summary of Week's Work: Staff.

VISITING SPECIALISTS

B. I. Severson	Warren Wilson
Area Game Manager	Conservation Officer
Kenneth King	A. E. McMahan
Assistant State Conservationist	Conservation Officer
Soil Conservation Service	Gene Newel
Earl T. Rose	Conservation Officer
Fisheries Biologist	Harry Harrison
State Conservation Commission	Fisheries Biologist
Bob Cleary	State Conservation Commission
Fisheries Biologist	John Bardach
State Conservation Commission	Iowa State Teachers College
Ralph Nelson	Cedar Falls, Iowa
Fisheries Section	E. O. Schwab
State Conservation Commission	Civil Engineer
Frank Tucker	Soil Conservation Service
Conservation Officer	C. E. Griessel
Lloyd Huff	Civil Engineer
Conservation Officer	Soil Conservation Service
Verl Holmes	
Conservation Officer	

WEEK THREE—FORESTRY

Sunday evening—Panel discussion "State Agencies Interested and Ready to Help the Teacher": Mr. Clapp, Mr. Hidelbaugh, Mr. King, Mr. Mendell, Mr. Pritchard, Mr. Worley.

Monday—All day field trip: Mr. Campbell.

Visit to Evergreen and Deciduous Areas: Mr. Gardner.

Tuesday—Seminar—Illustrated Kodachrome pictures of Iowa Woodlots: Mr. Campbell.

Woodland Management—Field and Discussion: Mr. Gardner.

Utilization and Sustaining Programs—Discussion Group.

Wednesday—A Field Investigation and discussion of a Forest Community: Dr. Aikman, Dr. Grant.

Thursday—Forestry—Our Nation's Problem—Discussion and motion pictures: Mr. Isola.

Friday—Forestry—Our State's Problem: Mr. Allen.
 Field and Discussion, Fire fighting demonstrations and other management techniques demonstration: Mr. Ellerhoff, Mr. Drexler.
 Saturday—Seminar—Cumulative Summary: Staff.

VISITING SPECIALISTS

L. E. Clapp Extension Soil Conservationist Iowa State College Ames, Iowa	Martin Grant Biology Department Iowa State Teachers College Cedar Falls, Iowa
Clarence Hidelbaugh Guthrie County Representative Local Soil Conservation Service	G. L. Zeimer Director of Iowa Natural Resources Council
Frank Mendell Head of State Soil Conservation Service	E. T. Gardner Extension Forester Iowa State College Ames, Iowa
Wayne Pritchard Chairman of the Iowa State Soil Conservation Committee	R. B. Campbell Extension Forester Iowa State College Ames, Iowa ⁶
V. C. Isola Chief, Information and Education Division United States Forest Service	John Aikman Botany Department Iowa State College Ames, Iowa
Robert Drexler Farm Forester	
M. A. Ellerhoff Superintendent of Forestry	
A. D. Allen Farm Forester	

DAY BY DAY OUTLINE OF CONTENT AND ACTIVITIES. In order to present a more complete picture of the camp program, another outline of content and activities is included here. Prior to the 1950 camp session, the staff prepared this outline as a tentative program. In certain instances where the author was aware that changes were made in the program when it was introduced at camp, those changes were incorporated in the program.

1950 PROGRAM

WEEK ONE—SOILS

Sunday afternoon—June 4, June 25—Birds and wildflowers of the area 3-5 P. M.

Sunday evening—Kodachrome of glaciers: (Dr. Gwynne).

1. Location
2. Types

Other visual materials

Monday morning—June 5, June 26—Early morning bird hike; Study of rocks—Hike around Springbrook Lake: (Dr. Gwynne).

1. What can be seen in the field; What types can be found; How did they get where they are; What was their source; What is their relation to the bed rock.

2. What can be shown about fossils in Iowa

Monday afternoon—Geologist—summary of field work: Gwynne—rock and mineral identification and collection

⁶*Ibid.*, pp. 8-10.

Monday evening—Pictures of geological significance (Dr. Gwynne)

Tuesday morning—June 6, June 27—Field study of glacial evidence (Dr. Gwynne)

1. Glacial moraines
2. Glacial till
3. Outwash plains
4. Other evidences of glaciation

Field study of non-glacial landscape features

1. Sandstone ledges
2. Oxbow
3. Coal mine dump

Tuesday afternoon—Geologist—rock and mineral identification and summary
Sauer or Green—make maps, charts, etc.

Miller and Mouser—teaching collections

Tuesday evening—Illustrated discussion

1. Some important factors which contribute to soil differences: Parent material—glacial drift—loess—residual materials: (Byron Barnes), (M. A. Anderson).

Vegetation—grass, trees

2. Examples of soil association areas in Iowa; Shelby—Sharpsburg—Winterset—Clarion—Webster—Marshall

Wednesday morning—June 7, June 28—Morning bird hike; Field trip to observe soil differences: (Byron Barnes).

1. Position (upland, bottom land): (M. A. Anderson).
2. Origin of soils
 - a. Glacial drift
 - b. Loess
3. Depth, color, texture and structure of
 - a. Surface soil
 - b. Subsoil
 - c. Parent material

4. Observe and list problems encountered in above soils

Wednesday afternoon—Demonstration of teaching aids in soils; Sauer or Green—activities, literature; Miller and Mouser—equipment for collecting insects

Wednesday evening—Illustrated discussion on soil management: (Byron Barnes), (M. A. Anderson).

Thursday morning—June 8, June 29—Field trip to observe different soil association areas (Guthrie and Carroll counties): (Byron Barnes), (M. A. Anderson).

1. Clarion—Webster
2. Marshall
3. Shelby—Sharpsburg—Winterset

Thursday afternoon—Specialists—summary of field trip; Sauer or Green—activities and literature; Miller and Mouser—construction of plant presses

Thursday evening—Kodachromes of soil management techniques: (J. E. Bishop), (M. B. Huntley).

Friday morning—June 9, June 30—Morning bird hike—Field trip to farm with conservation plan in operation: (J. E. Bishop), (M. B. Huntley).

1. Soil inventory; Soil series, slope, erosion, land use capabilities
2. Soil management program; Crop rotation, lime, fertilizer, erosion control practices, (contouring, terracing, grassed waterways) crop residues and manure, drainage

3. Adjustments in farm operation, Livestock program, roughage utilization

Friday afternoon—Soil specialists—summary of field work; Sauer or Green—classroom activities

Friday evening—Soils and peoples of the world: (Alison Aitchison).

Saturday morning—June 10, July 1—Summary of soil work: Staff
 Saturday afternoon—Free time

WEEK TWO—WATER

Sunday morning—June 11, July 2—Breakfast cook out

Sunday afternoon—Saunter hikes—birds, wildflowers, weeds

Sunday evening—Water cycle: (George Worley).

Monday morning—June 12, July 3—Morning bird hike; Trip to an Iowa marsh: (Lakin Slough), (B. I. Severson), (John Bardach).

1. Plant and animal life in marsh
2. Bird nests in marsh
3. Plant succession
4. Marsh management

Monday afternoon—Kodachromes of marsh life: (B. I. Severson). Sauer or Green—classroom displays; Miller and Mouser—start tree study.

Monday evening—Water resources of Iowa: (Kenneth King).

Tuesday—June 13, July 4—Consideration of wildlife management problems associated with good farming practices. (Because of July 4, this date was left open during the second session, but the group who remained at camp observed aquatic life in Spring Brook, Mosquito Creek, and the Raccoon River.)

Tuesday evening—Effects of a freshwater lake on adjacent community

1. Recreation (John Bardach)
2. Flood control (Earl Rose)
3. Water storage
4. Wildlife populations

Effects of variable factors on lake and stream biology

1. Age
2. Watershed
 - a. Soil in watershed
 - b. Vegetative cover
3. Depth
4. Siltation
5. Etc.

Wednesday morning—June 14, July 5—Morning bird hike; Field trip to Springbrook Lake

1. Animal populations in a freshwater lake; Identification and significance
2. Plant populations in a freshwater lake; Ecology of a freshwater lake

John Bardach, Earl Rose, Bob Cleary.

Wednesday afternoon—Specialists—summary of field study Sauer or Green—activities and/or literature Miller and Mouser—trees continued

Wednesday evening—Conservation Officers' experiences

Thursday morning—June 15, July 6, water balances associated with our freshwater streams and lakes

1. Stream study in terms of
 - a. Legal and illegal practices in fishing and trapping
 - b. Signs of animal activity
2. Trip to watershed control structure for Springbrook Lake: (Mr. Nowel), (Mr. Tucker), (Mr. Holmes), (Mr. Huff), (Mr. Wilson), (Mr. McMahon).

Thursday afternoon—Sauer or Green—projects

Thursday evening—Conservation Wildlife Truck Exhibit

Friday—June 16, July 7—All day trip—Blackhawk Lake and Little Sioux Flood Control; Consideration of state wide problems

1. Food from our waters (Mr. Schwab)
 Study fish problems (Mr. Griessel)
2. Power from our waters
3. Flood control

4. Transportation

5. Recreational resources

Friday evening—Free

Saturday morning—June 17, July 8—Summary of week's work—staff

Saturday afternoon—Free time

WEEK THREE—FORESTS

Sunday morning—June 18, July 9—Breakfast cook out

Sunday afternoon—Saunter hikes—birds, wildflowers, weeds

Sunday evening—Panel discussion—State Agencies Interested and Ready to

Help the Teachers

Mr. L. E. Clapp

Extension Soil Conservationist

Iowa State College

Mr. Clarence Hidelbaugh

Guthrie County Representative

Local Soil Conservation Program

Mr. Frank Mendell

Head of State Soil Conservation Service

Mr. Wayne Pritchard

Chairman of the Iowa State Soil

Conservation Commission

Mr. G. L. Zeimer

Director of Iowa Resource Council

Monday morning—June 19, July 10—All day field trip—Stevens State Forest; Study of varied forest communities; Consideration of varied members of the community; Visit conifer and hardwood plantations; Visit enroute, or in State Forest Area, native bottomland and upland timber stands.

Tuesday morning—June 20, July 11—Early morning bird hike; Classroom lecture, discussion, and demonstrations.

1. Woodland management (R. B. Campbell), (W. A. Gardner)

a. Protection—grazing, fire, insects, disease.

b. Harvesting—cutting methods, sustained yields.

c. Production—logging, milling, products, lumber, posts, fuelwood, specialty products.

2. Utilization

a. On the farm

b. By commercial markets

3. Planting—erosion control and timber production, windbreaks, and wildlife management

Tuesday afternoon—Specialists—summary—Sauer or Green—activities and/or literature

Tuesday evening—Plant communities and succession (Martin Grant)

Movie—*Every Man's Empire* (John Aikman)

Wednesday morning—June 21, July 12—Investigation of associated communities in the forest

1. Plant associations of the area; Successions leading to a climax stand

2. Animal populations of the area

3. Wildlife management through an understanding of the associations

Wednesday afternoon—Slides and film strips; Sauer or Green—projects; Miller and Mouser—leaf prints

Wednesday evening—Movies—*The Living Forest and Trees to Tame The Wind*

Thursday morning—June 22, July 13—Early morning bird hike; The national problem

1. Present resources (national) (V. C. Isola)

2. Selective cutting (M. A. Ellerhoff)

3. Sustained yield

4. Political pressures

5. Monopolies

State problems (special)

Thursday afternoon—Specialists—summary—Sauer or Green—activities and/or literature

Thursday evening—Open

Friday morning—June 23, July 14—Forest use and management problems continued

1. Forest areas of Iowa (A. D. Allen)
Wood uses in Iowa (M. A. Ellerhoff)
Recreational uses (Bob Drexler)
2. Cutting practices
Selecting
Sustained yield theory
3. Reforestation problem
4. Fire fighting demonstration

Friday afternoon—Specialists—summary—Campers complete their projects

Friday evening—Movie—*Yours Is The Land*

Saturday morning—June 24, July 15—Final summary

This program is tentative and by no means definite or detailed.⁷

Additional information about the 1950 camp program may be secured from the brochure "Why Iowa Teachers Leave Home." (See Appendix C.)

INITIAL EVALUATION. At the close of the first year of the Iowa Teachers Conservation Camp, the campers were enthusiastic about the conservation training that they had received. In November of that year (1950) an evaluation sheet was distributed to the former campers. There was unanimous agreement among the 42 per cent who responded to the questionnaire that (1) use was being made of the summer's training; (2) more field work was being carried on than previously; and (3) it was easier to present conservation materials.

After participating in the 1950 camp program, one of the campers, Alice Jorgensen, made the following comments in a letter to the editor of her hometown newspaper:

I am so grateful for the opportunity to have been a pioneer in the very first Iowa Teachers Conservation Camp. . . . After a study of conservation in the raw, one comes to realize the importance and relation all the different plants, animals, water, and trees have to one another. It instills in one an added desire to do his utmost in helping conserve them and teaching others to do the same. . . .

Although the 3 R's are still a vital part of our education the value of increasing field trips and pictures, both movies and still, along with voluminous reading from a well-stocked reading table are certainly items to remember. . . .

Too much praise cannot be given to the efficient staff who launched the first ITCC. . . .⁸

II. CHANGES IN THE CAMP PROGRAM

PROGRAM FOR 1951. The same conservation course, Biology 105: Local Problems in Conservation, was offered in 1951, but several changes were made in the program to improve the instruction. The following outline, however, indicates that relatively few changes were made in the major daily activities:

WEEK ONE—SOIL

Monday—Trip around Springbrook Park lake with Dr. Gwynne, to observe composition of rocks, rock formations, and topography.

Tuesday*—All day trip to Ledges State Park (near Boone) to continue work on geology and topography, with Dr. Gwynne.

Wednesday—Trip to points around the camp to become acquainted with soils, with Mr. Anderson and Mr. Grant.

*Indicates a change from the 1950 camp program.

⁷"1950 Program," ITCC files. (Typewritten Copy).

⁸Letter to the Editor, *The Guthrie* (Guthrie Center, Iowa), August 1, 1950.

Thursday—Trip to three nearby soil associations, with Mr. Anderson and Mr. Grant.

Friday—Trip to farm under soil conservation management, with Mr. Bishop and Mr. Huntley.

Saturday—Summary of the week's activities.

* * * * *

WEEK TWO—WATER

Monday—Trip to a slough, which is a Pitman-Robertson Project, to observe life and conditions in a marsh, with Mr. Severson.

Tuesday—Spent in camp, with a discussion of water problems.

Wednesday—Fish trapping, seining, and marking demonstrated at lake, with Mr. Rose and Dr. Bardach.

Thursday—Park area demonstration of enforcement problems, with a group of conservation officers.

Friday—All-day trip to observe a Soil Conservation Service flood control project near Ida Grove.

Saturday—Summary of the week's activities.

* * * * *

WEEK THREE—FORESTS

Monday*—In the park area to become acquainted with trees.

Tuesday—Demonstration of techniques and equipment used in woodlot management in the park area, with Mr. Ellerhoff, Mr. Drexler, Mr. Allyn.

Wednesday—Trip around the park to study forest communities, with Mr. King and Mr. Moorman.

Thursday*—All-day trip to typical hardwood and evergreen stands, with Mr. Campbell.

Friday—Wood uses and management problems, considered in camp.

Saturday—Clean and break camp.⁹

* * * * *

The outline shows the addition during the first week of an all day geological trip to the Ledges State Park. This trip with Dr. Charles Gwynne enabled the group to see more of Iowa's bed rock formations and additional topography. Fossils were collected from a hillside along the way. During the second week, there was an omission of the trip to the watershed control structure which prevents silting in Springbrook Lake. A change in sequence during the study of forests reversed the order of the field trip to Stevens State Forest and the trip within Springbrook Park. The campers first became acquainted with the trees and plant communities within the park before they traveled to southern Iowa to Stevens State Forest.

A definite change was made in the afternoon schedule for 1951. More time was allotted to the construction of teaching aids and to developing proficiency in the use of field manuals and keys. Additional activities such as judging distances, measuring slopes, laying out contours, and constructing and using cruising sticks became a part of the afternoon period. The discussion of curriculum materials was shifted from the afternoon session to the evening session, from 7:00 until 8:00 P. M. three days per week. (See Appendix C for a copy of the 1951 schedule in the brochure "Why Iowa Teachers Leave Home.")

The relation of wildlife to the various conservation areas received more emphasis than the previous year. A wildlife specialist from Iowa State College assisted with the forestry field trips within the park and pointed out the relationship of wildlife to the forest communities. During the study of water, plants and small animals from the marsh habitat and aquatic plants and fish from Springbrook Lake were transported to the laboratory for further observation and

*Indicates a change from the 1950 camp program.

⁹"Major Daily Activities, Iowa Teachers Conservation Camp—First Session 1951," ITCC files. (Duplicated).

discussion. In the afternoon session following these field trips, the campers were divided into rotating groups to discuss the plants and animals with the resource specialists.

In order to review the camp program and note the daily changes which were made in 1951, an "Outline of Procedure by Weeks" is included. This outline was prepared as pre-camp information for the visiting staff. Italics indicate parts which differed from the 1950 program. These italicized portions indicate either a change in placement, sequence, or an addition to the program.

IOWA TEACHERS 1951 CONSERVATION CAMP OUTLINE OF PROCEDURE BY WEEKS*

WEEK ONE—SOILS

General Purpose: It is our purpose to adhere to the general pattern of the program of training offered last season. We will attempt, of course, to alter the program in such instances as it would seem advisable to attempt improving our instruction.

With Dr. Gwynne:

The week in soils will be scheduled the same as last year. Dr. Gwynne will start off each three week session with a discussion of geology as it has influenced the soils of Iowa. The Sunday evening session will be the same as last year wherein Dr. Gwynne will show kodachrome slides of present day glaciers along with other appropriate pictures to introduce his topic as it is informally stated above. On Monday morning we will start the study of rocks in the field preceded by a short discussion indoors. Monday afternoon will be used for laboratory study of rock specimens. *Monday evening Miss Green will start curriculum guidance work* and Dr. Gwynne will present pictures and discussion telling of geological forces and the resultant topography and soils of the State of Iowa. Tuesday morning in the field we will observe topography and other remaining evidences of glacial and geological action. *It is our thought that this year we might improve our field instruction by traveling greater distances to observe more topography of the State (in so far as neighboring counties might permit).* We will probably make short stops at each of the sites visited last year. Tuesday afternoon we will continue work in the laboratory with rocks.

With Marvin Anderson and Byron Barnes:

Tuesday evening will be devoted to a seminar on currently acting soil forming agencies and processes. Some emphasis will be given to review of first two days sessions as pertinent topics arise.

It is planned that this session will be an informal panel with resident staff, Mr. Anderson and Mr. Barnes participating. *During this same evening a brief discussion of teacher references will be introduced.*

On Wednesday morning, the campers will go into the field to observe, handle and bottle samples of some of the varied soils of nearby associations. This session is intended to be much the same as that developed last season.

Wednesday afternoon will be used for demonstration of projects which may be carried out at school in relation to soil conservation. At this time, Mr. Anderson, Dr. Matala and Dr. Will will demonstrate methods of preparation of soil samples, field trip activities and other projects suitable for the elementary schools. During this session or possibly the evening session teachers will be instructed as to the use of the booklet *Principal Upland Soils of Iowa*.

Wednesday evening Miss Green will conduct a second session on curriculum

*Pre-camp information prepared for visiting staff. (See asterisk at beginning of quoted material).

guidance. Preview pictures will be devoted to showing scenes selected to give an understanding relative to varied Iowa soil associations.

Thursday morning, special study of three typical soil associations will necessitate travel into three counties. On this trip it will be part of the field activity to set up sample profile displays to take back to camp.

Thursday afternoon teachers will be helped in interpretation of *Principle Upland Soils of Iowa* as it applies to local county soil books. They will also be instructed in the reading of soil usage maps and available visual aids to use at school will be shown and discussed. The session will be terminated with the film "*Rain-drops and Erosion.*"

With Mr. Bishop and Mr. Huntley:

Thursday evening the session will be devoted to consideration of soil depleting agencies. It will be our plan again to present this in an informal seminar with Mr. Bishop, Mr. Huntley and resident staff participating. Pictures showing various examples of soil wasting will be shown. As a sequel to the above, pictures will be shown to stress soil usage to combat these wasting agencies. The session will be concluded with the picture "*Grass Roots in the Soil.*"

Friday morning. Teachers will visit a soil conservation farm as conducted by the S. C. S. *It is our plan this year that each teacher will have an individual map (in color) of the farm to be visited.*

Friday afternoon. Miss Green, Drs. Will and Matala will discuss curriculum literature, show films, and *demonstrate simple techniques of judging distances, measuring slopes, and laying out contours.*

With Miss Aitchison:

Friday evening. Miss Aitchison will discuss the effects of soils on the history of man.

Resident Staff:

Saturday morning. A survey of the week in the form of a seminar summary will be conducted by the resident staff.

Saturday afternoon. Materials, time, and instructions for construction of class room projects will be given to teachers: Saturday 3 P. M. until Sunday 7 P. M. week end recess.

WEEK TWO—WATER

For the greater part, activities of week two will follow the plan as used last season.

With Mr. Worley and other members of the resident staff—

Sunday evening—Mr. Worley will again start this week with a discussion and demonstration of the importance of water and facts about the hydrologic cycle.

Water table and its relation to springs, streams, marshes, ponds and lakes will be given consideration. *Plant and animal communities typical of aquatic habitat will also be included in the preview discussion.*

With B. I. Severson:

Monday morning will be spent at one of the nearby marshes. At this time Mr. Severson will point out various problems of, as well as values accruing from, wise marsh management. Students will be introduced to a water succession.

Monday afternoon, Mr. Severson will show kodachrome slides of marsh scenes. *Dr.'s Will and Matala will arrange and discuss plants and animals brought in from the marsh habitat.* Demonstration of setting up and instruction in the use of an aquarium will be a part of the afternoon program. *Field keys, manuals and children's books usable in a stream and marsh study will be presented.*

Monday evening, Miss Green will introduce curriculum aids in the study of water. Activities of agencies such as the Bureau of Reclamation, T.V.A., Army Engineers, Soil Conservation Services, U. S. Forest Service and the proposed M.V.A. will be brought into the discussion. It is entirely possible that additional topics such as water shortages and pollution problems of state and national scope will be considered this evening. If time does not permit then most certainly they will be discussed at a later date during the week.

Tuesday—A day will be devoted to consideration of many and varied uses of water. At this time if water shortages and the water table have not been discussed these topics will be considered. Other uses including power, domestic, other industrial and recreational uses will be brought out.

Tuesday afternoon—If it would seem advisable, the discussions of the morning will be continued. Picture "Clean Waters" will be shown. Water retaining structures at the head of the lake will be examined.

With Earl Rose and John Bardach:

Tuesday evening—We will conduct a preview session designed to introduce fish study techniques, differences in pond, stream and lake management problems including plant and predator problems.

Wednesday morning activities will be centered around the lake. A demonstration of fish trapping, seining, and marketing will be conducted.

Wednesday afternoon, *Dr's. Matala, Will, Bardach and Rose will arrange and demonstrate fish and plants of the lake.* Films of life at the pond will be shown. *Field keys, manuals and children's books usable in pond and lake study will be presented including information about collections—how to prepare and preserve them.*

Wednesday evening, *Miss Green will continue work with curriculum preparation.*

With the Conservation Officers:

The preview will be an evening of questions and fun with the officers. We will have stories relative to experiences in the field and will inject much information in the program. An effort will be made to bring out terms which would otherwise be unfamiliar to the teacher.

Thursday morning, the conservation officers will give a demonstration showing a variety of enforcement problems.

Thursday afternoon, *Dr.'s Will and Matala will discuss books, keys and references for teacher and children on animals and animal tracks.* They will also discuss and demonstrate methods of field surveys.

Thursday evening, the Traveling Wildlife Exhibit of the Conservation Commission at camp. *A slight change will be introduced this year in that we will have a discussion session following the informal observation of specimens.*

Friday will be an all-day field trip to observe a Soil Conservation Service flood control program such as the one near Ida Grove.

Friday evening will be devoted entirely to curriculum work with Miss Green.

Saturday morning—A survey of the week in the form of a seminar summary will be conducted by the resident staff.

Saturday afternoon—Materials, time, and instructions for construction of classroom projects will be given to teachers.

Saturday 3 P. M. until Sunday 7 P. M. week end recess.

WEEK THREE—FORESTS

We are proposing rather a radical change in sequence for the week on forests for the 1951 camp. If it can be arranged, we would like to reverse the order of the week's program and present information on measurements, methods, and forestry techniques first and then visit the larger forested area later on in the week.

With Messrs. Clapp, Hidelbaugh, King or Mendell, Pritchard and Zeimer:

Sunday Evening. The Sunday evening session will start with an evening discussion with men who in the main have administrative positions and/or considerable experience in state conservation developments. This evening's program will again be directed toward acquainting teachers as to teaching aids and/or services the respective agencies have to offer.

With the resident staff:

Monday will be spent in the camp area becoming familiar with trees, their structure, development, and associations.

Film strip, "Telling Trees Apart."

With M. A. Ellerhoff, Bob Drexler, A. D. Allyn:

Monday evening. *Miss Green will give curriculum guidance in forestry.* The preview will include a discussion of the characteristics of desirable and undesirable woodlot trees. The tools used by foresters in studying and managing a forest will be introduced and displayed.

Tuesday morning. The foresters will give a demonstration of the techniques and equipment used in woodlot study and management.

Tuesday afternoon. *The campers will make and try out homemade cruising sticks.* There will be further work on identification of trees and preparation of teaching collections.

With Bob Moorman and Kenneth King:

Tuesday evening. Mr. Moorman, King and the resident staff will discuss the forest as a community of living plants and animals. During this discussion specific attention will be given to forest management as a means of encouraging wild life.

Film: "Every Man's Empire."

Wednesday morning. Field study will emphasize types of forest communities, including plants and probably animal members. *At this time, the points relative to wildlife management through an understanding of forest communities will be presented.*

Wednesday afternoon. *Dr.'s Will and Matala will demonstrate books, films and projects usable in the study of trees and other forest life.*

With R. B. Campbell:

Wednesday evening. The preview for this evening will consist of a simple introduction to the all-day field trip to be conducted on the following day. It is planned to show the films: "The Living Forest" and "Trees to Tame the Wind."

Thursday. *On an all-day field trip, campers and staff will travel to typical hardwood and evergreen stands. Tree types, land use, and management problems in general will be pointed out. The day will be a long one, and the evening meeting will consist only of a curriculum session with Miss Green.*

Friday morning. Wood uses and management problems will be taken up in an indoor session by use of kodachrome pictures. There will be discussion of the national forest picture.

Friday afternoon. A survey of the week in the form of a seminar summary will be conducted by the resident staff.

Friday evening. This evening will be devoted to the showing of the film, "Yours is the Land," and possibly some other films or kodachromes. *Dr. Mouser will be the master of ceremonies for the camp variety show.*

Saturday morning. Break up camp. Campers will prepare luggage and personal effects ready to break up camp. Campers will be called upon to put their own cabins in order and *help clean up central buildings.* Lunch will be served but if the camper does not wish to remain, it will not be required.¹⁰

¹⁰"Iowa Teachers 1951 Conservation Camp Outline of Procedure by Weeks." 1951 (Mimeographed).

Since the preceding outline was prepared previous to the camp sessions, there were undoubtedly minor changes which occurred in the actual program that was presented.

During the 1951 camp sessions three new resource leaders assisted in the camp program:

Lothier Grant, Soil Scientist, U. S. Soil Conservation Service; Gene Hertel, Farm Forester, State Conservation Commission; Bob Moorman, Extension Wildlife Specialist, Iowa State College.

CHANGES IN 1952. During 1952 the most outstanding changes were the addition of two new courses to the camp curriculum. Conservation for Elementary Grades B was designed to enable elementary teachers to take that course for credit in addition to the first conservation course. The other new course, Iowa Conservation Problems, was planned for secondary teachers and could be taken for either undergraduate or graduate credit.

1. CONSERVATION FOR ELEMENTARY GRADES A.

In 1952 relatively few changes were made in Biology 105, the title of which was changed from Local Problems in Conservation to Conservation for Elementary Grades A. Two different field trips became a part of the camp program. In connection with the study of water conservation, a field trip was taken to a gauging station and a sewage disposal plant. During the forestry week, the long trip to Stevens State Forest was replaced by an all day trip to Ames for study of timber resources and their management. The trip included stops at a State Forest Nursery, a managed timber tract, windbreak plantings, and a saw mill. Another addition to the forestry curriculum was a demonstration of the proper method of tree planting on school grounds. The number of early morning bird hikes was reduced to two per week. Several more films were added to the curriculum in order to acquaint the teachers with additional new and promising films in the conservation field.¹¹

New resource personnel who assisted with this course during 1952 were:

Joe Stritzel, Agronomist, Iowa State College; Louie Hansen, Guthrie County Extension Agent; Robert L. Smith, Director of Iowa Natural Resources Council; Othie McMurry, Secretary, State Soil Conservation Committee; Gladys Horgen, Elementary Supervisor, State Department of Public Instruction; George Lampe, District Conservationist, U. S. Soil Conservation Service; Charles Travis, Civil Engineer, Soil Conservation Service; Kenneth Burnett, Farm Planner, Soil Conservation Service.

Director Will and the permanent camp staff planned the following daily outline of Biology 105. The outline was distributed to resource personnel and campers to keep them aware of future daily activities at camp:

IOWA TEACHERS CONSERVATION CAMP: SESSION I - 1952

Brief Daily Outline For Guidance of Visiting Staff Personnel

(This outline is *not* for publication, and should be reproduced only with permission.)

INTRODUCTION: In this session, which will be attended by elementary school teachers, emphasis will be placed upon soil, water, and forests. Some of the enrolled teachers will have had biology training, but others will have had no biology or conservation background. All will be interested in learning about our natural resources and their conservation, and will be looking for down-to-earth explanations and ideas which can be adapted for use in the elementary schools.

¹¹Personal correspondence of the Author, letter from Emery Will, August 2, 1953.

WEEK ONE—SOIL

SUNDAY, JUNE 8:

Afternoon—Registration, at the group campsite, Springbrook State Park. After getting settled, campers will make a plant press and a Riker mount at the Industrial Arts Workshop.

Evening—Orientation to the Conservation Camp. Introduction to geological influences on Iowa soils.

- a. Earth materials
- b. Processes that affect the earth's surface
- c. Discussion of glacial map of Iowa

INSTRUCTION: Staff, Dr. Charles S. Gwynne, Geology Department, Iowa State College

MONDAY, JUNE 9:

Morning—Preview discussion of rocks and minerals Field trip in the park area

a. To park bath house where the stone walls and stone fence are examined for their rock and mineral content.

b. Around Springbrook Lake for observation of rocks and features of the topography.

INSTRUCTION: Staff, Dr. Gwynne

Afternoon—Laboratory study of rock and mineral specimens, and beginning of individual camper's collections.

INSTRUCTION: Staff, Dr. Gwynne

Evening—Illustrated discussion of geological forces and the resultant topography and soils in Iowa and other regions

AUDIO-VISUAL AIDS: Kodachromes, (Dr. Gwynne)

INSTRUCTION: Dr. Gwynne

TUESDAY, JUNE 10:

Morning and Afternoon—All-day field trip to Ledges State Park near Boone.

a. Short stops on the way as follows:

1. Sandstone outcropping for observation of weathering of bedrock.
2. Roadcut for observation and study of exposed bedrock and fossils.
3. Several brief stops for pointing out features of the topography.

b. Examination of the geological features at Ledges State Park

INSTRUCTION: Dr. Gwynne

Evening—Introduction to soils.

- a. Formation
- b. Position
- c. Profile
- d. Physical differences
- e. Chemical make-up

AUDIO-VISUAL AIDS: Film: *Birth of the Soil*.

INSTRUCTION: Joe Stritzel, Extension Agronomist, Iowa State College and Lothier Grant, Soil Scientist, U. S. Soil Conservation Service.

WEDNESDAY, JUNE 11:

Morning—Field trip for observation of soil properties and differences. Stops at various gullies and roadcuts near Springbrook Park.

INSTRUCTION: Joe Stritzel, Lothier Grant

Afternoon—Continuation of soil study. Simple classroom demonstrations for soil conservation.

AUDIO-VISUAL AIDS: Filmstrips: Soil Series (EB), Our Earth Series (Jam Handy)

INSTRUCTION: Joe Stritzel, Lothier Grant

Evening—Introduction to soil associations through a study of the bulletin, "Principal Upland Soils of Iowa."

AUDIO-VISUAL AIDS: Film: Raindrops and Erosion
INSTRUCTION: Joe Stritzel, Lothier Grant

THURSDAY, JUNE 12:

Morning—Field trip to three soil associations within a 20-mile radius of Springbrook.

- a. Clarion-Webster (typical of central Iowa)
- b. Marshall (typical of southwest Iowa)
- c. Shelby-Sharpsburg-Winterset (found in much of south central Iowa)

INSTRUCTION: Joe Stritzel, Lothier Grant

Afternoon—Preparation of soil profile samples collected during the morning. Discussion of factors affecting soil and water losses. The nature and problems of soil nutrients. Initiation of individual observational studies.

AUDIO-VISUAL AIDS: Film: Grass Roots In The Soil, Keep Your Eye On The Soil

INSTRUCTION: Joe Stritzel, Lothier Grant

Evening—Illustrated discussion of local conservation problems and practices on the land.

AUDIO-VISUAL AIDS: Kodachromes

INSTRUCTION: Mark Huntley, Farm Planner, U. S. Soil Conservation Service

INSTRUCTION: John Bishop

Afternoon—Curriculum aids, films, and activities for soil conservation. Outdoor experiences.

- a. Measurement of slope
- b. Judging distance
- c. Laying out contours

AUDIO-VISUAL AIDS: Kodachrome set: *Land Classification* Film: *Golden Secret*.

INSTRUCTION: Staff.

Evening—Discussion of the effects of soils on the history of man.

INSTRUCTION: Miss Alison Aitchison.

SATURDAY, JUNE 14:

Morning—Seminar: Summary of soil week.

AUDIO-VISUAL AIDS: Film: *This Is Our Land*.

INSTRUCTION: Staff.

Note: Following the above, teachers will have free time until Sunday evening for recreation, rest and construction of teaching aids. There will be opportunities for optional field trips, additional observation of teaching aids, Sunday morning cookout and so forth. On Saturday evening, there may be some social entertainment.

SUNDAY, JUNE 15:

Evening—Beginning of study of water resources and their conservation. Discussion of the water cycle. What is it like to live in the water:

- a. How does water differ from air as a place to live?
- b. How do animals and plants become adapted to life in the water?
- c. Food requirements of aquatic animals and plants.
- d. How do animals find their food?
- e. Animal homes in aquatic situations.

AUDIO-VISUAL AIDS: Film: *The Sunfish*.

INSTRUCTION: George Worley, Superintendent of Public Relations, State Conservation Commission; Earl Rose, Lake Biologist, State Conservation Commission; Bob Cleary or Harry Harrison, Stream Biologist, State Conservation Commission; Staff.

MONDAY, JUNE 16:

Morning—Field trip to Springbrook Lake.

- a. Demonstrations of fish trapping, seining and marking.
- b. Teachers will be in two alternating groups at lake and stream where they will try seining, etc.

INSTRUCTION: Earl Rose, Bob Cleary or Harry Harrison

Afternoon—Alternating discussion groups on the materials collected during the morning field trip.

- a. Aquatic invertebrates (Arthropods, Annalids, Molluscs, Protozoa, etc.)
- b. Fish trapping techniques, research and major fish families of Iowa.
- c. Aquatic plants, typical of lakes, ponds, and marshes.

INSTRUCTION: Earl Rose, Bob Cleary or Harry Harrison

Evening—Preview of marsh trip.

AUDIO-VISUAL AIDS: Kodachromes Film: *Arteries Of Life*.

INSTRUCTION: B. I. Severson, Area Game Manager, State Conservation Commission.

TUESDAY, JUNE 17:

Morning—Field trip to a typical Iowa marsh (Lakin Slough).

- a. Observation of plant and animal life in a marsh habitat.
- b. Study of birds and bird nests in and around the marsh.
- c. An introduction to marsh management.

INSTRUCTION: B. I. Severson, State Conservation Commission

Afternoon—Further discussion of life in ponds and marshes. Curriculum development and teaching aids.

AUDIO-VISUAL AIDS: Filmstrip: *Life In Ponds, Lakes And Streams; Keeping An Aquarium*.

INSTRUCTION: Staff

Evening—Informal discussion of hunting and fishing regulations, and of personal experiences of conservation officers in their work. Conducted tour of the Taveling Wildlife Exhibit of the State Conservation Commission.

INSTRUCTION: Five Conservation Officers from the State Conservation Commission, Personnel with the Traveling Wildlife Exhibit.

WEDNESDAY, JUNE 18:

Morning—Field demonstrations, with campers in two alternating groups.

- a. Legal and illegal practices and devices in and around waterways.
- b. Signs of animal activity in the field, including tracks, signs of feeding, pellets, etc.

INSTRUCTION: Five Conservation Officers from the State Conservation Commission.

Afternoon—Curriculum applications and teaching aids.

INSTRUCTION: Miss Gladys Horgen, Supervisor, State Department of Public Instruction.

Evening—Uses of water.

- a. Power.
- b. Transportation.
- c. Recreation.
- d. Food.
- e. Domestic.
- f. Biological balances.

Water conservation agencies and flood control: a preview of the Ida Grove field trip.

AUDIO-VISUAL AIDS: Kodachromes of Ida Grove Project Film: *Lifeblood Of The Land*.

INSTRUCTION: Staff.

THURSDAY, JUNE 19:

Morning and Afternoon—All-day field trip to the Ida Grove area to observe a Soil Conservation Service flood control program.

a. Visit enroute to the State Conservation Commission Fish Hatchery at Lake View.

b. Visit enroute at the State Conservation Commission Waterfowl Refuge at Lake View.

c. Considerable field observation in the Ida Grove area of conservation practices and water control structures which make up a part of the flood control program known as the Little Sioux Project.

d. Observation of initial stages of a similar flood control program near Mapleton.

INSTRUCTION: "Unc" Wright, Custodian at Lake View, State Conservation Commission; George Lampe, District Conservationist, U. S. Soil Conservation Service; Charles Travis, Civil Engineer, U. S. Soil Conservation Service; Kenneth Burnett, Farm Planner, U. S. Soil Conservation Service.

Evening—Water management and problems.

a. Hydroelectric developments.

b. Pollution problems.

AUDIO-VISUAL AIDS: Film: *Pipeline To The Clouds*.

INSTRUCTION: Staff.

FRIDAY, JUNE 20:

Morning and Afternoon—All-day field trip to hydroelectric and sewage treatment plants.

a. Guided tour through hydroelectric plant at Adel.

b. Guided tour through sewage treatment plant at Earlham or Audubon.

INSTRUCTION: Staff; personnel at Adel; personnel at Earlham or Audubon.

Evening—Pollution Problems.

AUDIO-VISUAL AIDS: Film: *Clean Waters*.

INSTRUCTION: Staff.

SATURDAY, JUNE 21:

Morning—Seminar: Summary of water week. Short tree identification trip.

AUDIO-VISUAL AIDS: Film *The River*.

INSTRUCTION: Staff.

Note: Following the above, teachers will have free time until Sunday evening for recreation, rest, and construction of teaching aids. There will be opportunities for optional field trips, additional observation of teaching aids, Sunday morning cook-out and so forth. On Saturday evening, there may be some social entertainment, including the film: *The Heritage We Guard*.

SUNDAY, JUNE 22:

Evening—Panel discussion: "Soil Conservation Agencies and How They Can Help the Elementary School Teacher",—an informal discussion and question session with representatives of some conservation agencies.

a. Iowa Conservation Commission, represented by George Worley, Superintendent of Public Relations and Education.

b. Iowa State College Extension Service, represented by Lester Clapp, Extension Soil Conservationist.

c. U. S. Soil Conservation Service, represented by Frank Mendell, State Conservationist.

d. Iowa Natural Resources Council, represented by Robert L. Smith, Director.

e. State Soil Conservation Committee, represented by Othie McMurry, Secretary.

f. Guthrie Soil Conservation District, represented by Clarence Hidelbaugh, from its board of directors.

MONDAY, JUNE 23:

Morning—Beginning of a study of forest resources and their conservation. General instruction about the parts, functions, and growth of trees. Short field trip on tree identification.

AUDIO-VISUAL AIDS: Filmstrip: *Telling Trees Apart*.

INSTRUCTION: Staff.

Afternoon—More field work on tree identification. Collecting, pressing, and mounting leaves.

INSTRUCTION: Staff.

Evening—Woodlot management:

- a. The work of farm foresters.
- b. The status of farm woodlot management in Iowa.
- c. Values and types of windbreaks.

AUDIO-VISUAL AIDS: Film: *Trees To Tame The Wind*.

INSTRUCTION: Mans Ellerhoff, Supt. of Forestry, State Conservation Comm.; Bob Drexler, District Farm Forester, State Conservation Comm.; Allen Allyn, District Farm Forester, State Conservation Commission.

TUESDAY, JUNE 24:

Morning—Field demonstration of techniques and equipment used in study and management of small woodlots.

- a. Field trip to farm woods.

INSTRUCTION: Bob Drexler; Allen Allyn.

Afternoon—Rotating groups of campers for:

a. Construction and use of cruising sticks, for measurement of diameter and height of trees.

- b. Leaf printing.

INSTRUCTION: Staff.

Evening—The forest as a community of living plants and animals. Forest management as a means of encouraging wildlife.

AUDIO-VISUAL AIDS: Film: *Everyman's Empire*.

INSTRUCTION: Dr. Martin L. Grant, Dept of Science, Iowa State Teachers College; Robert Moorman, Extension Wildlife Specialist, Iowa State College; Kenneth King, Assistant State Conservationist, U. S. Soil Conservation Service.

WEDNESDAY, JUNE 25:

Morning—Field study of forest communities in Springbrook State Park:

- a. Woody and herbaceous plant groups or associations.
- b. Wildlife typical of forested areas and forest edges.
- c. Examples of cover requirements and succession.
- d. Wildlife management through an understanding of forest communities.

INSTRUCTION: Dr. Martin Grant; Robert Moorman; Kenneth King.

Afternoon—Curriculum suggestions and teaching aids; conducting field trips.

AUDIO-VISUAL AIDS: Film: *The Adventures Of Junior Raindrop*.

INSTRUCTION: Staff or Miss Gladys Horgen, State Department of Public Instruction.

Evening—Free time.

THURSDAY, JUNE 26:

Morning and Afternoon—All-day field trip to vicinity of Ames, for a study of timber resources and their management.

- a. Inspection of State Forest Nursery.
- b. Study of a managed timber tract, where teachers will observe selection of trees for thinning, harvesting, etc.; and where they will learn how forest inventories are taken.
- c. Observation of windbreak plantings.
- d. Observation of an Iowa sawmill in operation.

INSTRUCTION: Richard B. Campbell, Extension Forester, Iowa State College.

Evening—Informal discussion of field trip.

AUDIO-VISUAL AIDS: Film: *Extra Forest Dollars*.

FRIDAY, JUNE 27:

Morning—Wood uses. Tree planting on school grounds. Forest management problems. The national picture of forest conservation.

AUDIO-VISUAL AIDS: Kodachrome: (Mr. Campbell) Film: *The Living Forest*.

INSTRUCTION: Richard B. Campbell.

Afternoon—Seminar: summary of forest unit and of whole session.

INSTRUCTION: Staff.

Evening—Conclusion of camp session.

AUDIO-VISUAL AIDS: Film: *Yours Is The Land*.

INSTRUCTION: Staff.

SATURDAY, JUNE 28:

Morning—Conclusion of camp session. Clean and break camp.

Note: In this outline, no mention has been made of the regularly-scheduled, early-morning bird hikes. The exact dates of these will be governed partly by the weather; however, it is planned to have an average of two bird hikes each week.¹²

The outline verifies the changes in the 1952 program that were previously mentioned. It also indicates that during 1952 the curriculum suggestions were scheduled for the afternoon sessions rather than the evening.

2. IOWA CONSERVATION PROBLEMS.

This course, Biology 505, designed especially for high school teachers, was essentially the same as Biology 105 but with greater emphasis upon wildlife resources. The reference materials, audio-visual materials, and teaching aids in some instances were slightly altered to correlate with high school work.

During this session the teachers were divided into committees to study curriculum development in conservation. One committee prepared a brief outline "Conservation Studies in the Elementary Grades," with suggestions of conservation areas that might be taught from kindergarten to sixth grade. Another committee studied the "Graded Sequence for Conservation in Secondary Schools" and prepared a brief list of conservation topics that might be taught in classes in junior high, general science, biology, chemistry and physics, and social science. The third committee made a study of "Evaluation of Student Achievement," and the fourth group prepared "Suggestions for an Integrated Approach to Conservation Teaching."¹³

The publicity brochure "Wanted! Secondary and Elementary Teachers" presents a detailed day by day outline of the content of this course. (This brochure has not been reproduced in full. Copies may be obtained from the State Conservation Commission.)

3. CONSERVATION FOR ELEMENTARY GRADES B.

This new course for elementary teachers was specifically a study of wildlife, soil nutrients, and balance in nature. Since the course could be taken in addition to conservation for Elementary Grades A, an entirely new set of conservation experiences was planned. A copy of the outline of daily instructional activities that was distributed to resource leaders and campers is included here. The outline presents the complete camp program for this course.

¹²"Iowa Teachers Conservation Camp: Session I—1952," Brief Daily Outline for Guidance of Visiting Staff Personnel, 1952. (Duplicated).

¹³"Committee Reports on Curriculum Development in Conservation," Iowa Teachers Conservation Camp, Session II, 1952. (Duplicated).

IOWA TEACHERS CONSERVATION CAMP: SESSION III—1952

Brief Daily Outline For Guidance of Visiting Staff Personnel.

(This outline is *not* for publication, and should be reproduced only with permission.)

INTRODUCTION: In this session, which will be attended by elementary school teachers, emphasis will be placed upon wildlife, soil nutrients, and balance in nature. Some of the enrolled teachers will have had biology training; some will have attended the original Conservation Camp course in which they studied soil, water, and forests chiefly; and others will have had little or no biology or conservation background. All will be interested in learning about our natural resources and their conservation, and will be looking for down-to-earth explanations and ideas which can be adapted for use in the elementary schools.

UNIT #1—WILDLIFE:

SUNDAY, JULY 27:

Afternoon—upon arrival—Registration; assignment to one or two teaching aids at I. A. Workshop.

Evening—Introduction to camp experience and staff; outline of program. Overview of wildlife, pointed up by guided tour of the Traveling Wildlife Exhibit. The place of birds in the animal world; characteristics; birds as vertebrates; ecological place of birds, relation to man.

AUDIO-VISUAL AIDS: Camp kodachromes Filmstrip: *Structure Of Birds*.
INSTRUCTION: Staff.

MONDAY, JULY 28:

Morning—Identification of birds: observation; field trip rules; habitats; habits of birds. Field trip.

INSTRUCTION: Jack Musgrove, Director, State Historical Museum.

Afternoon—The birds of Iowa: their distribution, abundance and nesting habits. Demonstrate and make bird houses.

AUDIO-VISUAL AIDS: Kodachromes of Iowa Birds Recordings: *American Bird Songs*. (Vol. I); *American Bird Songs*. (Vol. II). Kodachromes of birds houses and feeders. Filmstrip: *Birds' Nests*.

INSTRUCTION: Jack Musgrove; staff.

Evening—Adaptations of birds: emphasizing feeding and flight.

AUDIO-VISUAL AIDS: Filmstrip: *Adaptations Of Birds*. Films: *Birds Are Interesting*. Films: *Thrushes And Their Relatives* or *Water Birds*.

INSTRUCTION: Staff.

TUESDAY, JULY 29:

Morning—Early morning bird hike. Typical Nests of Iowa birds, demonstrated on a field trip. Game birds: characteristics; Iowa species; abundance; protection; measures to increase or stabilize abundance.

AUDIO-VISUAL AIDS: Kodachromes of birds' nests. (Also samples) Film: *Sunrise Serenades* or *Grouse Of The Grasslands*.

INSTRUCTION: Dick Nomsen, Iowa Conservation Commission; Staff.

Afternoon—Discussion and demonstration of quail and raccoon rearing projects. Attracting birds: shelter; food; feeders; water; plants; protection. Demonstrate and make bird feeders.

AUDIO-VISUAL AIDS: Filmstrip: *Helping The Birds*.

INSTRUCTION: Paul Leaverton (Supt. of Game) or Bob Barratt; Staff.

Evening—Bird migration: patterns; factors; distances; speed; flyways; banding.

AUDIO-VISUAL AIDS: Filmstrip: *The Migration Of Birds*. Film: *Behind The Flyways*. (U. S. Fish & Wildlife S.)

INSTRUCTION: Staff.

WEDNESDAY, JULY 30:

Morning and Afternoon—All-day field trip to Ledges State Park, near Boone. A.M.—Demonstration and discussion of bird banding, led by Myrle Jones, Custodian of Ledges State Park. P.M.—Conducted tour of State Game Farm, led by Supt. of Game Farm. On return trip, visit beaver dam area near Jefferson, perhaps with the help of the Green County Conservation Officer.

Evening—Introduction to mammals; class distinctions; habitat groups; food-habit groups; orders and examples of Iowa mammals.

AUDIO-VISUAL AIDS: Kodachromes of Iowa mammals. Film: *The Beaver*.
INSTRUCTION: Staff.

THURSDAY, JULY 31:

Morning—Early Morning Bird Hike.

A. Iowa fur-bearing mammals; their importance as fur-bearers; value of pelts; abundance, methods of capture; processing of pelts. Demonstration of individual pelts in Cons. Comm.'s fur exhibits.

B. Predation: relationship to food habits; types of predation; effect of harassment; buffer species; legal status of predators; problems of generalizations based upon isolated observations. Demonstration of predator control by trapping.

INSTRUCTION: Tom Berkley, Area Game Manager; Staff.

Afternoon—A. Discussion of upland game mammals; census methods, uses of census techniques, especially in Iowa.

B. Begin organization of individual observational studies.

INSTRUCTION: Glenn Sanderson, Conservation Commission upland game biologist; Staff.

Evening—Hunting regulations and field experiences in wildlife conservation.

AUDIO-VISUAL AIDS: Film: *Iowa's Big Five*.

INSTRUCTION: Five Iowa Conservation Officers.

FRIDAY, AUGUST 1:

Morning—Field demonstrations of legal and illegal practices in hunting and fishing in Iowa. Continuation of discussion on regulations. Field trip to look for signs of wildlife activity (animal tracks, etc.)

INSTRUCTION: Five Iowa Conservation Officers.

Afternoon—Field trip and laboratory exercises: plaster casts of animal tracks, leaves, etc.; plants attractive to wildlife as food, shelter, or escape. Preparation of an animal skin (mouse, shrew, etc.) Continuation of work on individual observational studies.

INSTRUCTION: Staff.

Evening—Free time until dark, when a "drag" 'coon hunt will be scheduled complete with campfire, marshmallows, 'coon hunter with dogs and lingo.

SATURDAY, AUGUST 2:

Morning—Fishes and Amphibians of Iowa: field trips, demonstrations, and discussions of these resources.

A. Common species of fishes in Iowa, their habitats, food, status, and catch regulations. Use of seines; marking fish.

B. Fishing techniques—fly and bait casting, etc. Common frogs of Iowa, their status, importance, and protection.

AUDIO-VISUAL AIDS: Film: *Biography Of A Fish*.

INSTRUCTION: Earl Rose; Tom Moen; George Worley.

Afternoon—Free time until Sunday evening, for recreation, rest, construction of teaching aids, and continuation of individual observational studies.

SUNDAY, AUGUST 3:

Evening—Panel discussion: "Wildlife Conservation Agencies and How They Can Help the Elementary School Teacher."

INSTRUCTION: Representatives of the following:

1. Iowa Conservation Commission & Pittman-Robertson Coordinator.
2. Iowa State College Extension Service & Cooperative Wildlife Research Unit: i.e., Edward L. Kozicky.
3. Izaak Walton League: (As a representative sportsmen group).
4. U. S. Fish & Wildlife Service: Tom Schrader.
5. U. S. Soil Conservation Service: Sylvan Runkle.

MONDAY, AUGUST 4:

Morning—A. Nature and development of wildlife areas: Field trip to a farm wildlife area planned by the Soil Conservation Service and/or other agencies. If possible, visit other wildlife areas in the vicinity, preferably including one in a schoolyard.

B. Discussion of wildlife conservation in Iowa and in the United States; federal controls legalized in Constitution; some federal acts of Congress; elaboration of migratory bird act and federal aid to wildlife; use of federal lands; water-power development projects; wildlife research studies.

AUDIO-VISUAL AIDS: Film: *The Story Of The Menhaden*. (Or other films selected by U. S. F. & W. representative.)

INSTRUCTION: Farm Planner and Biologist, U. S. Soil Cons. Service. Representative, U. S. Fish and Wildlife Service.

Afternoon—Field trip and demonstration: plants attractive to wildlife; planning a school wildlife area or bird sanctuary. Curricular suggestions and materials.

INSTRUCTION: Staff (and the morning specialists, if available).

Evening—Complete and summarize the unit on wildlife.

AUDIO-VISUAL AIDS: Film: *Realm Of The Wild*.

INSTRUCTION: Staff.

UNIT #2—SOIL NUTRIENTS

TUESDAY, AUGUST 5:

Morning—(Early morning bird hike). Overview of soil formation, texture, profile, and types.

AUDIO-VISUAL AIDS: Film: *This Is Our Land*. (SCS) Filmstrips: *The Soil*. (Jam Handy) Some of the new EB series on soil.

INSTRUCTION: Joe Stritzel; Staff.

Afternoon—Curriculum development and materials. Continuation of work on individual observational projects.

INSTRUCTION: Staff.

Evening—Nutrients: What are they; How they naturally get into the soil; nutrients necessary to proper plant development; how they are lost; replacement in the soil.

AUDIO-VISUAL AIDS: Some of the EB soil series. Film: *Grass Roots In The Soil*.

INSTRUCTION: Joe Stritzel.

WEDNESDAY, AUGUST 6:

How plant types and quality are affected by the nature of the soil.

Morning—Field trip, within a 15 to 20 mile radius of camp, to get acquainted with soil texture, soil types and associations, and to observe where soil fertility problems may exist. Observe the replacement of nutrients in soil, such as legumes, grasses, manure, and other fertilizers. Collect soil samples.

INSTRUCTION: Joe Stritzel; Staff.

Afternoon—Techniques for testing soils. Brief field trip for observing plant life.

INSTRUCTION: Joe Stritzel; Staff.

Evening—Signs of deficiency: in soil, crops, and natural plant growth.

AUDIO-VISUAL AIDS: Films: *Hunger Signs*; *The Plant Speaks*; *Soil Tests Tell Us Why* and *The Plant Speaks Thru Deficiency Symptoms*.

INSTRUCTION: Joe Stritzel. (See Figure 10).

THURSDAY, AUGUST 7:

Morning—(Early morning bird hike). Field trip to observe signs of deficiency in soils, crops, and natural plant growth; study of common field plants.

INSTRUCTION: Joe Stritzel; others locally.

Afternoon—Experiments and demonstrations (for example, tomato plants grown in different solutions.) Continued study of plants.

INSTRUCTION: Joe Stritzel; Louis Thompson; Staff.

Evening—How animal (non-human) quality is affected by the nature of the soils. Relation of soil fertility to animal nutrition.

AUDIO-VISUAL AIDS: Posters from the U. S. Dept. of Agriculture. Film: *The Other Side Of The Fence*.

INSTRUCTION: Louis Thompson.

FRIDAY, AUGUST 8:

How human health is affected by the nature of the soil.

Morning—Human nutrition: the basic foods; preparation of an adequate diet, etc. Curricular applications.

AUDIO-VISUAL AIDS: Films: (Selected from:) *Stanley Takes A Trip*, and *Whatever You Eat*.

INSTRUCTION: Mrs. Mary Nelson Smith.

Afternoon—Curricular applications and activities in soil nutrients. Continuation of individual observational studies.

INSTRUCTION: Staff.

Evening—Nutritional deficiencies in humans, as they might be related to the kinds and quality of foods making up the diet. Summary of unit on soil nutrients.

AUDIO-VISUAL AIDS: Kodachrome on nutritional deficiencies. Film: *The School That Learned To Eat*.

INSTRUCTION: Mrs. Mary Nelson Smith; Louis Thompson; Staff.

UNIT #3—BALANCE IN NATURE

SATURDAY, AUGUST 9:

Morning—Insects and their place in the animal kingdom: nature; appearance; habitats; habits; collecting and preserving techniques. Make collecting and mounting materials. Field trip for instruction in collecting and observing insects. Emphasis upon terrestrial habitats.

AUDIO-VISUAL AIDS:

INSTRUCTION: Staff.

Afternoon—Possibly a continuation of morning field and project activity. Following this, there will be free time until Sunday evening, for recreation, rest, construction of teaching aids, and continuation of individual observational studies.

SUNDAY, AUGUST 10:

Evening—The existence of plant and animal populations in the wild; factors influencing increased numbers and decreased numbers; discussion of examples.

AUDIO-VISUAL AIDS: Film: *Web Of Life*. (40 minutes)

INSTRUCTION: Staff.

MONDAY, AUGUST 11:

Morning—Discussion and field trip within the park area, to woodland, woodland edge, open field, gravelled area.

A. Terrestrial food chains: Insect-eating birds; snakes; mice; grasshoppers; snails; fungi; domestic animals; evidences of feeding; cross pollination.

B. Snakes and turtles of Iowa: identity, abundance, status, importance, protection.

INSTRUCTION: Staff.

Afternoon—Discussion and field trip to a native prairie. Wildflower identification and conservation: need for protection; types of protection; conservation agencies; common Iowa species.

AUDIO-VISUAL AIDS: Kodachromes: *Spring Wild Flowers* Film: *Spring In The Woodland*.

INSTRUCTION: Staff.

Evening—A. Predation: definitions; the place of predators in balance of nature; population variations; control attempts by man (introduced species, the bounty system, other legal effects).

B. Preview of aquatic food chains: how plants and animals are fitted for life in an aquatic environment.

AUDIO-VISUAL AIDS: Film: *Pond Life*. Filmstrip: *Life In Ponds, Lakes And Streams*.

INSTRUCTION: Staff.

TUESDAY, AUGUST 12:

Morning—(Early morning bird hike?) Field trip to a well-developed farm pond, to study aquatic food chains. Observations; several groups to study insects around and in pond, fish, plants, and microscopic organisms. Examples of pond plant and animal life; examples of aquatic food chains; developmental stages of a farm pond; demonstrations of the inter-action of an aquatic environment with the human use of land. (See Figure 4 and Figure 7.)

INSTRUCTION: Bob Moorman; Staff.

Afternoon—Series of field demonstrations on the physical factors affecting nature's balance. Several groups to undertake studies of light, temperature, moisture, acidity, air currents, soil texture, and slope.

INSTRUCTION: Staff.

Evening—A. Effects of drainage of wet lands upon natural plant and animal populations; changes in physical condition, animal life, plant life, animal life as a result of plant change; effects on surrounding areas; returning the land to original condition.

B. Preview of plant and animal succession (brought out in above discussion).

AUDIO-VISUAL AIDS: Film: *Water Is Life*.

INSTRUCTION: Staff.

WEDNESDAY, AUGUST 13:

Morning—Plant and animal succession. Field trip within the general park area, including woodland, woodland edge, lake, filled-in lake, open field. Observations: Typical plant and animal life of each area; evidences of change; modification of physical factors of an area due to its inhabitants, setting the stage for the next successive group to take its place. Appropriate teaching aids and materials.

INSTRUCTION: Staff; Glen Sanderson.

Afternoon—A. Discussion of animal cycles, including mice, rabbits, fox-pheasant relationship, and other examples.

B. Field demonstration: Planning a nature-conservation trail.

INSTRUCTION: Glen Sanderson; Staff.

Evening—Management of natural resources.

AUDIO-VISUAL AIDS: Films: *Conservation In Action*; and *The Heritage We Guard*.

INSTRUCTION: Glen Sanderson; George Worley; Staff.

THURSDAY, AUGUST 14:

Morning—Field trip to a well-managed marsh, as an illustration of resource

management. Consideration of: Site selection; physical preparation of area; introduction of species; water control; designation of zones; time needed for development; benefits; maintenance.

INSTRUCTION: B. I. Severson.

Afternoon—A. Teaching aids and curriculum materials.

B. Individual demonstrations of students' observational studies.

INSTRUCTION: Staff.

Evening—Recreational importance of natural resources.

AUDIO-VISUAL AIDS: Film: *State Park Recreation* and Kodachrome of scenic areas in the U.S.

INSTRUCTION: Staff.

FRIDAY, AUGUST 15:

Morning—Individual demonstrations of students' observational studies.

Afternoon—A. Completion of individual demonstrations.

B. Summary: Balance in Nature unit and camp experiences.

Evening—Final meeting.

AUDIO-VISUAL AIDS: Film: *Beaver Valley or Yours Is The Land*.

SATURDAY, AUGUST 16:

Morning—Clean and break camp.¹⁴

It can be noted in the program that the campers undertook individual observational studies as a part of their work. These studies, depending upon the type of project, were made by individuals or by small groups. The staff outlined the objectives of these observational studies as follows:

1. To gain familiarity with some of the techniques used in studying ecological problems.

2. To gain personal experience knowledge of some organism.

3. To appreciate some of the problems involved in ecological studies.

4. To realize that some individual observational experiments are feasible for use by students.

5. To get the thrill and feel of independent discovery.¹⁵

These projects were based primarily upon observation and simple experimentation with organisms in their natural habitats. The camp staff suggested the following projects which campers modified and adapted as they wished:

1. Observation of spider webs; location, food caught, influence of weather, etc.

2. Daily observation of the growth changes of plants, perhaps the same species in different habitats.

3. Observations of the influence of weather conditions on various animal groups, i.e. burrowers, surface dwellers, fliers.

4. Study of life of a 10 ft. square area, map it, check variation of activity with weather, watch visitors.

5. Observation of feeding habits of a specific animal.

6. Sun and shade relationship in distribution of a plant or animal.

7. Census to determine most common plants or animals in a certain area.

Determine why if possible.

8. Observation of activities of an ant colony.

9. Study of aphids in relation to the plant, the predators, the ants.

10. Distribution and activity of snails, with the factors influencing them.

11. Study of caddis flies: food, reasons for location, current influences.

12. Study of distribution of earthworms in various habitats.

13. Behavior of crayfishes in creek, or marsh.

¹⁴"Iowa Teachers Conservation Camp: Session III—1952," Brief Daily Outline for Guidance of Visiting Staff Personnel, 1952. (Duplicated).

¹⁵Dorothy Matala, Clifford McCollum, and Emery Will, "Individual Observational Studies, 1952 Iowa Teachers Conservation Camp," May 1952. (Mimeographed).

14. Reaction of centipedes, millipedes or other animals to light, temperature, or other environmental factors.

15. Observation of habits of some Orthopterans: feeding, light reaction, temperature reaction, singing.

16. Determine how various aquatic insects respire.

17. Observations on the behavior and relationships of a specific fish.

18. Study of animals in a woodland area. Correlate strata distribution, reaction to environmental conditions, adaptive features.

19. Study of animals in open area.

20. Study of a dead log association.

21. Study of life in a section of Springbrook.

22. Determine how water animals are affected by currents.

23. Observation of relationships of water animals. (maybe in aquaria)

24. Studies of locomotion of water animals.

25. Studies of animals attracted to carrion.

26. Studies of nocturnal animals: Correlate with habitat, degree of darkness, activity, temperature.

27. Observations of life in a clay bank.

28. Observations of insects visiting certain flowers.

29. Studies of plants in various habitats, species, adaptations, numbers.

30. Observe visitors to a particular plant: record kinds, numbers, activities, source of attraction, variation with weather and time of day.

31. Study of galls.

32. Preparation of census maps of an area: might be trees, birds, flowers, mammals.

33. Care for and observe: caterpillars, mosquito larvae, crickets, etc.

34. Select a bird nest. Observe activity, structure, source of structural materials, manner of construction.

35. Study associations of wildlife with specific trees.

36. Observation of a section of a stream, lake, or pond, noting forms and activities of plant and animal life.¹⁶

Campers were made much more aware of their immediate environment through the projects which they undertook. Observational reports to the group varied according to the type of project. Charts, graphs, sketches, and actual objects were used in some report presentations. For example, one cabin group chose to conduct an ecological study of the habitat around their cabin. The flora and fauna surrounding the cabin were observed in relation to such physical factors as type of soil, amount of slope, moisture content of soil, amount of light, and temperature. One of the cabin mates made an interesting chart showing the relationship of temperature, light conditions, and time of day to the amount and type of insect activity around the cabin. Another of the group made a terrarium to house some of the small animals found in the cabin area. Others in the cabin group made collections and charts of the plants and trees near their cabin.

At the close of the camp session, it was the consensus of the campers and the staff that the new course dealing with wildlife, soil nutrients, and balance in nature had been very worthwhile. After his transference to State Teachers College at Oneonta, New York, former Camp Director Will wrote, "Although I have no doubt that changes were made in the course for 1953, the inaugural of this course (Conservation for Elementary Grades B) was very successful. This was testified in the enthusiastic evaluations given it by the 60 enrolled teachers."¹⁷

During 1952, as in previous years, instructional materials were distributed to the campers for later reference in their own classrooms. These materials included

¹⁶*Ibid.*

¹⁷Personal correspondence of the Author, letter from Emery Will, August 2, 1953.

items such as conservation bibliographies, lists of conservation films and filmstrips, guides to common Iowa plants and animals, lists of conservation agencies and resource persons, directions for constructing teaching aids, and instructions for various demonstrations and experiments. In 1952 many new instructional sheets were prepared by Dr. Will, Dr. Matala, and Dr. McCollum.¹⁸ Selected titles of some of these mimeographed or duplicated materials follow:

- A Few References in Conservation for Elementary School Teachers.
- Conservation Books and Booklets for Elementary Grades.
- Selected Bibliography on Forest Conservation.
- Selected Recent Books in Elementary Science.
- Publications Available from Industries.
- Publications and Miscellaneous Materials on Conservation Available from the Iowa State Conservation Commission.
- Selected Conservation Films and Filmstrips for Schools.
- Iowa State Conservation Commission Film Library.
- Materials for Teaching Elementary Science Obtainable from Scientific Supply Houses.
- Selected Conservation Agencies.
- A Simplified Key to Common Insect Orders.
- Some Amphibians and Reptiles of Iowa.
- Some Common and Important Iowa Fishes.
- The Mammals of Iowa.
- List of the More Important Iowa Trees.
- Some Common and Important Wildflowers in Iowa.
- Selected List of Plants Attractive to Wildlife.
- Soil Nutrients and Deficiency Symptoms.
- U. S. National Parks and Recreation Areas.
- Studies of the Physical Factors of the Environment.
- Materials and Directions for Making a Terrarium.
- Make Your Own Science Observation Mount.
- Water-Soil Conservation Demonstration.
- A Percolation Demonstration.
- Water Table Demonstration.
- Measuring Tree Diameters with a Home-Made Biltmore Cruising Stick.

In addition to the instructional materials prepared by the resident staff, many of the resource leaders distributed materials relative to their particular field.

Selected titles of duplicated or mimeographed materials of this type are listed below:

- Demonstration—Soil Structure.
- Principal Upland Soils of Iowa.
- Personnel Directory, Soil Conservation Service.
- Little Sioux Flood Control Program.
- Important Uses and Problems in Water Conservation.
- The Forests of Iowa.
- Farm Forestry Program in Iowa.
- Furs Bought from Iowa Trappers.
- Cover Requirements of Some Birds and Animals.
- An Example of Succession Starting with Open Water.
- An Example of Succession Starting with Bare Soil.
- Pattern of Interrelation (Food Chain) in Fresh Water.
- How the State Helps to Keep a Supply of Fish in Iowa's Lakes and Streams.

No attempt will be made here to list the numerous resource materials that were distributed from various governmental agencies and industrial concerns. Several tables in the library were stacked high with free bulletins, maps, and pictures

¹⁸*Ibid.*

from many sources. Teachers had the privilege of browsing through the materials and selecting whatever might be of assistance to them. The suitcases of the campers were well laden with resource helps when they left ITCC.

PROGRAM FOR 1953. During 1953 the Iowa Teachers Conservation Camp was in its fourth year of operation; consequently, the original course, Biology 105: Conservation for Elementary Grades A, and the secondary course, Biology 505, which was patterned after Biology 105, were quite firmly established. In previous years effective curriculum material and scheduling for this course had been determined, so few changes needed to be made in 1953. Minor alterations were effected in the sequence of forestry study. The time of scheduling the trip to the sewage disposal plant and gauging station was changed from a full day to a half day. The program as a whole, however, remained the same as in 1952.

Biology 104: Conservation for Elementary Grades B was a comparatively new course, and numerous changes were introduced in the sequence of material. Instead of using the study sequence of wildlife—soil nutrients—balance in nature, the arrangement became soil nutrients—wildlife—balance in nature.

Essentially the same daily arrangement of material was presented during the study of soil nutrients, but several changes in sequence were evidenced during the study of wildlife and balance in nature. Some topics of study were shifted from one week to the other. For instance, amphibians became a part of the study during the balance in nature week rather than during the wildlife week. Insect study and collecting were begun the second week instead of the third. Predation, which was considered in the study of wildlife, was not included as a separate discussion topic during the balance of nature week.

The same field trips were taken as in the previous year, with the exception of the all day trip to Ledges State Park to observe bird banding and trapping. Instead of the campers going to the Ledges, Myrle Jones, the former conservation officer at the Ledges, came to Springbrook Park to demonstrate bird banding. The elimination of the trip to the Ledges also necessitated the omission of the visit to the State Game Farm near the Ledges. The trip to see examples of the effect of soil nutrients became an all day trip. The observation of a beaver dam within Springbrook Park was an added feature in 1953.¹⁹

As in past years, many resource leaders contributed to the success of the 1953 camp program. "One of the outstanding and unique features of the Iowa Teachers Conservation Camp is the visiting staff of resource persons," stated Director Fowler. "Each of these persons contributed a great deal to the camp program. Their efforts should be fruitful in the future in bringing better conservation teaching to Iowa Schools."²⁰ The list of resource persons in Fowler's report is included below. If a resource person assisted in more than one session, his address is recorded only once.

Resource Persons and Organizations Represented

SESSION I

Mr. Myrle Jones, Conservation Officer, Fort Defiance State Park, Estherville, Iowa

Mr. Tom Moen, Biologist, State Conservation Officer, Spirit Lake, Iowa

Mr. Robert Cleary, State Conservation Officer, Independence, Iowa

Mr. B. I. Severson, Area Game Manager, State Conservation Officer, Box #145, Ruthven, Iowa

Mr. Virgil Lagomarcino, Supervisor, State Department of Public Instruction, State Office Building, Des Moines, Iowa

Mr. Richard Bullard, Iowa Natural Resources Council, State House, Des Moines 19, Iowa

¹⁹"Iowa Teachers Conservation Camp: Session III—1953," Brief Daily Outline for Guidance of Visiting Staff Personnel. (Duplicated).

²⁰H. S. Fowler, "Report, 1953 Iowa Teachers Conservation Camp," p. 7. (Duplicated).

Mr. Henry Peterson, Manager, Sewage Treatment Plant, Audubon, Iowa
 Mr. R. D. Schmickle, Hydraulic Engineer, P. O. Box 551, Iowa City, Iowa
 Mr. Robert L. Smith, Iowa Natural Resources Council, State House, Des Moines, 19, Iowa

Mr. Larson, Assistant Area Conservationist, Soil Conservation Service, Post Office Building, Sioux City, Iowa

Mr. Kenneth Barnett, Work Unit Leader, Soil Conservation Service, Ida Grove, Iowa

Mr. Allen Allyn, Conservation Officer, Farm Forester, Fairfield, Iowa

Mr. Milo Peterson, Conservation Officer, Regional Forester, McGregor, Iowa
 "Unc" Wright, State Conservation Officer, Blackhawk State Park, Lake View, Iowa

Mr. Lester Clapp, Extension Soil Conservationist, Extension Service, Iowa State College, Ames, Iowa

Mr. Kenneth King, Asst. State Conservationist, U. S. Soil Conservation Service, 4th Floor Iowa Building, Des Moines, Iowa

Mr. Eugene Cannon, Soil Conservation Committee, State House, Des Moines 19, Iowa

Mr. Clarence Hidelbaugh, Assistant Commissioner, Guthrie County Soil Conservation Dist., Bagley, Iowa

Mr. Richard Campbell, Extension Forester, Curtiss Hall, Iowa State College, Ames, Iowa

Mr. Charles Fox, Educational Advisor, U. S. Forest Service, North Central Region, 623 North Second Street, Milwaukee 3, Wisconsin

Dr. Martin L. Grant, Science Department, Iowa State Teachers College, Cedar Falls, Iowa

Dr. W. H. Bragonier, Head, Department of Botany, Iowa State College, Ames, Iowa

Mr. Thomas Berkley, State Conservation Officer, Area Game Manager, 239 35th Street, S. E., Cedar Rapids, Iowa

Mr. Glen Sanderson, Upland Mammal Biologist, 1580 Park Avenue, Marion, Iowa

Mr. Roy L. Downing, Director of Traveling Wildlife Exhibit, State Conservation Commission, East 7th and Court Avenue, Des Moines, Iowa

Mr. John Madson, Educational Assistant, State Conservation Commission, East 7th and Court Avenue, Des Moines, Iowa

Mr. Sylvan Runkle, Assistant State Conservationist, U. S. Soil Conservation Service, 4th Floor, Iowa Building, Des Moines, Iowa

Mr. Glenn Harris, State Conservation Officer, Box 122, Indianola, Iowa

Mr. Christie Hein, State Conservation Officer, Box 1009, Chariton, Iowa

Mr. Jack Mueller, State Conservation Officer, 416 North Fillmore Street, Osceola, Iowa

Mr. Frank Tucker, State Conservation Officer, 900 Chestnut, Atlantic, Iowa

Mr. Bob Barratt, State Conservation Officer, Guthrie Center, Iowa

Dr. Charles S. Gwynne, Professor of Geology, Iowa State College, Ames, Iowa

Mr. Joe Stritzel, Agronomy Building, Iowa State College, Ames, Iowa

Mr. Byron Barnes, Collaborating Soil Scientist, U. S. Soil Conservation Service, Agronomy Building, Iowa State College, Ames, Iowa

Dr. John Bardach, Lakeside Laboratory, Okoboji, Iowa

SESSION II

Dr. Charles S. Gwynne

Mr. Joe Stritzel

Dr. John Bardach

Mr. Byron Barnes

Mr. Mark Huntley, Work Unit Conservationist, U. S. Soil Conservation Service, Guthrie Center, Iowa

Mr. Louie Hansen, Guthrie County Extension Agent, Guthrie Center, Iowa

Mr. Herman Nelson, Department of Science, Library Building, Iowa State Teachers College, Cedar Falls, Iowa

Mr. Harry Harrison, Fisheries Biologist, State Conservation Officer, Madrid, Iowa

Mr. Earl Rose, Fisheries Biologist, State Conservation Officer, State Conservation Biology Building, Okoboji, Iowa

Mr. B. I. Severson

Mr. Basil Downing, 522 E. 9th Street, Box 261, Spencer, Iowa

Mr. Cecil Schomer, 913 11th Street, Box 259, Spirit Lake, Iowa

Mr. Bill Ayers, State Conservation Officer, Goodell, Iowa

Mr. Kay Setchell, Conservation Officer, Box 261, Eldora, Iowa

Mr. Bob Barratt

Miss Gladys Horgen, Supervisor, State Department of Public Instruction, Des Moines, Iowa

Mr. Roy Downing

Mr. Larson

"Unc" Wright

Mr. Henry Peterson, Manager

Mr. R. D. Schmickle

Mr. Clarence Hidelbaugh

Mr. Othie McMurry, Secretary, State Soil Conservation Committee, State House, Des Moines 19, Iowa

Mr. Lester Clapp

Mr. Robert L. Smith

Mr. Allen Allyn

Mr. E. Garth Champagne, Forester in Charge, Department of Forestry, Iowa State College, Ames, Iowa

Mr. John Madson

Mr. Mans Ellerhoff, Conservation Commission, Superintendent of Forests, 2601 48th Street, Des Moines, Iowa

Mr. Richard Campbell

Mr. Milo Peterson, State Conservation Officer, Regional Forester, McGregor, Iowa

Mr. Sylvan Runkle

SESSION III

Mr. Joe Stritzel

Mr. Louis Thompson, Professor of Soils, Curtiss Hall, Iowa State College, Ames, Iowa

Miss Margaret Kagarice, District Home Economics Supervisor, Iowa State College, Ames, Iowa

Mr. Jack Musgrove, State Historical Society, State Museum, Des Moines, Iowa

Mr. Roy Downing

Mr. Bob Barratt

Mr. Richard C. Nomsen, Game Biologist, State Conservation Commission, Hampton, Iowa

Mr. Myrle Jones, State Conservation Officer, Pilot Mound State Park, Forest City, Iowa

Mr. Dwight Erickson, Superintendent of Schools, Warren County, Indianola, Iowa

Mr. Tom Berkley

Mr. Glen Sanderson

Mr. Paul Leaverton, Superintendent of Game, 410 West Boston Street, Indianola, Iowa

Mr. James A. Becker, Conservation Officer, 512 4th Street, Independence, Iowa

Mr. Harry M. Blomquist, Conservation Officer, 301 W. Plum, West Union, Iowa

Mr. Herbert Eells, Conservation Officer, 703 N. Elm, Cresco, Iowa

Mr. Lloyd Keifer, Conservation Officer Supervisor, Box 271, Central City, Iowa

Mr. Dale Kline, Casey, Iowa

Mr. Robert Winders, Work Unit Conservationist, U. S. Soil Conservation Service, Greenfield, Iowa

Mr. Earl Spicer, Manning, Iowa

Mr. Tom Moen

Mr. Earl Rose

Dr. Edward Kozicky, Director, Cooperative Wildlife Extension Unit, Insectory, Iowa State College, Ames, Iowa

Mr. Thomas Schraeder, Supervisor of River Basin Studies, U. S. Fish and Wildlife Service, 1006 W. Lake Street, Minneapolis 8, Minnesota

Mr. Sylvan Runkle

Mr. John Madson

Mr. B. I. Severson

Mr. James E. Cole, Biologist, U. S. Department of the Interior, National Park Service, Region 2, Omaha, Nebraska²¹

During 1953 the practice of using many audio-visual aids for instructional purposes and to acquaint teachers with the sources of available conservation films was continued. Director Fowler prepared the following list of audio-visual aids that were used at camp:

Films and Filmstrips—Sessions I and III*

June 8, *Birth of the Soil*, The Living Earth Series, Iowa Conservation Commission.

June 9, *Soil Series, Our Earth Series*, Iowa State Teachers College; *Raindrops and Soil Erosion*, Iowa State College.

June 10, *Grass Roots in the Soil, Keep Your Eye on the Soil*, Iowa State College.

June 11, *Golden Secret*, Iowa State College; *Soil Conservation Districts and Iowa People*, Soil Conservation Service.

June 12, *This Is Our Land*, Iowa State College.

June 14, *Trees to Tame the Wind*, Iowa State College.

June 15, *Telling Trees Apart*, Iowa State Teachers College; *Everyman's Empire*, U. S. Forest Service.

June 16, *The Adventures of Junior Raindrop*, Iowa State College.

June 17, *Extra Forest Dollars*, U. S. Forest Service.

June 18, *The Living Forest*, Iowa Conservation Commission.

June 19, *Yours Is the Land, Bobwhite Through the Year*, Iowa Conservation Commission.

June 23, *Life in Ponds, Lakes and Streams, Keeping an Aquarium*, Iowa State Teachers College; *The Sunfish*, Iowa Conservation Commission.

June 24, *Pipeline to the Clouds, Clean Waters*, Iowa Conservation Commission.

June 25, *Heritage We Guard*, Iowa Conservation Commission.

Films and Filmstrips—Session II

June 27, *The Soil, Our Earth Series*, Iowa State Teachers College.

June 28, *Grass Roots in the Soil*, Iowa State College.

²¹*Ibid.*, pp. 7-11.

*Dates listed are for Session I.

June 29, *Hunger Signs, The Plant Speaks, Soil Tests Tell Us Why, The Plant Speaks Through Deficiency Symptoms*, Iowa State College.

June 30, *The Other Side of the Fence*, Phillips Petroleum Company.

July 1, *Weight Control Through Diet, Something You Didn't Eat, The School That Learned to Eat*, Iowa State College; *Structure of Birds*, Iowa State Teachers College.

July 2, *American Bird Songs* (Vol. I), *American Bird Songs* (Vol. II), *Bird's Nests, Adaptations of Birds, Birds Are Interesting*, Iowa State Teachers College; *Thrushes and Their Relatives, Water Birds*, Iowa State College.

July 3, *Bobwhite Through the Year*, Iowa Conservation Commission.

July 5, *Sunrise Serenades*, Iowa Conservation Commission; *Helping the Birds, The Migration of Birds*, Iowa State Teachers College; *Behind the Flyways*, U. S. Fish and Wildlife Service.

July 8, *The Story of the Menhaden*, U. S. Fish and Wildlife Service; *Iowa's Big Five*, Iowa Conservation Commission.

July 10, *Wildlife and the Human Touch*, Iowa Conservation Commission.

July 12, *Pond Life*, Iowa State College; *Spring Comes to the Woodland, Web of Life*, Iowa Conservation Commission; *Life in Ponds, Lakes, and Streams*, Iowa State Teachers College.

July 14, *Conservation in Action*, U. S. Fish and Wildlife Service; *The Heritage We Guard*, Iowa Conservation Commission.

July 15, *State Park Recreation*, Iowa Conservation Commission.

July 16, *Yours Is the Land*, Iowa Conservation Commission.²²

Each year at Iowa Teachers Conservation Camp the teachers were introduced to many simple experiments and demonstrations which could be used with elementary classes. In 1953 the director compiled these instructional sheets into one bulletin to be distributed to the campers for future use and reference. Directions were included for the following demonstrations:

1. To learn to judge distances.
2. To show how plots of land may be laid out.
3. To judge the distance to an object.
4. To learn how to make a simple map and to become familiar with some maps.
5. To learn how to lay out contours.
6. To demonstrate that soil is a mixture of particles of different sizes.
7. To demonstrate that soils vary in compactness.
8. To demonstrate the permeability of soil to water.
9. To show the effect of rain on sloping land with and without cover.
10. To show the "splash-effect" of raindrops.
11. To demonstrate the compacting force (effect) of raindrops on bare soil.
12. To become familiar with examples of "erosion-in miniature."
13. To illustrate the value of contour tillage by using a washboard.
14. To show the thickness of the topsoil and the differences between topsoil and subsoil.
15. To collect soil samples and make up profile samples.
16. To make a "permanent soil-profile sample."
17. To study a miniature grassland area.
18. To construct a simple rain gauge.
19. To show how muddy water clogs soil particles and reduces absorption of water into soils.
20. To demonstrate one of the effects of cultivation.
21. To demonstrate how chemical action decomposes rocks.
22. To make artificial rocks for use in studying sedimentary rocks.

²²H. S. Fowler, "Films—Sessions I, II and III," 1953. (Typewritten copy).

23. To demonstrate how soil particles may be formed by the weathering of rocks.
24. To determine the per cent of soil moisture in a soil sample.
25. To test a soil sample for per cent of organic matter.
26. To show how soil particles are deposited from water and to show that soil is a mixture of particles of different sizes.
27. To illustrate what is meant by contours.
28. To build up land features from contour maps.
29. To illustrate one of the agents of sheet erosion.
30. To demonstrate the value of contour farming in controlling erosion.
31. To show that there is air in soil.
32. To compare the rate of percolation in different types of soils.
33. To demonstrate the capillarity in soils.²³

On the last day of camp, one of the 1953 campers expressed her feeling about ITCC through this remark:

I've enjoyed teacher's camp to the fullest degree. I want to thank the staff for the constant attention given when it was most needed. I hope I shall be able to return another year, for it has been well worth the time and expense. *Every* teacher should, if at all possible, attend camp. It is rich in personal experiences and individual enrichment of teaching methods and techniques.²⁴

III. CAMP RECREATION

A discussion of the ITCC camp program would not be complete without an explanation of the recreation that was a part of the camp life. Springbrook Park with its 27 acre lake and a variety of habitats offered an excellent place for outdoor recreation.

FIELD TRIPS. While the campers were traveling in the bus, the "Green Hornet," enroute to different areas for field trips, a congenial atmosphere was established through singing, joking, visiting, and recording species of birds that were seen along the route. One of the campers described these bus trips in the following manner:

Aboard The Green Hornet

We board the Green Hornet at eight o'clock sharp
And start out on our little jaunts.
With Chief Rigg as the pilot, we merrily start
To numerous faraway haunts.

Opinions are varied and loudly expressed
As the landscape slips pleasantly by,
But there's one thing on which we can all agree
Chief Rigg is a "wonderful guy."

With our special instructors and usually, too,
Chief Dorothy, Chief Bus, or Chief Mac,
We sally forth to learn all we can
And get specimens we can take back.

Then finally it's time to retrace our steps
And board the Green Hornet once more.
We're glad, for we're weary and hungry, too,
Tho' much smarter than we were before.

²³H. S. Fowler, "Some Simple Demonstrations—Soil Conservation" Iowa Teachers Conservation Camp, 1953, pp. 1-11. (Duplicated).

²⁴"Iowa Teachers Conservation Camp, Camper Evaluation Form," 1953, ITCC files.

Aboard the Green Hornet, we have lots of fun
Amid gabbling and cackling and song,
And the natives all wonder as we go past
To what strange race we could belong.²⁵

Whenever an all day field trip such as the trip to the Ledges State Park or to the Little Sioux Flood Control Project was planned, a picnic lunch was provided by the cook. The campers enjoyed picnicking in a wooded park or beside a lake.

AFTERNOON "FREE-TIME" PERIOD

Although the early morning bird hikes and the field trips were a form of recreation to many campers, other campers became rather fatigued from the hiking involved. The camp staff were aware of this and included in the schedule a two hour "free-time" period each afternoon.

During the "free-time" period from 3:30 until 5:30 in the afternoon, the teachers were theoretically free to do whatever they pleased. Very few of them, however, chose to rest at that time. Some of the group took advantage of the recreational facilities at the lake and went swimming, boating, or fishing. Others wanted to learn more about fly casting and bait casting, so instruction was provided for the campers who were interested. Some of the equipment for casting was obtained with money from the Conservation Camp Trust Fund.

The majority of the campers used this period to construct teaching aids or to engage in handicrafts at the Industrial Arts Mobile Unit. Terrariums, electric charts, observation mounts, bird feeders, rock boxes, animal cages, leather belts and billfolds, plastic jewelry, and aluminum trays were popular items that were made.

Many teachers also liked to use this period to gather collections of leaves, rocks, insects, or weeds that could be used later for reference in their classrooms. During some of the camp sessions, such collections were part of the required work; however, the number of specimens collected usually far exceeded the minimum number expected by the staff.

Several campers were interested in learning more about photography. A dark room was provided for developing pictures, and a staff member provided instruction in photography. During the last two years, the dark room has not been available.

Sometimes the teachers used the "free-time" period to become better acquainted with the out-of-doors. There were numerous quiet, shaded trails that might be followed in Springbrook Park. Many types of habitats were available where the campers could observe a wide variety of living things.

RECREATIONAL ACTIVITIES. Usually there was at least an hour of free time available in the evening, following the dinner hour. During this time, the campers and the staff might engage in a volley ball or a soft ball game on the meadow adjoining the cabin area. (See Figure 5, for a view of this grassy plot.) Campers who were not interested in sports used this time to continue work at the Industrial Arts Mobile Unit.

After the evening session many cabin groups would have an informal party with pop corn, watermelon, or other refreshments. These unscheduled, informal parties helped to build a stronger feeling of fellowship among the group within the cabin.

Campers had no formal classes from Saturday noon until Sunday evening and were free to leave the camp if they wished. The majority of campers remained at Springbrook Park for the week end, and varied activities were

²⁵Lavonne Sackett, "Aboard the Green Hornet," Poems and Songs by the 1953 Conservation Campers, 1953. ITCC files. (Typewritten copy).

provided for those who wished to participate. Saturday afternoon many of the group liked to go into the nearby town of Guthrie Center to shop and secure supplies. Other campers used the afternoon for hiking, collecting specimens, constructing teaching aids, or resting. The instructor at the Industrial Arts Mobile Unit was not available during week ends, but on Saturday mornings the campers could obtain from him the materials that they needed for the remainder of the week end.

Saturday evenings were general recreation periods. Films were shown in the Council Chamber, and the campers participated in group singing and square dancing. Following the square dancing, the cook or staff supplied refreshments on many occasions.

A breakfast cook-out in the picnic area of Springbrook Park was scheduled for each Sunday morning. Various cabin groups took turns preparing the breakfast and washing the dishes. Sunday morning was the cook's "time off." The breakfast cook-outs were greatly enjoyed by the campers. Following the breakfast, transportation to church services in Guthrie Center was provided for all campers who wished to go.

Saunter hikes in the park area were optional on Sunday afternoons. Frequently the staff would assist on a wildflower hike, a tree hike, or a similar excursion. Sunday evenings the campers were expected to attend the evening session, which was a preview of Monday's work.

SPECIAL EVENTS. One of the popular recreational events during the week of wildlife study was a "drag 'coon hunt." This was a new experience for many campers. A 'coon hunter and his dogs met the campers at an isolated wooded area near Springbrook Park and demonstrated a "drag 'coon hunt." A campfire and toasted marshmallows added zest to the evening.

The last night of each camp session was a gala evening with stunts, a variety show, and a "graduation service." The staff appeared for the "graduation service" adorned with humorous, improvised robes and ridiculous regalia, such as seines, bird nests, and insect nets. After some appropriate graduation addresses, the staff presented the camp certificates to the campers. (See Appendix C for a copy of the certificate.)

For their part of the program, the campers have presented some interesting and clever skits or stunts on this last evening. During the second session of 1953, each cabin group wrote the words for a song about one of the staff members. At the program the songs were dedicated to the staff. A few examples of these songs are given here.

The song dedicated to H. S. Fowler (Chief Bus) was written to the tune of "Sidewalks of New York," for Fowler had previously resided in New York.

East side, west side
All around the camp,
Chief Bus leads the teachers
Where 'tis dry or where 'tis damp.

Teachers and Chiefs together,
All with the very same view,
Chief Bus is there to help us
If we'll only follow thru.

Up hill, down hill
Chief Bus takes us on hikes,
And tho' a camper may grumble
It's the sort of thing he likes.

Old and young together,
 We've bridged this gap before,
 But if we'll follow Horatio
 'Tis most likely we'll Seymour.

"Missouri Waltz" was the tune of the song written for Dr. McCollum (Chief Mac), because his native state was Missouri.

We've a Chief we all like
 From the good old show me state.
 When we ask him this and that
 I'm sure we irritate.
 Chief Mac is a grand guy,
 A regular old stand-by
 To whom we owe much
 Of our birdlore and such.
 He is from Missouri
 That good old show me state.
 If you want information
 You will find him never late.
 He always will do
 What we ask him to
 For he is true blue.

The song dedicated to the entire staff was written to the tune of "Memories."

Camping Days in Springbrook Park
 Leave memories with us
 Of Chiefs like George and Dorothy
 And Mac and Rig and Bus.

Teachers, Chiefs and visitors
 All like one family,
 We're sure that everyone enjoys
 This informality.

Camping Days in Springbrook Park
 Days we can't forget,
 Let's thank our staff and tell them that
 They're the best we've ever met.

During the third session of 1952, one of the cabin groups composed a clever parody of the poem "Hiawatha." As each chief at conservation camp was called forward, he was presented with a medal which had been designed by the campers and made at the Mobile Unit.

Session three, 1952, ended with a big party in the dining hall. Naturally, there were some wild stories (conservatively speaking), a truck load of good food (Is there ever any *other* kind at Springbrook?), and the usual run of amusing antics. Everything else, however, bowed to the magnificence of the performance given by Cabin 4 (the occupants, that is) namely; Nancy Graffam, Wilma West, Betty and Sue Petersen, Clarice Kembery, Neva Trumbo, Bertha Ulm, and Lottie Whittenbaugh.

With the scene lighted only by a flickering mock campfire and with campers wearing the most realistic of Indian costumes, the chiefs were honored by the recitation and dramatization of the following verses:

TEXT OF INDIAN POW WOW

Let us listen to this legend
 To this legend of our people.

To the land of rushing waters
 To this land of blooming prairies
 Came the white man to despoil them.
 Far and wide he plowed and plundered,
 Left the land in desolation.
 From the woods and from the prairies,
 From the lakes and from the rivers,
 Scared our little furry brothers,
 Stilled the songs of feathered creatures.

Then the great chiefs looked upon it,
 Saw the land of desolation,
 Thought there must be "Conservation."
 Many chiefs were called to council,
 Called to save our land and people
 By their cunning and their wisdom.
 So they taught their people wisdom,
 Taught them laws of Conservation.
 For these deeds they must be honored,
 Call these people to our campfire.

Find Chief Waterfall they call him,
 You will find him by the river,
 Where he talks with little minnows,
 Boots and seine you'll find him garbed in.
 Garbed in these for deep slough wading
 From his town of many people
 Came he here in Studebaker.
 —Go! and find and bring before us—
 They will hook and bring him hither.
 (Chief George brought in)

Now is needed at our council,
 Chief Big Wings our good advisor,
 He who councils all his people,
 With his kindly words of wisdom.
 You will find him on a bird hike,
 Where he searches for an eagle,
 In the early hours of morning.
 Hark! from out the early stillness,
 Comes a sound from Big Smoke Signals,
 Did he find the great bald eagle?
 No, 'twas just a mere recording.
 Go! and find him in his wigwam.
 (Bring Chief Emery Will to campfire)

Then the council looked about them,
 Saw the wilting of the green plants,
 Needed help to save the green plants.
 There is one among our numbers,
 Who knows much of little green plants,
 Knows their names and all their habits.
 She who here has looked about her,
 Looked and found the poison ivy.
 By her teaching she has counseled,
 All who brought in weed collections.
 She who kindly answers questions,
 Helps among her many campers

Spreading thoughts of Conservation.
 Go, and find her by her campfire.
 Chief Green Plants must come to council.
 (Bring Chief Dorothy)

From the land across the state line,
 From the state of old Missouri,
 Came a chief with great good humor.
 When this great chief looked about him,
 Saw the brooks run black and muddy,
 Saw the river's cutting riffles
 Spoke he, Mighty Chief of Good Soils,

Said in tones of mighty thunder,
 "We must stop this great erosion
 Stop this washing of our good soil"
 Came he straight to Camp of Springbrook,
 Brought his princess and his papoose,
 Here he too, taught Conservation.
 You will find him at his tepee,
 Go, and bring him to this council.
 (Bring Chief Mac to Campfire)

Comes a sound from out the distance,
 Hark, the sound of beating tom-toms
 From the mighty mobile unit—
 No, 'tis not the sound of tom-toms
 But the sound of many hammers,
 Being wielded by the campers,
 Making homes for little birdies,
 Riker mounts for little lunas,
 Houses for the little anties.
 Day by day he drives the hornet,
 Drives the spattered Big Green Hornet,
 Makes he sounds like big owl-cuckoo.
 Go and find him in the kitchen,
 Eating pies between the coffees,
 Bring him to our campfire council.
 (Bring Chief Rig to campfire)

You have gathered here before us,
 You our chiefs of mighty wisdom,
 Came in answer to our summons.
 Now with honor we bestow you
 With these tokens of affection
 On behalf of sixty campers.

To Chief Waterfall this honor—
 (medal presented)
 Chief Big Wings accept this token—
 (medal presented)
 Chief Little Green Plants now your tribute
 (medal presented)
 Chief Good Soil, award is given
 (medal presented)
 Chief of Tools you are presented
 With this fitting little emblem.
 (medal presented)

We will wander from our campfire,
Laden with your words of wisdom,
Spreading forth in tribal language
Messages of Conservation.²⁶

CHAPTER SUMMARY. This chapter has presented a résumé of the program of the Iowa Teachers Conservation Camp from its beginning in 1950 through 1953. The three courses, Biology 105, which is the conservation of soil, water, and forests, Biology 104, the study of soil nutrients, wildlife, and balance in nature, and Biology 505, the conservation of soil, water, forests, and wildlife, have each been reviewed. The use of the out-of-doors for actual learning experiences was described through the various field trips. Not only did the teachers learn about the conservation of soil, water, forests, and wildlife, but they also learned how to teach conservation. The campers became familiar with conservation books and materials, received much free printed material from governmental agencies and industrial concerns, learned the techniques of conducting field trips and using resource personnel, constructed teaching aids, prepared demonstrations and experiments that could be used in their classrooms, became acquainted with many visual aids, and shared their teaching experiences. All of this practical training was a part of the camp program. In addition, handicrafts, swimming, fishing, boating, square dancing, picnics, and cook-outs added to the fun of camp.

CHAPTER V

CAMPERS' APPRAISAL OF CONSERVATION CAMP OBTAINED THROUGH PERSONAL VISITATION

When the Iowa Teachers Conservation Camp was inaugurated in 1950, the camp staff agreed that two of their basic objectives were (1) to teach basic and fundamental principles of conservation and (2) to help teachers develop confidence in their ability to teach conservation both indoors and out-of-doors. Through their camp experience the teachers became cognizant of conservation principles and practices and of ways to introduce conservation in the school curriculum.

The author has used two methods in an attempt to discover the means by which campers have utilized their conservation camp training. Campers who are now teaching in various geographical areas of the state were visited and interviewed regarding their conservation camp experience and conservation teaching. This chapter presents the results of the thirty-six interviews.

The second method employed involved mailing a letter to 270 former campers with a request for an appraisal of conservation camp. Results from the letters are presented in Chapter VI.

I. PROCEDURE FOR VISITATIONS

SELECTION OF SCHOOLS. In order to secure a representative sampling of campers, Iowa teachers were selected from rural schools, town schools, and city schools in various areas of the state. For this study the investigator classified the schools in the following manner: rural schools, those under township organization; town schools, the schools in communities with a population of less than 10,000; city schools, those communities with a population of 10,000 or over.

Degrees of latitude and longitude were used as points of reference to divide the state into six sections: the northwest, north central, northeast, southwest, south central, and southeast. Selection of schools in which campers were teaching was necessarily restricted to towns and cities where Iowa State

²⁶"The Voice of the Turtle," Vol. I, No. 2, 1953.

Teachers College Extension Service personnel were driving or where bus or train transportation was available. Due to this limited transportation, it was impossible to select equal numbers of campers within each section.

Thirty-six campers were chosen from areas in which Extension Service personnel were working. Of the campers selected, thirteen were rural teachers, seventeen taught in town schools, and six in city schools. Figure 11 shows the locations and types of schools in which the campers were teaching. Two adjacent dots on the map indicate that two teachers within the same school were interviewed.

VISITATION OF SCHOOLS. At the same time that she was enrolled at Iowa State Teachers College, the investigator traveled to various areas of the state to interview the selected campers. A total of thirty-six campers were visited: six in the northwest section, five in the north central, three in the northeast, ten in the southwest, six in the south central, and six in the southeast. Table IX presents a complete list of the teachers and schools used in the study. Thirty-two of the interviews were conducted during September, October, and November of 1953; the remaining four were in February of 1954.

During the interview with each teacher, the investigator used a series of questions as a guide to secure information about the conservation teaching and the camper's reaction to the conservation camp training. (See page for a copy of the guide.)

II. REPORT OF INTERVIEWS

The following section contains the summaries of the thirty-six interviews.* These interview reports are grouped according to the six sections of the state in which the campers are teaching.

TABLE IX
SCHOOL VISITATIONS FOR CAMP APPRAISAL

County	School	Teacher	Grades taught
<i>Northwest Iowa</i>			
Calhoun	Rockwell City	Mary Lou Secor	4
Osceola	Rural	Hilda Hayenga	1, 2, 6, 7
	(Wilson #5)		
	Rural	Lois Kuiper	1-7
	Rural	Margaret Olson	1, 2, 4, 5, 6, 8
	Rural	Cecilia Ransom	Kdg.-6
	(Holman #1)		
	Ashton	Jeannette Whiteis	4, 5
<i>North Central Iowa</i>			
Cerro Gordo	Mason City	Marie Fredrickson	2
	(Hoover School)		
Floyd	Charles City	Aagot Hanson	1
	(Lincoln School)		
Webster	Rural	Mildred Dee	5-8
	(Badger #10)		
	Moorland	Pauline Carberry	3,4
	Moorland	Maxine Sandahl	7, 8

*In this printed version of Miss Bredbenner's thesis it was necessary to omit all but a few of the complete reports. The included reports were chosen as typical illustrations of teaching in various grade levels.

Figure 11. Distribution of Representative Schools Visited.

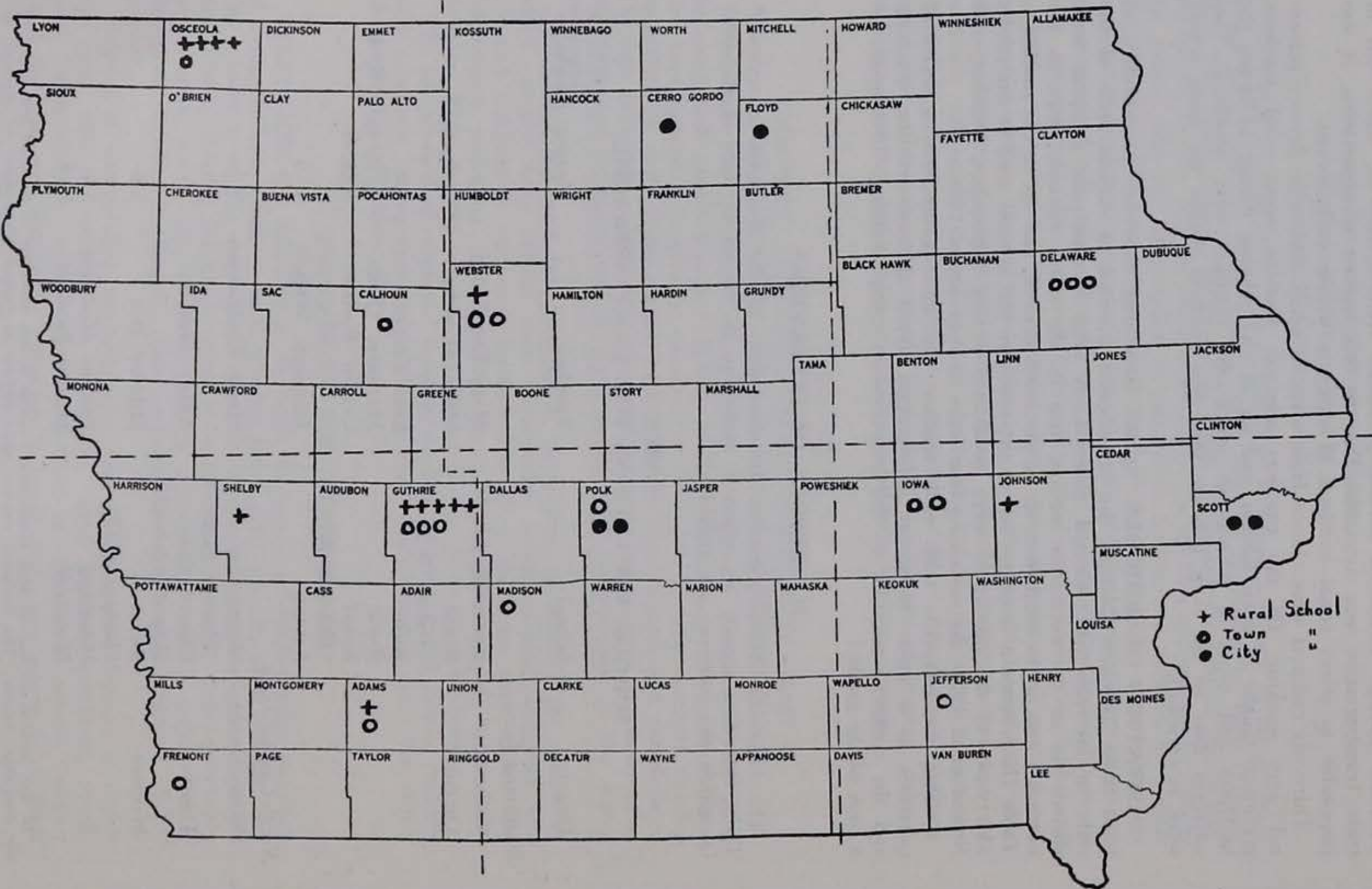


TABLE IX (continued)
SCHOOL VISITATIONS FOR CAMP APPRAISAL

County	School	Teacher	Grades taught
<i>Northeast Iowa</i>			
Delaware	Manchester (Central School)	Alice Grant	Kdg.
	Delhi	Mildred Gaddie	5
	Delhi	Winona Sutton	6
<i>Southwest Iowa</i>			
Adams	Corning	Vonnie Johnston	1
	Rural (Jasper #5)	Beatrice Rayborn	1-8
Fremont	Anderson	Mildred Hayes	4
	Rural (Seeley #7)	Dorothy Cue	1, 3, 4, 5, 6, 8
Guthrie	Bayard	Erna Lund	3
	Rural (Seeley #9)	Rachel Revell	1, 2, 5, 8
	Rural (Bear Grove #3)	Boula Towne	Kdg., 2, 3, 5, 6, 7, 8
	Rural (Baker #3)	Helen Weigel	Kdg., 2, 3, 5, 6, 7
Shelby	Rural (Seeley #8)	Bessie Wolf	Kdg., 1, 2, 4, 6
	Rural (Jackson #6)	Nadjeschda Overgaard	Kdg.-8
<i>South Central Iowa</i>			
Guthrie	Bagley	Jessie Carrick	1
	Bagley	Ruth Walker	5, 6
Madison	Earlham	Beulah Goeldner	2
Polk	Des Moines	Esther Foxworthy	4
	Des Moines	Ruth Leupold	6
	West Independent	Evelyn De Joode	3
<i>Southeast Iowa</i>			
Iowa	Williamsburg	Floy Hewitt	3
	Williamsburg	Mary Hurlbut	7, 8 Soc. St.
Jefferson	Fairfield (Logan School)	Margaret Herdliska	6, 7, 8 Science
	Rural (Sharon #3)	Orville Yoder	Kdg.—8
Scott	Davenport (Hayes School)	Eunice Dolmage	4, 5, 6 Science
	Davenport (Monroe School)	Margaret Maguire	4, 5, 6 Science

GUIDE FOR INTERVIEW WITH TEACHERS

Teacher's Name _____
 School _____ Grade _____ Number of Pupils _____
 How long have you taught in this school? _____

1. How is conservation brought into the curriculum? What units or areas of conservation have you taught since attending camp?
2. What field experiences have been provided?
3. What activities or experiments have you used?
4. What conservation agencies or resource people have you used?
5. What living animals are in the classroom?
6. What agencies have you used to secure films, film strips, or other visual aids? Do you recall some specific films you have used?
7. How have you used the school yard in teaching conservation?
8. What areas of camp training have been most helpful? What subject matter? Which field trips? Which resource leaders? Which visual aids? Which demonstrations and experiments?
9. Do you have a suggestion of something additional to be included in the camp curriculum? Is there any area which was not covered completely enough?
10. Is there anything that could be eliminated from the curriculum?
11. Have you received any recognition or publicity for your conservation work?

Information from each interview is presented in three main divisions: (1) conservation teaching, (2) reaction to conservation camp experience, and (3) recognition of conservation training.

Conservation teaching, which is the first division of each interview report, includes the following topics: (1) conservation in the curriculum, (2) conservation areas taught, (3) field trips taken, (4) resource people used, (5) activities and experiments used, (6) agencies used to secure audio-visual aids, (7) audio-visual aids used, (8) living animals in the classroom, and (9) use of the school yard. Since developing an appreciation of nature is one of the basic points of the conservation camp program, various types of nature study activities were listed in the group of activities and experiments used in the classroom.

The second division, the camper's reaction to the conservation camp experience, deals with the areas of the camp program which the camper feels were most helpful, suggested additions to the camp program, and suggested eliminations.

The third division, which is recognition of conservation training, lists ways in which the school and community have utilized the teacher's conservation training.

In instances where direct quotations of the campers have been stated, the quoted words are enclosed in parentheses to separate them from other data.

Teacher: Mrs. Maxine Sandahl

School: Moorland

County: Webster

Grades: 7 and 8 **Number of pupils:** 29

Years taught in present school: 7

Camp attendance: Session II, 1951

I. Conservation Teaching

Conservation in curriculum: In science and geography classes; In Junior Audubon Society and Citizenship Club.

Conservation areas taught: Soils, wildlife, minerals, forests.

Field trips taken: Trip to Eagle Grove, Iowa to see George Bawn's rock collection; Trip to Badger, Iowa to see carved bird collection of Severt Axness; Trip to Ledges State Park to observe rock formations, trees, and the Game Farm; Trip to Thor, Iowa to see collection of Indian relics; Trip to Black Hawk Lake to the fish hatchery and the waterfowl refuge; Trip to Dolliver State Park to observe trees; Trip to Fort Dodge Limestone Co., U. S. Gypsum Quarry and Vincent Clay Products; Hikes in and near Moorland to observe topography, trees, birds, and rocks.

Resource people used: Local farmer who explained soil-map plan for his farm; George Bawn—rock collector; Mr. Wilson—collector of Indian

relics; "Unc" Wright—conservation officer at fish hatchery and wildlife refuge; Severt Axness—judge of the wood carvings of birds of the 7th and 8th graders; Mr. Goeders—conservation officer who secured fur exhibit and talked about game laws and wildlife; Mr. Anderson—Soil Conservation Service representative who furnished booklets and pamphlets.

Activities and experiments used: "Antarium;" Wood carvings of birds (The evening that Mr. Axness judged the carvings was a social event for the community.); Soil maps of local farms; Leaf collections; Leaf prints such as smoke prints, blue prints, spatter prints, and crayola prints; Rock collections; Electric chart for bird identification; Numerous experiments such as water run-off, percolation of water, etc. (Daily experiments related to conservation were demonstrated by groups of youngsters.)

Agencies used to secure audio-visual aids: Soil Conservation Service; State Conservation Commission; Iowa State College; Department of Agriculture; Bureau of Mines.

Audio-visual aids used: Numerous films and filmstrips; Slides; Fur exhibit. Living animals in classroom: Ants in "antarium."

Use of school yard: To observe birds; To feed birds by means of feeding trays on the window ledge, in shrubbery, and on a tree; To place seven bird houses; To collect rocks; To study trees and plot them on maps of the schoolyard.

II. Reaction to Conservation Camp Experience Areas most helpful:

Subject matter—wildlife, trees, birds, rocks. (Before attending camp, I didn't know one tree from another.)

Resource leaders—Dr. Gwynne, Marvin Anderson.

Visual aids: Films: "*The Living Earth Series*;" Recordings: "*American Bird Songs*."

Demonstrations—(Soil demonstrations were especially helpful.)

How to conduct field trips.

Knowledge of where to get conservation materials. (I was amazed at the number of conservation agencies.)

Industrial Arts Mobile Unit—(My youngsters have made the copper bowls, aluminum trays, and plastic trays in art classes.)

Suggested additions: None.

Suggested eliminations: None.

III. Recognition of Conservation Training:

Newspaper article in *The Messenger* (Fort Dodge, Iowa) about the bird carving contest.

Teacher: Mrs. Winona Sutton

School: Delhi

County: Delaware

Grade: 6 Number of pupils: 27

Years taught in present school: 7

Camp attendance: Session II, 1951 and Session III, 1952

I. Conservation Teaching:

Conservation in curriculum: Integrated with social studies, language, and arithmetic; Conservation programs for Junior Audubon Club.

Conservation areas taught: Soils, wildlife, balance in nature, forests, water, minerals.

Field trips taken: Bird hikes in neighborhood; Tree hikes to identify and collect leaves; Trip to local farm to observe soil loss and conservation practices; Hike to note water run-off; Hikes to observe wildlife; Trip to Sutton's farm to establish a wildlife area; Trip to the nearby lake to secure materials for an aquarium.

Resource people used: Mr. George Carlson, S.C.S. Farm Planner who assisted in acquiring trees for the wildlife area and secured movies and printed materials; Mr. James Becker, conservation officer who obtained multi-flora roses for the wildlife area and secured the fur exhibit; Mr. Swinburne, school patron who showed kodachrome slides of wildlife; Dr. Clifford McCollum, ITCC instructor who spoke at PTA.



Figure 12. The 1954 sixth graders of Delhi continue development of a wildlife area started in 1953 by the preceding class.

Activities and experiments used: Establishment of a wildlife area on waste land (See Figure 12.); Observation of an ant colony in a glass house; Leaf collections and booklets; Leaf plaques and prints—smoke prints, crayon prints, carbon prints; Insect collections in observation mounts; Observation of insect pupation; Individual rock collections; Individual weed scrapbooks; Collections of old birds' nests; Individual booklets about soils unit; Group conservation scrapbook; Aquarium with aquatic life from a lake; Conservation exhibit for PTA; Peep shows to show good and bad farming practices; Conservation poster-essay contest sponsored by Federated Garden Clubs; Posters of food chains, balance in nature, soil erosion, water cycle, etc.; Experiments to illustrate water run-off, value of cover crops, value of contouring, splash-effect of raindrops, water penetration into soil, value of adding various types of fertilizer; Microscopic study of aquatic life.

Agencies used to secure audio-visual aids: Soil Conservation Service; State Conservation Commission; Local school patron.

Audio-visual aids used: Films—"Once Upon a Time," "This Is Our Land," "Know Your Land," "Yours is the Land," "The Golden Secret," "Food and Soil;" Kodachrome slides of birds and other wildlife; Fur exhibit; Peep shows; Recordings—"American Bird Songs," Numerous charts and pictures on bulletin board.

Living animals in classroom: Toads, goldfish, aquatic insects from lake, white rats, insect larvae and pupae.

Use of school yard: To study birds, trees and wildlife; To perform various soil experiments; To observe the splash-effect of raindrops.

II. Reaction to Conservation Camp Experience, Areas most helpful:

Subject matter—soil, rocks.

Field trips—farm pond trip. (All field trips were very impressive.)

Resource leader—Dr. Gwynne.

Films—"The Golden Secret," "This Is Our Land," "The Adventures of Junior Raindrop."

Acquaintance with books, pamphlets, and visual aids.

(I certainly feel that the camp did a great deal for me, as I scarcely noticed anything pertaining to nature before I attended camp. I didn't observe even the most common trees or birds. Now I am a strong enthusiast. I feel that if it enriches the lives of the boys and girls I teach as much as it has enriched mine, it is most worthwhile.)

Suggested additions: More about mineral resources.

Suggested eliminations: None. (I liked every bit of the camp program.)

III. Recognition of Conservation Training:

Requested to present with Mrs. Robert Gaddie a two-hour lesson on conservation teaching to the Delhi faculty.

Requested to present with Mrs. Robert Gaddie a program, "Conservation in the School," for the Women's Club.

Requested to meet with S.C.S. representatives to discuss a conservation contest for the schools. In the 1952 Report of the County Conservation District the following statement occurs:

Increased emphasis was on the importance of teaching of conservation in the public schools of the County. In August the Commissioners met with County Superintendent Don Potter, Mrs. Richard Sutton, and Mrs. Robert Gaddie from the Delhi Consolidated Schools to discuss ways in which the District might assist in this program.³

Requested to sponsor and judge the county-wide conservation scrapbook contest in 1953.

Inspired pupils to win first prize in the district and state poster-essay contest on conservation sponsored by the Federated Garden Clubs.

Assisted with the planning of a county-wide teachers' meeting where conservation information was presented.

Received a cash award and special certificate from the S.C.S. district commissioners for "outstanding leadership and contributions to the Soil Conservation District Program."

Newspaper article in the county newspaper about the sixth grade wildlife area. Following are some of the comments from the article:

SCHOOL CHILDREN AT DELHI MAKE WILDLIFE AREA

A practical lesson in conservation afforded sixth graders at Delhi a pleasant afternoon last Tuesday as they planted 21 Douglas fir trees—a second step in establishing a wildlife area.

The planting was on a strip of land worthless for cultivation and surrounding an old stone quarry on the Richard Sutton farm near Delhi.

George Carlson, Soil Conservation service farm planner, cooperated in acquiring the trees from the State Conservation Commission with the help of Virgil Webster. Carlson said that although a few rural schools have, in the past, done some planting in school yards, the Delhi project is the first in the county on so large a scale.

* * * * *

Carlson said Mrs. Sutton, whose class did the planting last week, and Mrs. Robert Gaddie, who also teaches at Delhi, have been two of the teachers most active in conservation work with children.

Last year Mrs. Sutton started the project with a group who planted multiflora roses. This year there were 29 children who enjoyed the afternoon of tree planting after a picnic lunch.⁴

³Report in the *Delaware County Farmer*, May 26, 1953.

⁴Article in the *Manchester Democrat-Radio*, April 27, 1954.

The following reports were selected from the sixth grade conservation scrap-books:

OUR PEEP SHOWS

We made two peep boxes which were entirely enclosed except for a little hole in the top to peep through. The scenes were lighted with electric bulbs.

In the box which we called the Valley of Contentment, we showed the farm with conservation practices such as stripcropping on the contour, grassed waterways, and trees on the steepest slopes. This farmer is prosperous and has very fine modern buildings with good looking livestock in the pastures. This scene we have lighted with a clear 25 watt bulb to give the appearance of happy sunny days.

In the box which we called the Gully of Desolation, we showed soil washing away due to careless farming and plowing up and down hills. The buildings were falling in. The lonely old donkey down in the gully was too weak to even stand up. We used a blue light bulb to give a weird desolate effect.

GOOD HEALTH FROM GOOD SOIL

Plants and animals and people are alike to the extent that good health requires good food.

Where do the plants get all their minerals? Why, from the soil. The animals get their minerals by eating plants. And we get our minerals by eating plants and by eating animals that ate the plants.

Plants are the basic producers of all the world's food and fiber. All of the materials from which they manufacture food for the world, they get from the sun, the air, the soil, and the water. The air furnishes more than 90% of these in oxygen, carbon dioxide, and nitrogen. The soil contributes the other approximate 10%. It practically controls a plant's growth through the size of the plant, or the condition of its health, or by the amount in bushels or tons produced in a crop. It is really miraculous the way a plant first absorbs nutrients out of the air and soil and then changes them into proteins, carbohydrates, fats, vitamins and mineral compounds which make up our food in some form or other.

Now if the minerals are deficient in the soil, they will be deficient in the plant. If they are deficient in the plant they will be deficient in our bodies.

Deficiency of minerals in our diet causes a break down in health. Even the trace elements are necessary.

(1) From lack of phosphorus and calcium, people have weak bones and teeth.

(2) Lack of iodine causes goiter.

(3) Lack of iron may cause anemia.

Scientists have found that the health of humans and animals is directly affected by the presence or absence of minerals in the soils.

HOW WE CAN HELP WILDLIFE

Put food out for game birds, animals, and song birds in the winter.

Plant eroded hillsides with trees and shrubs. These plantings will help hold the soil as well as shelter wildlife.

Make a farm pond surrounded by plantings for wildlife on our farm.

Leave brush piles. Brush piles are shelters to much wildlife.

Use living fences. Provide shelter and nesting places by planting living fences to replace wire fences.

Let the government have the large areas of unfit farm land for wildlife refuges.

Observe Uncle Sam's laws on hunting, trapping, fishing, and open seasons.

INTERDEPENDENCE OF PLANTS AND ANIMALS

Animals need plants for food and shelter, to hold back the rainwater for springs, wells, streams, rivers, ponds, and lakes and to help build soil so more plants can grow.

Plants need animals to help till the soil, for the carbon dioxide they exhale, to pollinate their flowers, to help distribute their seeds, and to destroy enemies of plants such as insects (plant lice, etc.).

An aquarium shows the interdependence between plants and animals. Carbon dioxide is given off by the animals and is used by the plants. At the same time plants give off oxygen which animals need to breathe.

The clover provides food for the bee. The bee pollinates the clover plants as it gets its food.

Earthworms loosen the soil which lets air and water into the soil for the plants. The plants give food to the earthworms.

The birds help the trees by keeping their enemy, the insects, in check. They help scatter seeds to keep the trees in number. The trees will help the birds by making shelter and homes for them and by nourishing insects for the birds to eat.

The ITCC Campers in Delaware County in cooperation with County Superintendent Potter and representatives of the local Soil Conservation Service Office have organized a conservation committee to promote better conservation teaching in their county. During 1952-53 the committee organized a conservation scrapbook contest for the schools of Delaware County. The schools were classified as city schools, consolidated schools, and rural schools. Prizes furnished by the S.C.S. were awarded to schools in each group. The campers and representatives of the S.C.S. acted as judges; therefore, scrapbooks from the campers' schools were not eligible for competition. During Iowa Conservation Week all the scrapbooks were displayed in a store window in the county seat.

In October of 1952 this conservation committee planned a county-wide teachers' meeting relative to conservation education. County Superintendent Donald Potter requested that all elementary teachers attend the meeting, for the teachers were excused from classes that afternoon. At the meeting Kenneth King, who was assistant State Conservationist, presented basic information about soil conservation; Dorothy Matala, member of the ITCC staff, suggested ideas for teaching balance in nature; and George Worley, Superintendent of Public Relations of the State Conservation Commission, presented useful information about conservation of wildlife. A bibliography and a display of conservation materials had been prepared by the campers. The Soil Conservation Service and State Conservation Commission distributed numerous free materials.

In March of 1953 the Delhi P.T.A. sponsored a conservation program to which all teachers in the county were invited. Dr. Clifford McCollum, instructor at the Iowa Teachers Conservation Camp, was the speaker. Pupils in the classes of Winona Sutton and Mildred Gaddie prepared an exhibit of their conservation classwork.

In 1953-54 the conservation committee sponsored a conservation poster contest in the schools. Again the Soil Conservation Service furnished awards for the winners.

This committee also conducted a survey of the teachers in Delaware County to determine which teachers were interested in attending the Iowa Teachers Conservation Camp. The Soil Conservation Service offered some tuition scholarships to interested teachers.

Superintendent Potter stated that the teachers who have attended ITCC have been instrumental in helping to establish a more effective and practical conservation education program in Delaware County. He indicated that Winona Sutton and Mildred Gaddie were outstanding conservation education leaders in his county.⁵

Teacher: Mrs. Beulah Goeldner

School: Earlham

County: Madison

Grade: 2 **Number of pupils:** 25

Years taught in present school: 11

Camp attendance: Session I, 1950 and Session III, 1952

I. Conservation Teaching:

Conservation in curriculum: In science class and Junior Audubon Club.

Conservation areas taught: Forests, wildlife, soils, balance in nature.

Field trips taken: Walks in neighborhood and on school ground to observe birds, animal tracks, weed seeds, soil erosion, water life in a culvert pool, ant hills, etc.

Resource people used: Carl Warren, conservation officer who assisted in planting a wildlife cover and who secured the Traveling Wildlife Exhibit; Gene Hertel, state forester who assisted in selecting native plants for the wildlife area.

Activities and experiments used: Leaf collections; Leaf prints—blue prints, spatter-prints, crayon prints; Collection of Iowa nuts; Experiment to illustrate effect of sunlight upon plants; Nature trail; Terrarium; Aquarium; "Antarium;" Preparation of good soil mixture; Sponsoring the planting



Figure 13. Pupils in Maple Grove School in Des Moines discover eleven kinds of insects in an uprooted maple tree.

⁵Personal Interview with Mr. Donald Potter, February 26, 1954.

of a wildlife cover area on the school grounds; Bird feeder on tree; Electric bird chart; Flannelgraph for nature stories.

Agencies used to secure audio-visual aids: State Conservation Commission; Iowa State College; University of Iowa; Dairy Council of America; County Superintendent's Office.

Audio-visual aids used: Films: "*The Adventures of Junior Raindrop*," "*Gray Squirrel*," "*Birds in Winter*," "*How Nature Protects Animals*," "*A Guide to Good Eating*," "*The School that Learned to Eat*," "*Skinny and Husky*," "*Something You Didn't Eat*," Filmstrips: "*Migration of birds*," "*Water Plants and Animals Living Together*," "*American Birds*," "*Conserving Our Resources*," Recordings: "American Bird Songs," Traveling Wildlife Exhibit from the State Conservation Commission; Numerous charts and pictures.

Living animals in classroom: Goldfish, black fantail fish, mystery and ramshorn snails, crayfish, tadpoles, toads, salamanders, snakes, hamsters, an albino field mouse, insect larvae and cocoons; Baby raccoon and baby fox as temporary residents.

Use of school yard: To collect and identify leaves; To observe and feed birds; To study water life in a small pool by a culvert; To observe and study gopher mounds and ant hills; To locate animal tracks in mud and snow; To observe soil erosion; To collect weed seed; To establish a wild life cover by planting multiflora roses, wild plums, dogwood, redbud, wild gooseberry, buckbrush, wild roses, etc.

II. Reaction to Conservation Camp, Areas most helpful:

Subject matter—nutrition, identification of leaves, insects, etc.

Field trips—(All field trips were important to me. While I don't use all the material, some from each is usable through the school months.)

Resource leaders—Joe Stritzel, Dr. Gwynne, Dick Campbell, B. I. Severson, Louis Thompson.

Teaching aids—terrarium, "antarium," bird feeder, observation mounts, insect cages, electric bird chart, flannelgraph.

Suggested additions: More early morning bird hikes.

Suggested eliminations: None.

III. Recognition of Conservation Training:

Asked to assist with nature and conservation lessons in various organizations—Boy Scouts, Camp Fire Girls, and garden club.

Asked to identify many specimens for children and adults in community.

Presented film strip demonstrations in conservation at the county institute and at the open house program at local school.

Parents expressed appreciation for the knowledge their second graders have gained in nature study.

The following newspaper article written by the junior high students at Earlham appeared in the school section of the local newspaper:

JUNIOR HIGH SCHOOL CONSERVATION PROJECT

Everyone saw the junior high planting shrubbery Friday, April 20. Here is the background of the program.

Through Mrs. Goeldner's attending a conservation camp our school came in contact with the project. Carl Warren, state conservation officer, and Gene Hertel, state forester of Adel, worked together in helping plan for what was wanted. One thousand multiflora roses were planted by the junior high school pupils. These were planted on the south, west and north perimeters of the athletic field and parking area. Carl Warren was mainly in charge.

Carl Warren and Gene Hertel went out in this area identifying native plants and shrubs. Later the eighth grade boys went out with Mr. Hertel to dig them up and bring them in to plant in the two corners of the athletic field. In one corner the shrubs bear tags to identify themselves; in the other corner they are not identified. These will be used for various classes to help the students learn to identify the shrubs. These ideas work along with the plans of the state conservation program.⁷

Teacher: Mrs Beatrice Rayborn

School: Rural, Jasper #5

County: Adams

Grades: 1-6 **Number of pupils:** 17

Years taught in present school: 6

Camp attendance: Session I, 1951 and Session III, 1952

I. Conservation Teaching:

Conservation in curriculum: Integrated with science, social studies, language, arithmetic, and music classes.

Conservation areas taught: Forest, wildlife, soils, minerals, balance in nature, water.

Field trips taken: Trip to nearby farm with S.C.S. to watch terrace construction; Trip to nearby field to make a soil profile; Trip to Jones' Timber and to Bloom's Timber to study trees and plants; Trip to Lake Bender to study types of forest communities; Trips to timbered areas near Thayer and Prescott to observe animals, trees, plants, and rocks; Trip to Lake of Three Fires.

Resource people used: Mr. Carl Zimmerman, Farm Planner who explained terracing and loaned acid testing equipment; Mr. Dunlavey, Corning High School Superintendent.

Activities and experiments used: Collections of leaves, bark, and fruits; Acid test of soil; Soil profiles; Experiment to illustrate water percolation; Woodland terrarium; Observation of animal tracks; Leaf prints—spatter prints, crayon prints, leaf etchings; Rock collections mounted in plaster of Paris; Rock test for lime content; Electric bird chart; Bird feeder; Bioscope to observe aquatic life; Individual weekly observations of plots in school yard; Individual observation of forest plots; Drawings and charts of food chains, food pyramids, life cycle of animals, types of windbreaks, trees in yards of individual pupils, etc.; Maps of Pittman-Robertson areas in Iowa, national forest areas, forest reserves in Iowa, U. S. forest nurseries; Bar graphs and circle graphs to illustrate causes of forest fires and their damage; Conservation scrapbooks; Aluminum and brass pictures and trays with designs of birds, flowers, butterflies, etc. (I learned how to make these at camp at the Mobile Unit.)

Agencies used to secure audio-visual aids: Soil Conservation Service; Iowa State College; Corning High School; County Extension Office.

Audio-visual aids used: Films; Filmstrips; Bioscope; Aerial slides of conservation practices in Adams County.

Living animals in classroom: Frogs, land snails, insects, larvae and cocoons; Coyote and birds as temporary residents.

Use of school yard: To study trees and plants; To observe gopher at work; To observe Cedar galls; To make individual observations of plant communities; to test soil found there; To observe birds at the bird feeder.

II. Reaction to Conservation Camp Experience, Areas most helpful:

Subject matter—plant communities.

Field trips—Lakin Slough, ecology of a farm pond, bird hikes. (The way the field trips were organized was very helpful.)

⁷*The Earlham Echo*, May 3, 1951.

Resource leaders—Joe Stritzel, Louis Thompson, Marvin Anderson, Jack Musgrove, Dick Campbell.

Demonstrations—laying out contours, using cruising stick, splash-effect of raindrops, nature trail.

Visual aids—(They were all very good and gave a person an idea of what to use with children.)

Suggested additions: More about food nutrition and human conservation; More about insects; More complete summaries on Saturday mornings.

Suggested eliminations: None.

III. Recognition of Conservation Training:

Prize for conservation scrapbook in S.C.S. contest awarded to school.

Slides of Conservation Camp shown at Adams County Council.

The older youngsters in Mrs. Rayborn's school recorded their conservation study and activities in attractive scrapbooks. Following are a few of the reports selected from the scrapbooks:

I made this scrapbook because I believed it would teach me more about plants and animals. It would show me the food they eat, their shelters and habits. It will also help me to know about the soil and its contents so if I ever live on a farm when I am older I can help enrich it and replace some minerals that have been taken out.

OUR NATURE HIKE

On our way to Thayer and Prescott for a nature hike we watched for animals along the road dead. We saw three skunks, two rabbits, and one pheasant. They had all been killed by cars. This helps to keep the "balance of nature" because it kills off the animals so they will not overtake the world. Killing by cars destroys wildlife so it can not grow.

In the forest we saw one chipmunk and one squirrel killed by some hunter. They had been left to decay while the hunter could have eaten the squirrel or not have shot them. People are wasting nature more every day.

NATURE TRAIL

On the way to Thayer on highway 34 we saw 14 meadow larks, 6 crows, 7 sparrows, 16 grackles, 1 flicker, 1 starling, 1 horned lark, 1 sparrow hawk, 2 pintail ducks on a big lake, 1 yellow-eyed duck on the same lake, a sea gull flying over that lake, 3 red wing blackbirds, and a pheasant.

On the way back we saw 2 meadow larks, 2 crows, 9 grackles, 3 sparrows, 4 cardinals, 2 turtle doves, 1 red wing blackbird, and 1 pheasant.

We were coming back from Prescott when we went by a ditch full of water. On the water were 6 mallard ducks, 4 males, 2 females. They had white spots on each side of their tails.

MY PLANT COMMUNITY

On April 10, 1953 I started to observe a plant community on our school ground. I marked it off four feet square. On the first day I found clover, grass, oats, dock, dandelion, foxtail, alsike clover, white dutch clover, and blue grass. Next week I will go back and hunt for more new weeds and buds.

Today, April 16, 1953, it rained all day and I never observed my plant community.

Today, April 23, 1953, I found two lady bugs, a cocoon, and metallic beetle in my plant community.

FORESTS AND TIMBERLAND

The way we found a lot of the leaves was to go on hikes. We went on several hikes. We found some leaves in our yards and schoolyard. I learned three different ways to tell trees and found that there are three different stories in the forest. I had a lot of fun getting leaves and putting this book together.

Our school went on a nature hike at Lake Bender. We divided in three groups. Each went in certain sections. We marked off spots 6 feet square. We then named our trees and found plants.

In the first story we found trees such as Oak, Slippery Elm, Shagbark Hickory, Bitternut Hickory, and the Pin Oak.

In the second story we found shrubs such as Buckbrush, Solomon's Seal, Poison Ivy, Poison Oak, Cattails, Wild Clover, Gooseberry and Anemone.

In the third story we found fungi. The ground was dry so there was not much on the third story. We also found rocks of limestone and shale. We looked for fossils but did not find any.

CHAPTER SUMMARY. As a result of the visitations and interviews with the thirty-six ITCC campers in various geographical areas of the state, the investigator presents the following conclusions:

1. The campers are satisfied, as a whole, with the conservation camp program.
2. While all areas of the camp program were mentioned as being helpful, the study of soils and rocks was denoted most frequently.
3. Early morning bird hikes at camp have been helpful and should be retained as a definite part of the camp program.
4. Since "What is it?" seems to be a popular question of elementary pupils, some of the campers requested that more time be devoted to actual identification of nature materials.
5. The camp training is being utilized to some extent by *all* campers who were visited; however, the degree and method of utilization varies.

CHAPTER VI

CAMPERS' APPRAISAL OF CONSERVATION CAMP
OBTAINED THROUGH CORRESPONDENCE

In addition to the school visitation reported in the preceding chapter, a further appraisal of the Iowa Teachers Conservation Camp was obtained through correspondence with former campers.

I. PROCEDURE FOR OBTAINING APPRAISAL

LETTER TO FORMER CAMPERS. In November of 1953 a letter was sent to 270 former campers requesting an appraisal of conservation camp via a personal letter. Several mailing lists and attendance records of ITCC campers had been checked in an attempt to find mailing addresses for each of the 270 elementary teachers who had attended camp. (See Appendix B for a copy of the author's letter to the campers.)

The use of a printed questionnaire instead of an informal letter had been considered by the author, but the letter was selected in order to facilitate freer expression in the campers' responses. To allow ample time for the teachers to have introduced conservation education in their classroom, the month of November was selected as the time for mailing the author's letter.

FOLLOW-UP LETTER TO CAMPERS. Subsequent to the initial letter was a follow-up letter to those campers who had not responded by January.

Director H. S. Fowler contacted the 1953 campers, which was the group with whom he had worked, and Dr. Dorothy Matala communicated with the 1950, 1951, and 1952 campers. (See Appendix B for the follow-up letters of Fowler and Matala.)

RESPONSE FROM CAMPERS. Letters were received from 127 of the 270 campers, a 47 per cent return. The author feels that several items contributed to this limited response. All of the 270 letters did not reach the campers due to lack of recent addresses for some campers. November was not an opportune time to contact the campers, for several teachers indicated that the letter had been laid aside during the Christmas holiday rush. Other teachers, who might have checked a questionnaire, perhaps felt that it required too much effort to compose a letter in reply. However, the 127 campers who responded with a letter contributed valuable information regarding the camp.

II. REPORT OF CAMPERS' APPRAISAL

The author's letter to the campers suggested that at least three main topics be included in the reply: (1) reaction to the conservation camp experience, (2) conservation teaching experiences, and (3) community recognition of conservation teaching and training. These three topics were used in tabulating the responses. Some of the replies included remarks about all three topics; other dealt with only one or two.

REACTION TO CONSERVATION CAMP EXPERIENCE. The general reaction of the campers who replied regarding their conservation camp experience was a favorable one. Each letter presented various aspects of the camp program which had been especially helpful to that individual. Obviously, no two letters were the same, nor was any item mentioned by all 127 respondents. Since none of the specific comments were suggested in the author's letter, the fact that numerous campers did mention the same items indicates that those parts of the camp program were most outstanding in the minds of the campers. Table X presents a summary of these outstanding points about conservation camp.

Forty-one of the campers stated that they could select no one area of the camp program as the most helpful, for they felt that the entire program was equally beneficial to them. Table XI indicates the areas of the camp program that other campers listed as most helpful.

Thirty-six of the campers commented that learning through field trips was one of the outstanding things about the camp program. Numerous campers pointed out certain field trips which they felt were particularly helpful to them in developing an understanding of conservation or in providing background

TABLE X
OUTSTANDING THINGS ABOUT CONSERVATION
CAMP BASED UPON 127 RESPONSES FROM CAMPERS

Items	Number of responses
Broadening personal interest in conservation	58
Organization of the camp program	57
Development of confidence to teach conservation	56
Outstanding resident faculty	49
Excellent specialists as resource leaders	47
Development of an appreciation of nature	44
Introduction to numerous resource materials	39

TABLE X—continued

Items	Number of responses
Rapport between students and faculty	37
Learning through field trips	36
Fellowship with other teachers	32
Construction of teaching aids and handicraft program	29
Collections of leaves, weeds, rocks, insects, etc.	23
Audio-visual aids	23
Experiments and demonstrations	21
Learning how to conduct field trips	15
Provision for recreational opportunities	11
Excellent meals	9
Acquaintance with the work of various conservation agencies	8
Knowledge of how to use animals in the classroom	5
Individual or group projects	5

TABLE XI
AREAS OF THE CAMP PROGRAM MOST HELPFUL
BASED UPON 127 RESPONSES FROM CAMPERS

Area of study	Number of responses
Entire program	41
Birds	27
Soils	26
Forests	21
Rocks	20
Water	15
Insects	15
Wildflowers	14
Balance in nature	10
Wildlife	7
Ecology	6
Nutrition	4

for conservation education in their school. Table XII lists those field trips that were reported as especially beneficial. A perusal of the table indicates that field trips from each area of the conservation program are listed among the outstanding trips.

The author's letter to campers requested a frank evaluation of the camp, including suggestions for eliminations or changes in the program. Only 37 campers suggested changes; the majority of the other campers approved of the program as it now exists. Table XIII records the additions and eliminations that were mentioned by the campers. This table presents interesting individual preferences; however, since only four campers out of 127 suggested similar changes, no conclusive group results can be drawn from the data.

In several instances the proposed changes are already a part of the curriculum in Biology 104: Conservation for Elementary Grades B. The teachers who suggested those changes were probably unaware of that fact, since they had taken only Biology 105: Conservation for Elementary Grades A. Wildlife habitat, human nutrition, wildflowers, insects, and the interrelationship of the different conservation areas are all topics that are included in Biology 104.

It is interesting to note that while the trips to Lakin Slough, the sewage

TABLE XII
OUTSTANDING FIELD TRIPS BASED UPON
127 RESPONSES FROM CAMPERS

Field trip	Number of responses
Bird hikes	15
Lakin Slough	12
Ledges State Park	9
Little Sioux Flood Control Project	9
Geology trips	8
Stevens State Forest	7
At the stream with the conservation officers	6
Seining in Springbrook Lake	5
Farm pond	5
Farm trip to observe conservation practices	4
Native prairie	3
Soil properties and associations	3
Forest communities	2
Forestry trip to Winterset	2
Woodlot management	2
State Game Farm at Boone	2
State Fish Hatchery at Lake View	1
Sawmill	1
Sewage Disposal Plant	1
Signs of deficiency in soils and plants	1
Hikes to identify trees	1

TABLE XIII
SUGGESTED CHANGES IN THE CAMP PROGRAM
BASED UPON 127 RESPONSES FROM CAMPERS

Suggested change	Number of responses
More time and space to work on projects and collections	4
More study about insects	4
More free time	4
Eliminate trip to Lakin Slough	4
More bird hikes	3
Add optional evening bird hikes	3
More conservation for primary grades	3
Eliminate Sunday evening sessions	3
Less strenuous program for older teachers	3
More time for follow-up discussion by resident staff	2
More identification of wildflowers and weeds	2
More study of nutrition and human conservation	2
Summary of the day's work replacing some evening films	1
All-day trips followed by free evenings	1
Eliminate trip to sawmill	1
Eliminate forestry trip to Ames	1
Eliminate trip to beaver dam for older teachers	1
Eliminate trip to sewage disposal plant	1
Eliminate conservation demonstrations by teachers without camp experience	1
Eliminate lecture about predators	1

TABLE XIII—continued
 SUGGESTED CHANGES IN THE CAMP PROGRAM
 BASED UPON 127 RESPONSES FROM CAMPERS

Suggested change	Number of responses
Shorten trip to observe plant deficiencies	1
Shorten lecture-tour of Traveling Wildlife Exhibit	1
Eliminate making plaster casts of animal tracks	1
Eliminate Saturday classes	1
Less recreational craft work—more research or classroom activities	1
Specific assignment regarding number of specimens required for collection	1
More study of mineral resources	1
More practice in using keys	1
More individual written assignments	1
More organization for Saturday summary sessions	1
Special emphasis on the units in the <i>Iowa Elementary Teachers Handbook</i>	1
More recreational group singing	1
More study of herbs and shrubs	1
More interrelationship of different areas	1
More background material preceding field trips	1
More generalized program instead of 2 or 3 areas	1
More about wildlife habitat and preservation	1
Traveling Wildlife Exhibit at camp for a longer time	1
Bird hikes optional	1

disposal plant, and the sawmill are suggested eliminations in Table XIII, the same trips were selected by other campers as outstanding field trips in Table XII.

The fact that personal preferences vary is further indicated by the suggestion that less recreational craft work be done. According to Table X, twenty-nine campers agreed that the craft program was one of the outstanding things about camp.

One camper suggested more individual written assignments, while others stated in their letters that they appreciated classes without written assignments. All individual preferences cannot be satisfied in a group program.

As stated previously, the general attitude of the campers toward their conservation camp experience was favorable. Following are a few selected statements which are typical of the majority of responses in the campers' letters:

I often recall moments of those three weeks at Conservation Camp. It was one of the most outstanding experiences I have ever had. The friendship and good will shared by campers and staff was something seldom seen. Where, except in such an informal situation would everyone be so receptive to learning?

Enrollment at Conservation Camp should grow each year. My wish is that more superintendents, principals and administrative assistants would take the course. If any one has the idea that the instruction would only interest elementary teachers, they are mistaken. The staff and visiting personnel would challenge the thinking of any educator.

The most helpful part of the whole camp for me was the workshop program where we learned to make and do with what we had. I thought it impossible to teach science or conservation without expensive equipment, but after going to camp I found out how to teach, using things I had.

The camp was fortunate in having a capable and enthusiastic staff. I feel it was the finest and most capably conducted educational program that I was ever connected with in any way.

I think I can better teach the children to appreciate and enjoy nature and their surroundings since I took this course. I am more conscious of the need for conservation of our resources, so I surely pass this information on to my pupils. I received much information that has been of personal value to me, also. When traveling on the highway, or wherever I am, I notice the soil, the topography, growth or absence of trees, animal life, insects, et cetera. I am so aware of the things I had always taken for granted.

Concerning the Conservation Camp, I feel I received more usable material in those three weeks than any other three weeks of college.

One of the main things I acquired at camp was information and enthusiasm which has made it possible for me to instill in children a vital interest in science. Camp has enriched my background greatly. It has made me less afraid of perhaps running across things in science with which I may not be acquainted. Since attending camp I have conducted several field trips which I never attempted before.¹

CONSERVATION TEACHING EXPERIENCES. In their letters the campers were requested to include reports of their experiences in teaching conservation. Many of the campers indicated that they had used much of their camp training in their conservation education classes; others had not as yet fully utilized their camp training. The following series of tables, Tables XIV to XXII, presents material relative to conservation education in the campers' classrooms.

A careful examination of the tables indicates that conservation education is included in the school program of many of the campers. It is evident from the data that certain areas of conservation study, certain field trips, and certain activities are more popular than others. (See Figure 13.)

The number of responses for many items would probably differ if the teachers were given the complete list of activities, field trips, or audio-visual aids and were asked to check the items that they had used. Some of the teachers probably neglected to include data about all phases of their conservation work, but the author could record only those items which the teachers did include in their letters.

COMMUNITY RECOGNITION OF CONSERVATION TEACHING. In order to determine the ways in which teachers apply their camp training to school and community situations, the author requested that the teachers present in their letters a section dealing with community recognition of conservation teaching. A summary of their remarks is presented in Table XXIII.

TABLE XIV
GRADES TAUGHT BY THE 127 CAMPERS WHO
RESPONDED TO THE AUTHOR'S LETTER

Grades taught	Number of responses
Kindergarten	3
1	9
2	7
3	6
1, 2, 3	1
2, 3	1
4	10

¹Personal Correspondence of the Author, letters from former campers, 1953.

TABLE XIV—continued

Grades Taught	Number of responses
3, 4	4
3, 4, 5	1
4, 5	2
4, 5, 6	4
5	7
6	4
5, 6	3
5, 6, 7, 8	2
6, 7	1
6, 7, 8	2
7, 8	5
Rural	45
Substitute teaching	2
Administrative assistant	3
Not teaching	5

TABLE XV
PLACE OF CONSERVATION EDUCATION IN
THE CLASSROOM CURRICULUM

Place in curriculum	Number of responses
Integrated with other subjects	52
Correlated with club work	12
Taught during a separate class period	10

TABLE XVI
CONSERVATION AREAS TAUGHT SINCE TEACHERS'
ATTENDANCE AT CONSERVATION CAMP

Conservation areas	Number of responses
Wildlife	84
Soils	60
Forests	59
Minerals	41
Water	26
Balance in nature	18

TABLE XVII
FIELD TRIPS TAKEN WITH PUPILS

Field trip	Number of responses
To observe trees	47
To observe birds and nests	34
To observe wildflowers, weeds, and grasses	32
To a farm to observe types of soil, erosion, conservation practices	26
To a river, lake, or pond to observe aquatic life	21
To observe wildlife	20
To observe and collect rocks	16
To observe and collect insects	13

TABLE XVII—continued

Field trip	Number of responses
To observe animal tracks	12
To observe water erosion	12
To roadcuts to study soil	7
To observe migratory waterfowl	4
To a fish hatchery	3
To a farm pond	3
To the State Historical Museum	3
To a sawmill	2
To the woods to observe humus in soils	2
To a marked nature trail	2
To a rock quarry	2
To observe seasonal changes	2
To a meat packing plant	1
To a sewage disposal plant	1
To a college museum	1
To a greenhouse and garden	1
To a coal mine	1

TABLE XVIII
RESOURCE LEADERS UTILIZED BY CAMPERS
FOR CONSERVATION EDUCATION

Resource leaders	Number of responses
Local conservation officer	30
Local farmer	26
S. C. S. Farm Planner	22
Local school patrons	8
County Extension Agent	4
Director of the State Historical Museum	3
Conservation officer at a state park or wildlife refuge	2
Local college instructor	2
Vocational Agriculture instructor	1
High School Superintendent	1
Farm forester	1

TABLE XIX
AUDIO-VISUAL AIDS UTILIZED BY CAMPERS
FOR CONSERVATION EDUCATION

Type of audio-visual aid	Number of responses
Nature collections	43
Films	30
Filmstrips	19
Electric nature chart	16
Charts and pictures	15
Science corner for exhibits	14
Kodachrome slides	13
Fur exhibit from the State Conservation Commission	8
Models of farms or school yards	8
Conservation maps	7
Recordings	6
Television or radio programs	5

TABLE XIV—continued

Type of audio-visual aid	Number of responses
Display cabinets for various specimens	4
Flannelgraph	3
Traveling Wildlife Exhibit of the State Conservation Commission	3
Bioscope or microscope	3
Marked nature trail	2
Plywood exhibit board for wildflowers	1
Electrical diorama	1
Peep-show	1
Roller-movie constructed by students	1
Conservation float in a parade	1

TABLE XX
SCHOOL ACTIVITIES UTILIZED FOR
CONSERVATION EDUCATION

Type of activity	Number of responses
Collecting insects	43
Building a terrarium	42
Collecting leaves, bark, or twigs	37
Observing ants in an "antarium"	35
Collecting rocks	33
Making various types of leaf prints	28
Observing an aquarium	27
Observing insect pupation	24
Making conservation scrapbooks or notebooks	22
Conducting soil experiments	22
Keeping a feeding station for birds	20
Conducting water experiments	16
Using an electric nature chart	16
Making conservation posters or drawings	15
Maintaining a science corner for exhibits	14
Taking soil samples or soil profiles	14
Collecting nests	13
Collecting weeds and wildflowers	11
Constructing models of farms or school yards	8
Establishing a wildlife area	8
Constructing bird houses	7
Sketching tree shapes	7
Making conservation maps	7
Making plaster casts of animal tracks	6
Using a cruising stick	6
Laying out a nature trail	6
Collecting seeds	6
Preparing a conservation exhibit	6
Conducting seed germination experiments	5
Presenting a conservation assembly program	4
Planting trees on the school ground	4
Practicing laying out contours	3
Collecting native nuts	3
Observing aquatic life with a bioscope or microscope	3
Counting rings on a tree stump	3
Using a flannelgraph for conservation stories	2
Preparing graphs to illustrate conservation problems	2

TABLE XX—Continued

Type of activity	Number of responses
Modeling clay animals	2
Marking and measuring gullies	2
Observing spiders and their eggs	2
Collecting galls	2
Testing types of fertilizer	2
Collecting fungi and lichens	2
Observing contents of owl pellets	1
Constructing an exhibit board for wildflowers	1
Preserving fish in formaldehyde	1
Carving wooden birds	1
Planting a multiflora rose fence	1
Making a conservation float for a parade	1
Constructing an electrical diorama to show effect of forest fires	1
Making a roller-movie about wildlife	1

TABLE XXI
LIVING THINGS OBSERVED OR KEPT
IN THE CLASSROOM

Living things	Number of responses
Insects (larvae, pupae, and adults)	53
Goldfish or tropical fish	36
Toads	32
Frogs	29
Turtles	28
Snails	27
Plants	17
Salamanders	16
Snakes	15
Children's pets (kept for a short time)	14
Tadpoles	11
Field mice	9
Native fish	5
Chameleons	4
Hamsters	4
Rabbits	4
White rats	3
Raccoons	3
Clams	3
Bats	3
Spiders	3
Crayfish	3
Aquatic insects and larvae	2
Birds	2
Opossum	1
Coyote	1
Fox	1
Horned Toad	1
Shrew	1
Alligator	1
Chipmunk	1
Badger	1

TABLE XXII
USE OF THE SCHOOL YARD IN CONSERVATION EDUCATION

Use	Number of responses
To observe trees and to collect leaves	35
To observe birds and nests	30
To observe and collect insects	21
To feed birds	18
To observe types of vegetation	13
To observe splash erosion and water run-off	12
To observe various forms of wildlife	11
To obtain soil, sod, or plants for experiments	9
To establish a wildlife area	7
To test soil and obtain soil samples	6
To study and collect rocks	6
To plant trees	5
To obtain an ant colony	5
To make individual observation of plant communities	4
To place bird houses	3
To make a nature trail	3
To note monthly changes in flora and fauna	2
To study a gopher mound	2
To observe how terraces prevent erosion	2
To locate animal tracks in mud and snow	2
To plant grass seed to help stop erosion	1
To discover the life supported by one square foot of sod	1
To collect galls	1
To plant a vegetable garden	1
To measure a gully	1
To conduct a pet show	1
To study water life in a small pool beside a culvert	1

TABLE XXIII
SCHOOL AND COMMUNITY RECOGNITION
OF TEACHERS' CONSERVATION TRAINING

Recognition	Number of responses
Requested to present a conservation report or program for other teachers	29
Stimulated increased cooperation of school patrons	19
Requested to present a conservation program for community clubs	18
Pupils received conservation contest awards	16
Asked to assist other teachers in conservation education	15
Loaned printed conservation materials and nature collections to other teachers	13
Requested to present conservation program for conservation organizations	10
Received newspaper publicity concerning conservation activities	10
Appointed as a member of a county conservation committee	7
Prepared a public conservation exhibit	6
Awarded a scholarship to conservation camp	5
Asked to assist with Scouts' nature work	5
Interviewed concerning conservation camp on a radio broadcast	1
Received a bird-banding permit	1

Several teachers indicated that they had been requested to present conservation programs or reports for educational groups such as County Councils and the County Rural Teachers. A few campers conducted a conservation workshop for the teachers in their local school.

In Webster and in Delaware County, the elementary teachers attended a conservation education meeting planned by campers. In Webster County the teachers received an outline of suggestions for conservation teaching, and in Delaware County a bibliography of conservation materials was distributed. These materials had been prepared by campers within the county.

In Greene County the administrative assistant helped to organize a Conservation Day. Conservation personnel conducted a field trip for the elementary teachers, illustrating what can be done with groups of pupils. Evaluations and plans for culminative work in the schoolroom were also a part of this day's program.

In addition to assisting with programs for educational groups, eighteen teachers stated that they had presented conservation programs for community clubs. Ten teachers reported that they had presented programs for community groups interested in conservation. These groups included the Izaak Walton League, Rod and Reel Club, Audubon Club, Garden Club, and the Soil Conservation District.

Some conservation campers are sharing their conservation knowledge with other instructors in their schools. Fifteen campers commented that other teachers had requested assistance in planning conservation lessons. Thirteen teachers reported that their conservation printed materials and nature collections had been loaned to other teachers.

Conservation contests were won by pupils of sixteen of the campers. These awards were for conservation jingles, conservation posters, scrapbooks, bird shelters, bird houses, bird feeders, conservation essays, a conservation float, and nature collections.

According to nineteen teachers, the conservation education program in the school stimulated increased cooperation of the school patrons. Some patrons offered to help teach the children to lay out contours. Others assisted in taking soil samples and checking fertilizer. Still others assisted on various field trips. Many parents did not assist in the conservation field work but indicated that they were highly enthusiastic about the conservation work of their youngsters.

Other types of recognition of the conservation teaching and training of the campers may be noted in Table XXIII, p. 120.

CHAPTER VII

SUMMARY AND RECOMMENDATIONS

It has been the purpose of this thesis to present a study of the conservation education program of the Iowa Teachers Conservation Camp. This has been accomplished through the presentation of: (1) a record of the history and philosophy of the camp, (2) a summary of each summer's camp program from 1950 through 1953, and (3) an appraisal secured from the campers of their camp experience.

I. SUMMARY OF THE STUDY

HISTORY AND CAMP PROGRAM OF ITCC. For several years conservation-minded persons in Iowa worked toward the establishment of a teachers-training program in conservation. This interest and planning culminated in 1950 in the Iowa Teachers Conservation Camp.

The cooperative camp sponsorship by the State Conservation Commission, Iowa State Teachers College, and the State Department of Public Instruction has proved very effective in camp promotion and administration.

1. The State Conservation Commission furnishes the site and physical equipment connected with Springbrook State Park, supplies numerous resource personnel as trained technicians for field work and lectures, publicizes the camp, and provides the services of the Superintendent of Public Relations as planner, instructor, and coordinator of the activities involving conservation equipment and personnel.

2. Iowa State Teachers College administers the camp curriculum, arranges for accrediting, provides the camp director and resident instructors, supplies additional resource leaders, publicizes the camp, and furnishes much of the equipment for instruction.

3. The State Department of Public Instruction appoints the Conservation Camp Committee, which is composed of representatives from interested conservation organizations, promotes the camp through publicity to teachers, and furnishes a curriculum consultant as a part time instructor.

The Iowa Teachers Conservation Camp has expanded from the two three-week sessions for elementary teachers in 1950 to three three-week sessions with instruction for high school teachers and graduate students as well as elementary teachers. Four courses, each providing five quarter hours of credit, may be taken at the camp. These courses are Biology 105, which emphasizes conservation of soil, water, and forest; Biology, 104, which deals with wildlife, soil nutrients, and balance in nature; Biology 505, the conservation of soil, water, forests, and wildlife; and Biology 680: Special Problems in Biology. During the four years of the camp program, 295 individuals have enrolled in the conservation courses; forty of these students have returned to camp for a second course. Various clubs and organizations have participated in the camp program through offering camp scholarships for teachers.

The resident staff consists of the camp director and two other instructors from the Science Department at Iowa State Teachers College, the Superintendent of Public Relations from the State Conservation Commission, an industrial arts instructor who also serves as bus driver, a secretary, and a cook. In addition to these persons, experts in various phases of conservation from local, state, and federal agencies assist in the camp program.

The Iowa Teachers Conservation Camp is held in the group camp at Springbrook State Park near Guthrie Center. The park provides excellent outdoor laboratories through its variety of habitats—woods, prairie, marsh, stream, lake, and roadside. Numerous examples of variations in resource use are within easy driving distance of the park. A bus and station wagon from I.S.T.C. provide the necessary transportation for these field trips away from the immediate camp area. Thus, with its abundant opportunities for observation and outdoor experiences, Springbrook Park offers an almost ideal setting for conservation camp.

The teachers not only learn about the conservation of soil, water, forests, and wildlife, but they also learn how to teach conservation. They become acquainted with the techniques for conducting field trips and using resource personnel, construct teaching aids through the use of the Industrial Arts Mobile Unit, prepare demonstrations and experiments that can be used in their schools, and become familiar with conservation books, materials, and audio-visual aids.

APPRAISAL OF IOWA TEACHERS CONSERVATION CAMP. Two methods were used in an attempt to discover the means by which campers have utilized their conservation camp training:(1) visitation and interviews, (2) correspondence.

Thirty-six campers who are now teaching in various geographical areas of the state were visited and interviewed regarding: (1) their conservation teaching, (2) their reaction to the conservation camp experience, and (3) the community recognition of their conservation training. From the visits and interviews the writer concluded that all the interviewed teachers were applying some phase of their camp training; however, the method and degree of utilization varied. Detailed reports of these interviews have been reported in Chapter V.

The second means of appraisal utilized a tabular summary of data obtained through correspondence with former campers. The letter which was sent to 270 elementary teachers brought a 47 per cent response. The three appraisal topics suggested in the correspondence were identical with those used in the personal interviews. Tables X and XXIII in Chapter VI have presented the data secured from the replies. The following facts and conclusions are evident after a careful study of the tables:

1. Among the numerous outstanding things mentioned about camp were the following: (a) a broadening personal interest in conservation, (b) organization of the camp program, (c) development of confidence to teach conservation, (d) an outstanding resident faculty, (e) excellent specialists as resource leaders, and (f) the development of an appreciation of nature.

2. Although many campers reported that the entire camp program was beneficial, the bird study, soils, forests, and rocks were selected most often as the helpful areas.

3. Twenty-five field trips were reported as outstanding with the following trips leading the list: (a) bird hikes, (b) Lakin Slough, (c) Ledges State Park, (d) Little Sioux Flood Control Project, and (e) the geology trips.

4. No conclusive results could be drawn from the suggested camp changes, for the response was too limited. The general reaction toward the camp program seemed to be favorable.

5. The majority of teachers integrated conservation education with other subjects; however, ten teachers taught conservation as a separate subject, and twelve teachers included it as a part of their school club work.

6. Since attending conservation camp, the teachers included the following areas in their conservation teaching: (a) wildlife, (b) soils, (c) forests, (d) minerals, (e) water, and (f) balance in nature.

7. Twenty-five types of field trips have been conducted for school classes. Trips to observe the following were used most frequently: (a) trees, (b) birds and nests, (c) wildflowers, weeds, and grasses, (d) types of soil, erosion, and conservation practices at a farm, (e) aquatic life in a river, lake, or pond, (f) wildlife, (g) rocks, (h) insects, (i) animal tracks, and (j) water erosion.

8. Eleven types of conservation resource leaders have been utilized by the teachers. The local conservation officers, local farmers, and the Soil Conservation Service Farm Planner have assisted most frequently.

9. Among the most popular visual aids employed by the teachers were: (a) nature collections, (b) films, (c) filmstrips, (d) electric nature charts, (e) flat pictures and charts, (f) a science corner for exhibits, and (g) koda-chrome slides.

10. It was apparent that experience-type teaching was being conducted in many classrooms, for fifty-one types of activities and experiments were reported.

11. Thirty-two types of living things were kept or observed in the classrooms of the former campers. Among the most prevalent were: (a) insects, (b) goldfish or tropical fish, (c) toads, (d) frogs, (e) turtles, (f) snails, (g) plants, (h) salamanders, and (i) snakes.

12. In conservation teaching the school yards of the campers were utilized in the following ways: (a) to observe trees and collect leaves, (b) to observe

birds and nests, (c) to observe and collect insects, (d) to observe types of vegetation, (e) to observe splash erosion and water run-off, and (f) to observe various forms of wildlife.

13. School and community recognition of the teachers' conservation training was denoted by: (a) requests from educational groups for reports or programs about conservation, (b) the increased cooperation of school patrons, (c) requests to present conservation programs for community clubs, (d) awards received by pupils in conservation contests, and (e) newspaper publicity regarding the conservation activities in the school.

II. RECOMMENDATIONS

The following recommendations are based upon thirty-six personal interviews and one hundred twenty-seven personal letters from elementary teachers who were former conservation campers:

1. The Iowa Teachers Conservation Camp program should be continued with its emphasis upon conservation of soil, water, forests, and wildlife. According to the appraisal of the campers, the existing program seems adequate; no significant changes are recommended.

2. Since the interrelationship of living things is such a fundamental conservation concept, it is recommended that more suggestions of ways to actually teach elementary pupils the idea of natural balance be included in the camp program. Fewer campers reported having taught the balance in nature than any other conservation areas.

3. Continued stress in the camp program should be placed upon the use of the school yard and nearby resources in the teaching of conservation. While numerous uses of the school yard were reported, additional stress upon this factor might aid in more complete utilization of the school yard.

4. County superintendents and local school administrators should be further contacted to acquaint them with the program of the Iowa Teachers Conservation Camp and to encourage them to attend camp. A special one-week session might be arranged for them. School administrators need an understanding of the basic principles of conservation in order to successfully promote a conservation program in their school.

The writer recommends the following additional studies relative to the Iowa Teachers Conservation Camp:

1. A comparative study of the conservation attitudes and understandings which the campers possess at the beginning of conservation camp and at the end of the three-week period.

2. A study of the conservation teaching of campers before and after attending camp.

3. An additional evaluation of ITCC obtained through an administrators' appraisal of the conservation teaching of the campers within their schools.

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APPENDIXES

APPENDIX A

1954 LOCATION BY COUNTIES OF ITCC CAMPERS

Appendix A contains a complete list of all the campers who have attended ITCC from 1950 through 1953. The names of the campers are arranged within the county according to the date of camp attendance. Roman numerals represent the first, second, and third camp sessions each year.

An asterisk (*) placed before the teaching address indicates that the camper is not at that location in 1954. If the last available teaching address is known to be inaccurate, or if the camper is not teaching at the present time, he is listed in his home county. The state in each address is assumed to be Iowa unless stated otherwise.

TABLE XXIV

1954 LOCATION BY COUNTIES OF ITCC CAMPERS

Camper and Teaching Address	Grade	Home Address	Camp Attendance
ADAIR COUNTY			
Ruby Huff		Apt. 7, 675-18th	
Greenfield	Rural	Des Moines	1950 I
Mrs. Vera Butler		Adair	1951 I
Adair	Rural	Adair	1951 I
Velma May Downing		Adair	1951 I
Adair	Rural	Adair	1951 I
Mrs. Geneva Birk		Rolfe, Stuart	1951 I
(Jefferson #7)	Rural	Box 497, Stuart	1953 III
Marilyn Raasch		Bridgewater	1951 II
Bridgewater	1-2	Bridgewater	1951 II
Lael Lowden		R.F.D. #2	
1202 28th St., Des Moines	College	Greenfield	1952 I
(Drake University)	Student		

TABLE XXIV—(Continued)

Camper	Grade	Home Address	Camp Attendance
ADAIR COUNTY—continued			
Mrs. Thelma Carlson Greenfield	4	Greenfield	1952 III
Mrs. Jennie Elam Greenfield	Rural	Greenfield	1952 III
Clarice Kembery Bridgewater	Rural	Bridgewater	1952 III
ADAMS COUNTY			
Mrs. Dailey Allison (not teaching)		Corning	1951 I
Vonnie Johnston R.R. 3, Box 1A, Corning	1	Corning	1951 I 1952 III
Mrs. Beatrice Rayborn 1912 W. 5th, Corning	Rural	Corning	1951 I 1952 III
Reva Warnock Corning	Rural	Corning	1952 I
Margaret Schulz *1016 8th Avenue, Corning	High School Science	Siam	1952 II
Phyllis Ann Kingery Kline Hall, McPherson, Kansas (McPherson College)	College Student	Mt. Etna	1952 III
ALLAMAKEE COUNTY			
Rita Piggott Waukon	Rural	Waukon	1952 III
Mary Kay Zuber Postville	Kindergarten	Clarion	1953 III
AUDUBON COUNTY			
Lois Nelson Atlantic (not teaching)	Rural	Atlantic	1950 I 1952 III
Margery Jayne (Mrs. Marion Walker) R.F.D. 2, Exira (not teaching)	Rural	Exira	1951 II
**Mrs. Nadjeschda Overgaard Kimballton	Rural	Kimballton	1953 II
Mrs. Loa Benton Audubon No. 2	Rural	R. #3, Exira	1953 III
Coela Shoemaker Gray	Music	Gray	1953 III
BENTON COUNTY			
Johanna Rouwenhorst *Vinton	Kindergarten	Vinton	1951 I
Donna Schlampp Garrison	5	R.F.D. 2, Ackley	1951 II
Donald Holloway Shellsburg	High School Science	Shellsburg	1953 I 1953 II
Elizabeth Porter 1007 A Avenue, Vinton	Kindergarten	Eagle Grove	1953 II

**Now teaching in Shelby County

TABLE XXIV—(Continued)

Camper	Grade	Home Address	Camp Attendance
BLACK HAWK COUNTY			
Lawrence Auld Cedar Falls (not teaching)	Rural	96 West Army St. Cedar Falls	1950 I
Jean Merchant (Mrs. Harold Sides) Van Horne, I.S.T.C.	4 College Student	LaPorte City	1950 II
Mrs. Mildred M. Walker 2003 Falls Avenue Waterloo	Rural	2003 Falls Avenue Waterloo	1951 I
Carol McCallum Waterloo (Lafayette School)	4-5-6 English, Science	207 Lafayette Waterloo	1952 II
Jean Getty (Mrs. Eugene Dolphin) Waterloo (Irving School)	1	Primghar 62 E. Navy St. Cedar Falls	1953 II
Martha Soukup Waterloo	1	420 Commercial Waterloo	1953 II
BOONE COUNTY			
Joan Bowen Ogden	2-3	Ogden	1951 I
Suzanne Lou Plath (Mrs. Donald Zwald) Ogden (not teaching)	Kindergarten	Ogden 1727 N. 5th St. N. Las Vegas, Nev.	1951 I
Alice E. Sperring Boone (Lowell School)	2	1104½ Fifth Boone	1952 II 1953 I
BREMER COUNTY			
Delores Noble (Mrs. Arthur Glidner) Sumner (not teaching)	7	Grundy Center Rt. 3, Sumner	1950 II
BUCHANAN COUNTY			
Bertha Ulm Independence	Rural	216 N.E. 8th Independence	1952 III
Mrs. Helen Burns Rowley	4	Box 345 Independence	1953 II
Mable Ronan Independence	Rural	Independence	1953 II
Loretta Lenzing Quasqueton	Kindergarten	Ft. Atkinson	1953 III
BUENA VISTA COUNTY			
Elizabeth Davies Rembrandt	High School Science	Linn Grove	1953 I
BUTLER COUNTY			
Mary Lou Noehl *Ionia		Greene	1950 II
Darlene Klar (Mrs. Beryl Griner) Floyd	3	Osage	1951 II
Greene	3	Greene	

TABLE XXIV—(Continued)

Camper	Grade	Home Address	Camp Attendance
CALHOUN COUNTY			
Evelyn Johnson Rockwell City	Rural	Rockwell City	1950 II
Andrea Meils Clare	Rural	Manson	1950 II 1952 III
Jessie Berryhill Rockwell City	Rural	East High St. Rockwell City	1951 I
Betty Lou Wilson R.R. 1, Rockwell City	Rural	R. R. 1 Rockwell City	1951 I
Mary Lou Secor Sibley, 102 First St. Rockwell City	4 4	R.F.D. #2 Ft. Dodge	1952 I
CARROLL COUNTY			
Ruth Sand Manning	2	Kimballton	1950 II
Mrs. Helen Schwarzenbach Glidden	5	1009 N. Quint Carroll	1952 I
Joan Platt Glidden	2	Glidden	1953 III
CASS COUNTY			
Mrs. Fern E. Johnson R.F.D., Atlantic	Rural	R.F.D., Atlantic	1951 I
Gladys Thompson Keim Marne (Brighton Twp. 2)	Rural	901 Birch Atlantic	1951 I
Ann Asmus Atlantic	Rural	R.F.D. 1 Audubon	1951 II
Betty Casey Wiota	Primary	Massena	1952 III
Wilma Jensen Wiota	5	Massena	1952 III
Mary Edwards Massena	3-4	Massena	1953 III
CEDAR COUNTY			
Clara Boyle Stanwood	1	Cascade	1951 I 1952 III
CERRO GORDO COUNTY			
Marie Fredrickson Mason City (Hoover School)	2	131 Crescent Dr. Mason City	1951 II
Mary Ann Eisenmann 412 1st St., S.E. Mason City (Wilson School)	2	Woden	1953 II
CHEROKEE COUNTY			
Dorothy Schulze Box 315, Cherokee (Lincoln School)	3	R.F.D. #1 Coon Rapids	1952 I

TABLE XXIV—(Continued)

Camper	Grade	Home Address	Camp Attendance
CHICKASAW COUNTY			
Louise Rausch R. R. #1, Nashua	Rural	Nashua	1952 I
Lucille Benner Fredericksburg	Rural	Fredericksburg	1953 III
Jean Bennor Nashua		Nashua	1953 III
Mrs. Ruby Ferguson Nashua	4	Nashua	1953 III
CLAY COUNTY			
Mrs. Mabel Cooper Fostoria	Rural	Fostoria	1952 I 1952 III
CLAYTON COUNTY			
Florence Tayek Garnavillo	7	McGregor	1951 I
Mrs. Lottie Whittenbaugh Volga	1-2	Wadena	1952 III
Mrs. Dorothy Jones *Ridgeway	3-4	McGregor	1952 I 1952 III
CLINTON COUNTY			
Eugenie Boussetot 614 - 10th DeWitt	7-8	DeWitt	1950 II
Faye Fredricksen 531 6th Ave., So Clinton (Jefferson School)	2	Mapleton	1950 II
Jean Sutherland Clinton (Jefferson School)	6	438 5th St Clinton	1950 II
Mabel English 1900 North 5th, Clinton	6	1900 North 5th Clinton	1953 III
Rose Kleinsmith So. Bernard Wolf Princeton	Rural	50 - 4th, DeWitt	1953 III
CRAWFORD COUNTY			
Delores Fastje Denison	6	Denison	1953 III
DALLAS COUNTY			
Mrs. Esther Alexander *Guthrie Center		R.F.D. #2 Dexter	1951 I
Josephine Fagen Waukee	Rural	R.F.D. #1 Dawson	1951 II
Ellen M. Fagen Waukee	4	R.F.D. #1 Dawson	1951 II
Marilyn Ludeke (Mrs. Eldon Coulter) Redfield	4	R.F.D. #2 Clear Lake	1951 II

TABLE XXIV—(Continued)

Camper	Grade	Home Address	Camp Attendance
DAVIS COUNTY			
Chleo Baughman R.F.D. #2, Bloomfield	Rural	R.F.D. #2 Bloomfield	1951 I
Mrs Frances Speer Floris	Rural	Floris	1951 I
DECATUR COUNTY			
Genevieve DeLong Lamoni	High School Comm., Eng	Lamoni	1953 III
DELAWARE COUNTY			
Mary Lou Keck (Mrs. John Beswick) Arlington (not teaching)		Colesburg Greeley	1950 I
Erna Adix 513 E. Butler St. Manchester	1	513 E. Butler St. Manchester	1951 II
Mrs. Mildred Gaddie Delhi	5	Delhi	1951 II
Mrs. Alice Grant 404 W. Marion St. Manchester	Kindergarten	404 W. Marion St., Manchester	1951 II 1952 III
Mrs. Winona Sutton Delhi	6	Delhi	1951 II 1952 III
Elaine Von Talge Manchester Colesburg	Rural 5	Manchester Colesburg	1951 II 1952 III
Mrs. Dorothy Hanson Manchester	Jr. High English	315 E. Delaware Manchester	1952 I
Mrs. Lucy Freeze Delhi	Rural	Delhi	1952 III
Mrs. Lavonne Sackett Hopkinton	Rural	Hopkinton	1953 II
Mrs. Anna T. Stead Hopkinton	Rural	Hopkinton	1953 II
Mrs. Sybil Gorius Manchester	Rural	715 East St. Manchester	1953 III
Verna Clark *Stanwood, California	Music	Dundee	1952 III
DICKINSON COUNTY			
Dorothy Strouth Okoboji Consol., Milford	5-6	Ashton	1953 III
DUBUQUE COUNTY			
Mrs. R. K. Lampe Dubuque	Rural	1175 Glen Oak Dubuque	1951 II
Dolores Rollinger Bernard	Rural	Bernard	1953 III

TABLE XXIV—(Continued)

Camper	Grade	Home Address	Camp Attendance
EMMET COUNTY			
Neva Albright 1108 N. 8th St. Estherville	4	Algona	1951 I 1952 III
Mrs. Eleonora House 503 So. 15th St. Estherville	Rural	503 So. 15th St. Estherville	1951 I
Susan Petersen Estherville	3-4-5	802 North 5th Estherville	1952 III
FAYETTE COUNTY			
Elaine DeWeese Waucoma	Rural (Substitute)	Waucoma	1950 I 1952 III
Valeria Harold Waucoma	5-8	Ft. Atkinson	1950 II
Irma Miller Maynard	6-7-8 Dept.	Hawkeye	1951 II
Irene Harrington Maynard	3	Hazelton	1953 I
FLOYD COUNTY			
Blanche Rouse Elliott R.R. #2, Charles City	Rural	R. R. #2 Charles City	1951 I
Hazel Morey R.F.D. #4, Charles City	Rural	R.F.D. #4 Charles City	1952 I
Aagot Hanson 303 Fifth Avenue, Charles City (Lincoln School)	1	910 W. Broadway Eagle Grove	1951 II 1952 III
Charlotte Smith 510 Freeman St. Charles City	Rural	510 Freeman St. Charles City	1951 II
Evelyn Winters R.F.D. #1, Charles City	Rural	R. F. D. #1 Charles City	1951 II
Lela Martin 405 Harwood Charles City	Rural	405 Harwood Charles City	1952 I
FREMONT COUNTY			
Mrs. Mildred Hayes Anderson Cons.	4	Sidney	1950 I 1952 III
Maude Clark Sidney	Rural	Sidney	1953 II
GREENE COUNTY			
Mrs. Lois Wahl Paton	(Substitute)	Paton	1950 I
Mrs. Thelma Taggart Cooper (Franklin Twp.)	7-8	Bagley	1952 I
Dolores Beck Scranton	5	201 Main St. Guthrie Center	1952 I
Joanne Toliver Callender	1	Churdan	1952 I

TABLE XXIV—(Continued)

Camper	Grade	Home Address	Camp Attendance
GREENE COUNTY—continued			
(Mrs. Legore) Churdan	1	Churdan	
Mrs. Faye Miller *Yale	High School	Scranton	1952 II
Rose Kirby Beaver Cons.	4-5	Grand Junction	1953 III
Opal Williams Bristol II	Rural	Churdan	1953 III
GRUNDY COUNTY			
Neva Ehrig Reinbeck Wellsburg	1	Wellsburg Wellsburg	1953 II
GUTHRIE COUNTY			
Josephine Boken Audubon Co.	Rural	Guthrie Center	1950 I
Mrs. Alice Jorgensen Guthrie Center (not teaching)	Rural	Guthrie Center	1950 II
Erma Lund Bayard	3	Coon Rapids	1950 I
Edna Bohlender Guthrie Center (not teaching)	Rural	Guthrie Center	1951 I
Mrs. Dorothy Cue Guthrie Center	Rural	Guthrie Center	1951 I
Mrs. Beula Towne 203 S. 3rd, Guthrie Center	Rural	203 S. 3rd Guthrie Center	1951 I
Ruth Ann Walker Bagley	5-6	R.F.D. #3 Adair	1951 I
Mrs. Helen Weigel Guthrie Center	Rural	Guthrie Center	1951 I 1953 III
Bessie Wolfe Guthrie Center	Rural	Guthrie Center	1951 I
Alice Porchet Panora Linden	Rural	Panora	1951 II 1953 III
Rachel Revell Guthrie Center	Rural	403 Grand Guthrie Center	1951 I
Mrs. Jessie Carrick Bagley	1	Yale	1952 I
Mrs. Rachel Hensal *Panora	2	Panora	1952 I
Mrs. Janette Walker Casey	Rural	Casey	1952 III
HAMILTON COUNTY			
Mrs. Nellie Workman Blairsburg	5	924 N. 2nd Boone	1950 I

TABLE XXIV—(Continued)

Camper	Grade	Home Address	Camp Attendance
HAMILTON COUNTY—continued			
Mrs. Marie Leaf R. R. #2, Stratford	Rural	R. R. #2 Stratford	1951 I
Florence Leaf 726 Walnut St. Webster City	Rural	Stratford	1951 I
Dolores Mertz Webster City (Lawn Hill School)	5	826½ Walnut Webster City	1953 III
HANCOCK COUNTY			
Annette Koch Britt	Rural	Britt	1953 III
HARDIN COUNTY			
Wilma West 1205 Main St., Iowa Falls (Blanche Stoddard School)	3		1952 III
HARRISON COUNTY			
Diane Sanders Corning *Belmond	7-8 Dept.	810 Weare St. Woodbine	1950 I
Mrs. Lois Sanders 810 Weare St., Woodbine	Rural	810 Weare St. Woodbine	1950 I
Mrs. Bertha Burch Magnolia	5-6	321 4th St. Missouri Valley	1953 II
HENRY COUNTY			
Florence Williams Mt. Pleasant	Ad. Ass't. to County Supt.	501 State St. Mt. Pleasant	1953 III
HOWARD COUNTY			
Anatasia Herold Elma	7-8	Ft. Atkinson	1950 II
Esther Shanley Elma	Rural	Elma	1950 II
Bonnie Steinmetz Riceville	Rural	Riceville	1950 I 1950 II
Sadie Mental Ruth Funte Riceville	Rural	Lime Springs	1952 I 1953 III
Margaret Nyberger Elma	Rural	Elma	1953 III
HUMBOLDT COUNTY			
Amy Carlson Humboldt, (Beaver #7)	Rural	Humboldt	1952 I 1952 III
Mrs. Joyce Nervig Hardy, (not teaching)	Rural	405 6th Ave. N Humboldt	1952 I 1952 III
Grace Olson Humboldt	Rural	Humboldt	1952 I
Genevieve Berkhimer 104 S. 5th Ave, Humboldt	Ad. Ass't. to County Supt.	104 S. 5th Ave. Humboldt	1952 III

TABLE XXIV—(Continued)

Camper	Grade	Home Address	Camp Attendance
IOWA COUNTY			
Alice Becker Marengo		Marengo	1950 II
Mrs. Lucille Osborne Williamsburg	Rural	Williamsburg	1950 I
Helen Pilkington North English	Rural	North English	1950 I
Wayne Fancher North English	8	North English	1951 I
Edith M. Humphrey North English	7	North English	1951 I 1952 III
Roey Butler North English	5	North English	1952 III
Floy Hewitt Williamsburg	3	Morning Sun	1952 III
Mary Hurlbut Williamsburg	7-8	2602 E. 32nd Road, Davenport	1952 III
JACKSON COUNTY			
Gaylord Willman 106 E. Maple St. Maquoketa	Jr. High	Wyoming	1952 II
JASPER COUNTY			
Sylvia Rethmeier Arcadia		Baxter	1951 I
Marion Rigdon (Mrs. Glen Ponder) Anamosa	High School	Dunkerton	1952 II
Monroe	Math	Monroe	
JEFFERSON COUNTY			
Margaret Herdliska 207 W. Jefferson Fairfield	6-7-8 Arith. & Sci.	Tiffin	1951 I 1952 III
Catherine Kopsieker Pleasant Plain	1	R. R. #2 Fairfield	1953 III
Esther Whitaker Fairfield	Rural	Fairfield	1953 III
JOHNSON COUNTY			
Darlene Mouglin R. R. #3, Iowa City (Union #1 School)	Rural	Oxford	1950 I
Mrs. Bertha Thuerauf Solon	Rural	Solon	1950 I
Orville Yoder Kalona	Rural	Parnell	1952 I
KEOKUK COUNTY			
Nettie Fisher What Cheer	Rural	What Cheer	1953 III
Norma Fisher What Cheer	Rural	What Cheer	1953 III

TABLE XXIV—(Continued)

Camper	Grade	Home Address	Camp Attendance
KOSSUTH COUNTY			
Mrs. Ollie Bruns Titonka	Rural	Titonka	1951 I 1952 III
Lila Jorgenson Lakota	Rural	Lakota	1951 I
LINN COUNTY			
Mrs. Vera Pearl Evans Walker	Rural	Walker	1951 I
Lucille Hazel Walker	1	Walker	1951 I
Dora McNulty Marion (Marion Rural Ind.)	4	958 12th St. Marion	1951 II 1952 III
Betty Sherbon Troy Mills (Troy Mills Cons.)	Kindergarten	R.F.D. #1 Walker	1951 II
Amy Christian Cedar Rapids (Franklin High School)	High School Biology	1228 3rd Ave. S.E., Cedar Rapids	1952 II
Steven Pattee Cedar Rapids (Roosevelt High School)	High School Biology	2505 Johnson Avenue, Cedar Rapids	1952 II
Lillian Serbousek Cedar Rapids (Roosevelt High School)	High School Gen. Sci.	1226 2nd St. Cedar Rapids	1952 II
Myra Willis Cedar Rapids (Wilson High School)	High School Biology	1726 4th Ave. S.E., Cedar Rapids	1952 II
Emma Doornink Cedar Rapids (McKinley High School)	High School English	Orange City	1953 I
Lois Creswell Cedar Rapids (Johnson School)	1	942 W. 7th St. Waterloo	1953 III
Mildred Woodburn Cedar Rapids (Johnson School)	4-5-6 Health-Arith.	2110 Ave. N.W. Cedar Rapids	1953 III
LOUISA COUNTY			
Mrs. Mary E. Matthews Oakville	6-7	Wapello	1951 I
Hazel Matson Plumb 305 N. Main, Wapello	Rural	305 N. Main Wapello	1951 I
Dorothy Jones Cotter	2-3	Columbus Junction	1952 I
LUCAS COUNTY			
Susie Relph (Mrs. Dean Bozell) Chariton, (not teaching)	Rural	Russell Rt. 1, Chariton	1950 II

TABLE XXIV—(Continued)

Camper	Grade	Home Address	Camp Attendance
LYON COUNTY			
Mrs. Helen Kruse R.F.D. #1, Little Rock	Rural	R.F.D. #1 Little Rock	1951 I
MADISON COUNTY			
Mrs. Beulah Goeldner Earlham	2	Earlham	1950 I 1952 III
Mrs. Merna Rowe Macksburg	3-4	Macksburg	1951 II
Mrs. Maxine Paxton Witt Macksburg	Kindergarten	Lorimor	1952 I
John E. Bishop Winterset	High School Voc. Ag.	513 W. Jefferson Winterset	1953 I
Blanche Mleynek Earlham	4	Earlham	1953 II
MARION COUNTY			
Minnie McDonnell Otley, (Washington School)	Rural Rural	607 Freemon Knoxville	1950 I
Mrs. Helen Beem Pleasantville (Franklin Center School)	Rural	Pleasantville	1951 I
Katherine Masters Melcher	High School Biology	Seymour	1952 II 1953 III
Walter DeKock Newton (Lincoln School)	Elem. Sci	Pella 305 Navy St.	1953 I
I.S.T.C.	Grad. Stu.	Cedar Falls	1953 II
Duane DeKock Central College, Pella	College Student	Gaass Hall Pella	1953 II
MARSHALL COUNTY			
Mrs. Claudine Wahlert Exira, Marshalltown	Rural Special Un- graded	R.F.D. #3 Exira	1951 II
Mrs. Lois Rule La Moille (La Moille Cons.)	1	R. R. #3 Marshalltown	1952 I
Mrs. Moselle Esmeyer Laurel	Rural	Laurel	1953 II
MILLS COUNTY			
Ona McNay Mineola	5-8	Silver City	1950 II 1953 III
Oral Gillen Hastings	High School Math	Emerson	1952 II
MITCHELL COUNTY			
Mrs. Sara Birkedal Wilboux, Montana	Rural	Osage	1950 II
Shirley Jensen (Mrs. George D. Hansen) Riceville	1	Hudson	1951 II

TABLE XXIV—(Continued)

Camper	Grade	Home Address	Camp Attendance
MONONA COUNTY			
Rojean Johannsen (Mrs. Bernard Duben) Whiting	3	Whiting	1950 II 1952 III
Bernard Duben Whiting	7	Whiting	1952 III
MONTGOMERY COUNTY			
Letha Parsons Red Oak	Rural	R.R. #4	1952 III
Leonora Turner Elliott	1	Griswold	1952 III
Mrs. Gene Beery Villisca	Rural	Villisca	1953 II
MUSCATINE COUNTY			
Dorothy Marcus Muscatine	High School Girls Advisor	R. R. #2 LeMars	1953 III
Geraldine McConohy c/o Howard Lane Stockton		2111 E. 12th St. Davenport	1953 III
O'BRIEN COUNTY			
Elsie Zuiderweg Sheldon	Rural	R. R. #1 Sheldon	1953 III 1951 I
OSCEOLA COUNTY			
Hilda Hayenga Sibley	Rural	Sibley	1950 II
Mrs. Margaret Olson Sibley	Rural	Sibley	1950 I
Mrs. Cecilia Ransom Sibley	Rural	Sibley	1950 I
Mrs. Lois Kuiper Sibley	Rural	Sibley	1952 I
Mrs. Jeanette Whiteis Ashton	4-5	514 4th Ave. Sibley	1952 I
Bertha Wiersma Ocheyedan I.S.T.C.	Rural College Student	Ocheyedan	1952 III
Kathryn Willts Sibley Westmar College, LeMars	3 College Student	416 2nd St. Sibley	1952 III
PAGE COUNTY			
Mrs. Elsie M. Carlson Villisca, R. R. #1B	Rural	412 E. Clarinda Ave., Shenandoah	1951 I 1952 III
Ramona Dickinson Clarinda (Liggett School)	Rural	R.R. #3 Bedford	1951 I 1952 III

TABLE XXIV—(Continued)

Camper	Grade	Home Address	Camp Attendance
PAGE COUNTY—continued			
Nina M. Martin Shenandoah	Rural	Shenandoah	1951 I
Ruth Marie Johnson Box 14, Essex	Rural	Box 14, Essex	1952 I
PLYMOUTH COUNTY			
Ella May Irwin Kingsley	2	Pierson	1952 I
POCAHONTAS COUNTY			
Bernice Jasschke (Mrs. Nowack) Havelock	Rural	Lohrville	1950 I
Havelock	4	Havelock	
Florence Mac Vey Rolfe	Rural	Rolfe	1950 I 1951 I
Maxine Atkins Laurens	4	Neola	1952 III
POLK COUNTY			
Novella Bredbenner Des Moines (Maple Grove School)	4-5	Klemme	1950 II 1952 III
I.S.T.C.	Grad. Student		1953 II
Ruth Leupold 1336 27th St., Des Moines (Oak Park School)	6 High School	Superior 1717 E. 13th St. Des Moines	1950 II 1950 II
William Lyman Des Moines (East High)	Biology	1129 Euclid Ave. Des Moines	
Betty Lou Olsen (Mrs. Forest Loamis) Ankeny	Kindergarten		1951 I
Mrs. Evelyn DeJoode Carlisle West Ind. School	Rural 3	Carlisle 4606 Broadway Des Moines	1951 I 1952 III
Ethel Badgley Des Moines (Howe School)	Kindergarten	1303 21st St. Des Moines 11	1951 II 1952 II
Floy Vest Des Moines (Grant School)	2-3	1439 30th St. Des Moines	1951 II 1952 II
Alyce Kimberly Farrar	4-5	Maxwell	1952 I
Nancy Graffam Drake University Des Moines	College Student	1325 41st St. Des Moines	1952 III
Lavon Martin 845 30th St. Des Moines 12 (Callanan Jr. High)	7-9	Volga	1953 I
Esther Foxworthy 2928 Ingersoll Des Moines 12 (Army Post School)	4	Woodward	1953 II

TABLE XXIV—(Continued)

Camper	Grade	Home Address	Camp Attendance
POTTAWATTAMIE COUNTY			
Eileen Kardell Walnut		Neola	1950 II
Mrs. Darlene Feldman Minden	2	Minden	1952 I
Esther Scott Avoca	Rural	Avoca	1952 I
Mildred Sowers McClelland	Rural	McClelland	1952 II
Janis Pedersen Avoca	Rural	Avoca	1952 III
Helen Underwood Carson	1	R. R. #2 Council Bluffs	1953 III
POWESHIEK COUNTY			
Alma Pegram Jesup I.S.T.C.	Jr. High Math. College Student	Hartwick	1953 I
RINGGOLD COUNTY			
Lois Barker Diagonal Ind.	3-4	Mt. Ayr	1950 II 1952 III
Helen Glasener Readlyn	8	820 W. 12th St. Cedar Falls	1951 II
Mrs. Marjory Johnston Mt. Ayr	Rural	Mt. Ayr	1951 II
SAC COUNTY			
Evelyn Weber Lake View	6-7-8	Jefferson	1950 I
Margaret Petty Grant Center	Primary	Grant Center	1953 II
SCOTT COUNTY			
Eunice Dolmage 1504½ Main St. Davenport (Hayes Gr. School)	4-6 Science	Victor	1950 II
Margaret Maguire Davenport (Monroe School)	4-6 Science	406 Oak St. Davenport	1953 II
STORY COUNTY			
Francis McCreery *Lincoln Twp.		R.F.D. #1 Gladbrook	1951 II
Mrs. Lucille Hockett Garnavillo Ames	4-8 Dept. 5	Garnavillo 145 Pammel Court Ames	1952 I 1952 III
Elaine Longnecker (Mrs. Dykes) Maxwell	5	Maxwell	1952 I

TABLE XXIV—(Continued)

Camper	Grade	Home Address	Camp Attendance
TAMA COUNTY			
Ruth Ann Kramer R.F.D. #2, Toledo	Rural	R.F.D. #2 Toledo	1951 I
Margaret Kirchner Montour	4-5	Cambria	1953 III
Phyllis Robinson 377 Santa Fe Lindsay, Calif. (not teaching)		R.F.D. #1, Tama Bldg. 3129 A Ft. Lewis, Wash.	1951 II
UNION COUNTY			
E. Alice Scanlan Creston (Franklin School)	6 (Principal)	302½ S. Birch Creston	1950 I
VAN BUREN COUNTY			
Bernice Elliott Keosauqua	Rural	Keosauqua R.F.D. #1	1952 I
Evelyn Simmons R.F.D. #1, Bonaparte	Rural	Bonaparte	1952 I
Mrs. Myrtle Marsh Farmington	6	Keosauqua	1953 II
WAPELLO COUNTY			
Freida Clark Eddyville	Rural	Eddyville	1951 II
Marie Huber 213 W. 4th St., Ottumwa (Irving School)	2	Blakesburg	1953 III
WARREN COUNTY			
Neva Trumbo 310 South Howard Indianola (Hawthorne School)	5	Corydon	1952 III
May Alice Smith 804 N. Buxton Indianola	High School Biology	804 N. Buxton Indianola	1953 I
Mrs. Alice Coles Liberty Center	6-7	Indianola	1953 II
Mrs. Marguerite Davis Liberty Center	4-5	Liberty Center	1953 II
WASHINGTON COUNTY			
Eunice Kyle R. R. #2, Ainsworth	Rural	323 W. 3rd St. Washington	1953 I
Marguerite Adrian Lime Creek Dist., Wellman	Rural	Sigourney	1953 III
Pearl Craff Brighton	Rural	R. R. #2 Brighton	1953 III

TABLE XXIV—(Continued)

Camper	Grade	Home Address	Camp Attendance
WEBSTER COUNTY			
Mrs. Mildred Dee Badger	5-8	706½ N. 15th St. Ft. Dodge	1951 I
Mrs. Velma Wigans 723 South 19th St. Fort Dodge	Rural	723 S. 19th St. Fort Dodge	1951 I
Mrs. Maxine Sandahl Moorland	7-8	723 11th Ave. S. Fort Dodge	1951 II
Mrs. Alice Larson Lehigh	2	Lehigh	1952 I 1952 III
Mrs. Erna Danker Lehigh	5	Lehigh	1952 III
Betty Peterson 507 S. 16th St., Fort Dodge (North Carpenter School)	4	Gravity	1952 III 1953 II
Alice Baumann Lanyon	5-6	Paton	1953 II
Mrs. Pauline Carberry Moorland	3-4	1516 4th Ave. N. Fort Dodge	1953 III
WINNESHIEK COUNTY			
Edith Blake Ridgeway		R.F.D. Grand Mound	1951 II
Mrs. Lois Monroe West Union	1-2	Ossian	1952 I
Maybelle Brown Decorah	High School Biology	Decorah	1952 II
WOODBURY COUNTY			
Enola Downard 17 White Apts., Sioux City (Central High School)	High School Biology	Van Wert	1953 I
Gertrude Weaver 1615 Douglas, Sioux City (Central High School)	High School Biology	1615 Douglas Sioux City	1953 II
Mrs. Clara Edna Kelly Oto	4	Lansing	1952 I
WRIGHT COUNTY			
Rosemary Hodgson R.R. #2, Eagle Grove	Rural	R.R. #2 Eagle Grove	1951 I
Mildred Williams Webster City (Cass No. 1)	Rural	Box 526 Woolstock	1952 III
Maxine Nichols Johnson Iowa Falls (not teaching)	3-4	Tingley, R. R. #2 Box 148 A Eagle Grove	1951 II

TABLE XXIV—(Continued for Out-of-State Campers)

Camper	Grade	Home Address	Camp Attendance
ILLINOIS			
Frank B. Harris 712 Pine St., Champaign, Ill. (South Side School)	Elementary	805 W. Church Champaign, Ill.	1952 I
WYOMING			
Jean Cooper 114½ E. 28th St. Cheyenne, Wyo.	High School	114½ E. 28th St. Cheyenne, Wyo.	1952 II
WISCONSIN			
Bernice Ellerbrock (not teaching)		160 Elizabeth St. Whitewater, Wisc. 1615 Adrian St. St. Paul 2, Minn.	1952 III

APPENDIX B

FORM LETTERS

LETTER OF INSTRUCTION TO CAMPERS

May, 1950

To Fellow Campers:

According to previous correspondence, we are enclosing final instructions for your arrival and registration at camp. In the main these suggestions are merely for your guidance. The list has been compiled as a result of camp experience on the part of various members of the staff, along with careful study of information offered by those who have been at the job of directing such educational camps for many years.

None of the suggestions are to be taken as specific assignments other than the section marked *required materials*. So far as books and lenses are concerned, we will arrange to have a supply of those on hand if you do not already have those required.

We are also enclosing at this time a tentative daily schedule and would like to call your attention to the fact that even though the schedule will be relatively constant, we have so arranged the program so that it can be varied if need be. We are enclosing a list to date of those who are attending the respective sections, thinking that possibly some might wish to pool rides.

Finally you will note that we are planning that campers report between 1 and 2:30 P.M. on the Sunday afternoon of the opening date of the session of their choice.

The following suggestions will lend system to and facilitate in the matter of checking in when you arrive at camp.

Procedure for Checking In

1. Sign up at registration desk.
2. Transfer belongings to cabins.
3. Payment of fees.
4. Fill in registration blank.
5. Report in center of recreation field at 3 P.M. to continue get acquainted program.

APPENDIX B

IOWA TEACHERS CONSERVATION CAMP
PRE-CAMP CHECK LIST

REPORT TO CAMP

On respective opening Sundays report at group camp between hours of 1-2:30 P.M.

TRAVEL GUIDE

If driving to camp:

From SW-S-SE, join state route 64 then to Guthrie Center. Drive North 7 miles from end of city brick pavement at Guthrie Center via state route 25 to park sign. Turn right off of route 25 and it is 1 mile to *stone* park markers which will be seen on your left.

From NW-N-NE, join U. S. highway 30 then to Scranton. Drive South out of Scranton via state route 25. There will be 11 miles of improved road into Bayard. Turn left out of Bayard and go 3.2 miles to crossroad. Turn right at crossroad—it will be 4.8 miles to park sign. Turn left off of route 25 and it is 1 mile to *stone* park markers which will be seen on your left.

If you ride commercial transport: Indicate on enclosed card when you will arrive at Guthrie Center; Cars will meet and transport you to the camp. (Courtesy of Guthrie Center Lions Club.); In the event you are delayed and no one is on hand to meet you call County Superintendent I. N. Seibert.

PRECAMP EXPRESS

If you are not driving and can not carry all personal effects, prepay and address Iowa State Teachers Conservation Camp % County Superintendent I. N. Seibert, Guthrie Center, Iowa. Such materials will be delivered at camp for you. Send via parcel post or express (*NOT FREIGHT*).

MAIL ADDRESS

Iowa Teachers Conservation Camp, Springbrook State Park, Guthrie Center, Iowa.

PERSONAL EFFECTS

BEDDING: Camp will furnish beds and mattresses; Students must bring—sheets, pillows, pillow cases, blankets to suit; Bring blankets to suit *your* needs. You will be in cabins and these can be heated. **BRING PLENTY OF WARM BLANKETS**, for there will undoubtedly be someone in your cabin who thinks they have to have *more* air and you might be chilly even though the cabin can be heated.

CAMP CLOTHING

IN GENERAL: At least one outfit to protect against brushy and weedy terrain; At least one wool outfit provided for cool days; A sweater, leather jacket or equivalent; Low heeled comfortable shoes for walking. *High leather boots not advised*; One pair of cheap canvas tennis shoes (not oxfords) are very good; Changes of clothes sufficient to take care of several days of rain at which time it is difficult to dry clothing which might have been damp on a previous field trip.

SPECIFIC (Not required, but very desirable); Rain coat, hat and overshoes. Wool shirt, sweat shirt, long sleeved and high necked shirt, slacks, jeans, shorts, two bathing suits, strong stockings (cotton and wool ones advised), large bandana head kerchief, bathrobe or house coat.

TOILET ARTICLES

Towels, wash cloths, soap, tooth brush, mirror, laundry bag, clothes bag, coat hangers, sewing kit, and flash light *is essential*.

LAUNDRY AND IRONING

No extensive washing will be practical. The camp will furnish an electric iron and a couple of ironing boards. Individual irons may come in handy. Current will be 110 volts. Clothes lines and clothes pins—furnished by the student.

RADIOS, LAMPS, HOT PLATES

Radios may be brought to camp. However, students will be expected to comply with regulations which would seem advisable at the time. In general one will be expected to refrain from using the radio during study hours. A student lamp is desirable. Hot plates will not be needed and in general their use will not be permitted.

BOOKS AND SUPPLIES

All books and supplies will be available on the grounds. *Students are in no way obligated or solicited to purchase them at camp.*

REQUIRED MATERIALS

1 good pocket knife; 4 cigar boxes (for insects); 1 small hand lens or magnifying glass; Field manuals—*A Field Guide to the Birds*, Roger Tory Peterson, Houghton Mifflin Company; *The Insect Guide to Orders and Major Families*, Ralph B. Swain, Double Day and Company; *Trees of the Eastern United States and Canada*, W. M. Harlow, Whittlesey House, Inc.; *The Teaching of Conservation*, Iowa Elementary Teachers Handbook Vol. XIV, Department of Public Instruction, Des Moines. 1—6" x 1" olive jar; 1— $\frac{1}{2}$ pint mayonnaise jar; 1—1 pint Skippy peanut butter jar (Card board and wax paper should still be in the lids. Air tight.); Dust rags; Stack of newspapers 6" high (when folded once.).

LIVING CONDITIONS

All members of the camp will be housed in group cabins. Each cottage will accommodate eight persons and will be thoroughly screened. Each cottage has electric lights, ample outlets and a heating stove. Closet space for each will be provided. No dressers are available. (Orange crates serve nicely in this capacity.) A well lighted central hall will serve as laboratory and library. Tables will be supplied in dormitory cabins.

All persons at Camp will be required to board at the central dining hall.

No pets allowed.

VISITORS AT THE PARK

Students will be free after breakfast on Sundays and may have picnic lunches with their families in the picnic areas of the park. The camp will however be maintained as an educational unit and cabins will not be headquarters for family groups. Guests will be expected to comply with student regulations.

RECREATION

As has been announced previously, recreation will be a definite part of the program; swimming, soft ball, fly casting, ping pong and other forms of recreation will be encouraged.

PAYMENT OF FEES

All fees will be paid at the time of registration. Large amounts of cash should not be carried or left around the cabins. Travelers checks of small denominations are recommended and assistance will be afforded the student in cashing them.

APPENDIX B

ADVANCE INFORMATION RELATIVE TO THE
1951 CONSERVATION CAMP

November 27, 1950

To 1950 Campers Only:

As a special insert in this letter, I would like to notify you of the recent ruling relative to accreditation at the camp by the Dean of the College. He has sanctioned a second five hours of credit to be earned at the camp. He has at various times indicated a special interest in the camp but has expressed a desire that the 1950 program be extended for a new group this summer. I can assure you that all concerned are most happy with the unanimous and wholehearted enthusiasm and loyalty you, the veteran campers of 1950, have manifested. I can also assure you that it is as a result of this loyal spirit that the administration would like to offer this experience to another group this summer. Though at present it seems doubtful that the new 5 hour course will be offered this summer it is not entirely settled as yet. However, you are always welcome to attend on a non-credit basis. It is our plan at this time to definitely offer the new course the summer of 1952.

We will offer the same course in 1951 as was offered in 1950 but it promises to be a still better and somewhat different course. We welcome you as a repeater for any or all of either of the 1951 sessions on the non-credit basis.

The dates are: June 17 - July 7 and July 8 - July 28

You will hear from me with a definite commitment relative to the new course as soon as we see whether it is feasible to attempt it in the 1951 session.

G. W. Mouser

APPENDIX B

LETTER TO FORMER CAMPERS

March 11, 1952

Dear Conservation Camper:

As you know, the Iowa Teachers Conservation Camp is offering a new course for elementary teachers this summer, in which emphasis will be placed upon wildlife, soil nutrients, and balance in nature. The dates for this session are from July 27 to August 16. Since you are the ones who have asked for this course, we want to be sure that you have an opportunity to enroll for it. If you do plan to come this summer, please fill out the enclosed application blank and return it at your earliest convenience. Further instructions for applicants will be sent upon receipt of the application blanks here. If you are unable to attend this summer, but would like to have this course in some future summer, you could help by letting us know. We are very grateful to you for your continued support of the camp program and we would like to be of further service to you in every way we can.

With best wishes,
Emery L. Will, Director
Iowa Teachers Conservation Camp

ELW/sh

Enclosure

P.S.—If any of your associates in elementary or secondary school teaching would like to know more about the 1952 camp sessions, a note to me will bring them information and application blanks.

APPENDIX B

LETTER TO SECONDARY TEACHERS

March 27, 1952

To Iowa Secondary School Teachers:

I wonder if you have considered studying at the Iowa Teachers Conservation

Camp this summer. Here is an excellent opportunity to study our natural resources and their wise management under the guidance of specialists in the fields of conservation and conservation education.

If you have wondered how you could learn more about resource-use education and its application to your own teaching situation, this is the place to go. The enclosed materials will tell you much about the nature of the work, the facilities, and other features.

Approximately thirty specialists will assist the resident staff in the instruction, which is based upon extensive field experiences. Some of these persons, representing various sources, are:

Dr. Charles S. Gwynne, Dept. of Geology, Iowa State College; Mr. Leroy Barnes, State Soil Scientist, U. S. Soil Conservation Service; Dr. W. H. Bragonier, Head, Dept. of Botany, Iowa State College; Mr. Earl Rose, Aquatic Biologist, State Conservation Commission; Mr. Myrle Jones, Custodian and bird bander, Ledges State Park; Mr. Arthur Carpenter, Director of Supervision, State Department of Public Instruction; Mr. Lester Clapp, Extension Soil Conservationist, Iowa State College; Mr. Richard Campbell, Extension Forester, Iowa State College; Mr. Mans Ellerhoff, Supt. of Forestry, State Conservation Commission; Mr. Kenneth King, Asst. State Conservationist, U. S. Soil Conservation Service; Mr. Robert L. Smith, Director, Iowa Natural Resources Council; Mr. Glen Sanderson, Game Biologist, State Conservation Commission; Dr. Martin L. Grant, Dept. of Science, Iowa State Teachers College; Mr. B. I. Severson, Area Game Manager, State Conservation Commission; Mr. Robert Moorman, Extension Wildlife Specialist, Iowa State College.

I hope that we will have the pleasure of meeting you at Springbrook State Park this summer. Advance registration is required.

Sincerely,
Emery L. Will, Director
Iowa Teachers Conservation Camp

Enclosures

APPENDIX B

LETTER TO FORMER CAMPERS

November, 1951

Dear Camper:

I have several matters which I would like to get off my chest, and in which I think you might be interested:

We had about 85 campers and guests present at the Teachers Conservation Camp breakfast in Des Moines on November 2. I am certain that everyone present thoroughly enjoyed themselves. Our guests included President Maucker of Iowa State Teachers College, and Miss Jessie Parker, Supt. of Public Instruction. We saw the new television film which was taken during the last session in 1951. We think this film is going to be a big help to us in advertising the Teachers Conservation Camp. It may be secured for showing from the Radio Department at I.S.T.C.

It seems that all of you "passed" and are entitled to a certificate showing that you have completed the conservation course at Springbrook State Park. These certificates were distributed to those who attended the Conservation Camp breakfast on November 2. All other certificates have been sent out by mail. If you do not receive a certificate within the next week please let me know at once so that we can trace the missing certificate or can provide you with a duplicate. Also, if there is the slightest error in the spelling of your name, or if you receive a certificate which is faulty or mutilated in any way, please return it to me at once for replacement. We want your certificate to be clean and correct in all respects.

I want to tell the campers who attended the second session in 1951 that

I have not forgotten the obligation I have to send them pictures of our activities at the park. I must apologize for the seemingly unending delay in getting these pictures out to you. At one time I had them all finished and then found that I had used some old chemicals, causing the prints to turn yellow. It will be necessary for me to do about one-third of them over again. I'll get them out to you as quickly as I can. We are terribly short of help here in the office and the weeks literally roll by without my attending to important matters such as this. Why don't you campers steer some good secretaries our way?

We are considering the possibility of having pins made in the shape of our turtle mascot for sale at cost to teachers who have attended I.T.C.C. We have had sketches made and within the next several weeks will have further information from the custom jeweler concerning the final cost, etc. The original set of dies for making the pins will cost about \$70.00. I thought at first that it would be necessary to pro-rate this cost among the purchasers of the pin, but at the present time I am quite certain that I can take care of that expense. The actual cost of the pins, then, should be between \$1.50 and \$2.00, with the option of getting sterling silver, gold filled, or other finishes. The pins will be about $\frac{1}{2}$ inch in length, made in the shape of our turtle mascot with enameled design on the basic metal. At the present time we plan to have only the letters I.T.C.C. inscribed on the pin. Because of the small size it is hard to include much more than that. It may be possible to have the date when you attended the camp on the pin at no additional cost.

As soon as I have additional information I'll let you know more about this pin idea. The reaction from the teachers who attended the Conservation Camp breakfast was very favorable.

I can't at this moment give you exact details as to our plans for 1952, except that we plan to run the Conservation Camp for nine or ten weeks with 3, three-week sessions. One of these will be for teachers who have not attended the camp, another for those of you who have attended one session, and for new campers, and a third session for high school teachers and advanced students.

I know that I speak for Dr. Will and other members of the staff when I say that we would appreciate very much hearing from you in regard to how you are using the information and material you have gathered at I.T.C.C. We have received much valuable information from the evaluation sheet which you filled out at the close of the sessions you attended. Since that time you have had opportunity to actually apply the information you received at camp and you will have more valuable suggestions as to how we can make the work at Springbrook more practical and valuable. Please let us hear from you if you have constructive criticism or comments to make concerning the training you received at Springbrook State Park.

It's not too early to begin advertising the fact that the Conservation Camp in 1952 will be bigger and better than ever. We will really need your help to fill the camp up to capacity. Now is the time to talk louder than ever about I.T.C.C. and what it can do for elementary and high school teachers.

With best personal regards to every single one of you, I am

Sincerely yours,
George W. Worley
Supt. of Public Relation

GWW:wb

APPENDIX B

LETTER TO FORMER CAMPERS

January 14, 1952

Dear Conservation Camper,

The new year now is with us, and the 1952 Iowa Teachers Conservation

Camp soon will be in operation. The enthusiasm with which you participated in the 1950 and 1951 camps at Springbrook, and the encouraging reports we have received, telling how you are using the materials and information from your camp experience, have been enough in themselves to insure the future of the conservation camp program.

This has been an extremely busy fall quarter for us here, but it has seemed grand to meet problems and make plans for the 1952 camp, to have seen so many (Eighty!) of you at the Des Moines breakfast, and to have helped you present illustrated programs of last summer's camp. One of the major reasons for all the work this past fall has resulted from the approval for a three-session camp in 1952. One session will be similar to the one in which you participated; another will be for secondary school teachers; and a third session will be a new one for you and other teachers who would like a conservation course dealing with wildlife, soil nutrients, and balance in nature. This newest course offers you *another* five quarter hours of credit in Biology 105, and is planned to be a second course rather than an advanced course. In this way, elementary school teachers who have not attended the camp previously may be enrolled, as well as you folks. Plans for this session are being made now, and to tell the truth, it looks like a lot of fun and new material for all of us! I won't spill any secrets about it now, but—if you're interested in seeing more whippoorwills and other birds, studying animal tracks, seeing a game farm, learning how to test soil, or planning a school wildlife area,—you'd better join us! The dates for this session will be from July 27 to August 16. Write us for more details.

Whether or not you plan to attend camp this year, won't you let us in on your problems and successes in conservation teaching? We would like especially to have you tell us of your experiences in presenting wildlife, soil nutrients, and balance in nature. You can be sure that any materials you send me will be returned to you in good condition. Perhaps you'd like to bring some of these ideas to camp with you to show the others. How about it?

Please don't forget that we have about three good sets of kodachrome slides which we will loan you (you pay postage in one direction only) for teachers' meetings, PTA, etc. They have been shown to many groups already, and I will be happy to schedule them for you; just give me about two weeks' notice. In addition, a nineteen-minute TV film, taken during the 1951 camp, is available on the same loan basis. However, to obtain this film, which will fit any standard sound projector, you should write directly to the Radio Office, Iowa State Teachers College, Cedar Falls, Iowa, and ask for the film: ADVENTURES IN CONSERVATION. Be sure to give them two or three week's notice. This film will be shown over station WOI-TV, Ames, on Tuesday, February 5, at 9:45 P.M. You're in for a treat!

We of the staff are looking forward to seeing you again this summer. Except for the loss of Dr. Mouser and Roy Long, whom all of us will miss keenly, the staff will be the same sleep-loving instructors of past summers, and the new members soon will be old friends of yours. Dr. Clifford McCollum will join Dr. Dorothy Matala and myself from I.S.T.C. Please make sure that you come to the 1952 camp,—either as an enrolled student, or as a visitor. You will be *most* welcome!

With best wishes,

Emery L. Will

Director, Iowa Teachers Conservation Camp

P.S. It is possible that some scholarships may be available from this office, in addition to the ones offered by local clubs, etc., in many counties. If you are interested, write me for details.

APPENDIX B

IOWA STATE TEACHERS COLLEGE
CEDAR FALLS, IOWA

DEPARTMENT OF SCIENCE

April 1953

LETTER TO RURAL TEACHERS

Have you decided where to earn those needed Summer-school credits? We would like to have *you* with us at the Iowa Teachers Conservation Camp at Springbrook State Park, Guthrie County, Iowa. This year we have two sessions designed especially for you.

Session II—Biology 105—Conservation for Elementary Grades A—July 5-July 25—5 quarter hours credit—Deals with soil, water, forests and their conservation particularly as found in Iowa.

Session III—Biology 104—Conservation for Elementary Grades B—July 25-August 15—5 quarter hours credit—Deals with wildlife, soil nutrients, and balance in nature.

EITHER OF THESE COURSES MAY BE SUBSTITUTED FOR BIOLOGY 10, which is required of all persons working for the two year diploma at T. C.

All this plus living in group cabins, wonderful food, fishing, swimming, boating, hiking, fly and bait casting, crafts, photography—to mention a few.

Can *you* beat this for Summer-school? We would like to have you share these experiences with us. If you are interested, drop me a card here at T. C.

Very truly yours,

H. SEYMOUR FOWLER

H. Seymour Fowler, Director

Iowa Teachers Conservation Camp

APPENDIX B

IOWA STATE TEACHERS COLLEGE
CEDAR FALLS, IOWA

DEPARTMENT OF SCIENCE

November 24, 1953

Dear Conservation Camper:

Bird songs early in the morning and the cry of the whip-poor-will in the evening! An interesting field trip to a farm pond and a delicious dinner back at camp! Do your thoughts turn to the Iowa Teachers Conservation Camp at Springbrook State Park? We are hoping that you have many memories of Camp which you will be willing to share with us, for we are enlisting your aid in a study being made of the Conservation Camp. This study is being completed at Iowa State Teachers College and is supported by a grant from the National Wildlife Federation.

We are interested in knowing how you feel about Iowa Teachers Conservation Camp and how you have been able to use the camp training. Won't you "take your pen in hand" and write us a letter? We hope to learn the following things from you:

1. Which areas of the camp program were most helpful to you? Don't spare the details. We want a frank evaluation. You might even tell us to eliminate things from the camp program.
2. What grades do you teach? What adventures have you had in teaching conservation: i.e. Where have you gone on field trips? Who has assisted you with your conservation activities? What living things do you have in your classroom? How do you use your school yard?
3. Has your community taken note of your conservation teaching? Have any of the folks of your community taken part in your program? Don't be modest. Give us the full particulars of honors or publicity for your youngsters or for yourself.

The chance of a letter being written diminishes with every day that the writing is put off, so write *your* letter soon! I'd like to hear from you before December 12. Thanks a lot for your assistance in this study.

Cordially yours,
NOVELLA BREDBENNER
Novella Bredbenner

NB: gla

APPENDIX B

IOWA STATE TEACHERS COLLEGE CEDAR FALLS, IOWA

DEPARTMENT OF SCIENCE

January 15, 1954

Dear Conservation Camper:

Recently Miss Novella Bredbenner sent you a letter in which she asked for information concerning your experiences during the Camp Session and also subsequent to your time at Springbrook. So far, we haven't heard from you. I am sure that you want to become "a statistic" and so I want to ask a personal favor. Would you please answer Novella's letter and give us the information she requested? I would like to see a 100% return from the Class of 1953. Thanks a million for your help.

Plans for the 1954 Camp Sessions are progressing nicely. We would appreciate a word from you to some of your fellow teachers to encourage them to attend one or more of the 1954 Sessions.

We really enjoyed having you with us during the summer of '53 and hope some of you will return in 1954.

Very sincerely,
H. SEYMOUR FOWLER
Chief Bus

Miss Novella Bredbenner
324 Campbell Hall
Cedar Falls, Iowa
bk

APPENDIX B

IOWA STATE TEACHERS COLLEGE CEDAR FALLS, IOWA

DEPARTMENT OF SCIENCE

January 29, 1954

Dear Conservation Camper:

How is school treating you these days? How is teaching, particularly conservation teaching? Are you making use of your Camp experience? As I'm sure you realize, the staff of the Conservation Camp is—and always has been—interested in finding out how you rate your experiences there; how you have made use of what you learned; or what changes you would recommend. We also would like to know what you are doing so we can brag about our Campers when the occasion arises!

Novella Bredbenner, whom you may remember, is collecting such information in a study of the Camp and Campers as part of the work on her Master's degree here on the campus. Recently she sent you a letter asking for some of your experiences and reactions. We would like the survey to be as complete and representative as possible. So will you be one of the contributors? It will help make the study more valid and help the staff in planning future sessions. There is still time to get a letter to Novella. Thank you very much—ahead of time!

The plans for the '54 Camp are progressing. You've seen the announcement of dates and change of plan to include elementary and secondary teachers each session. Can you interest someone in coming? Or come back yourself. If you can't come for a session, come for a visit!

I am to be on Extension this spring. If I'm in your area I'd like to see you.
Do write that letter to Novella.

With all best wishes,

Sincerely,
CHIEF DOROTHY
Dorothy M. Matala
Assistant Professor of Biology

DMM:gla

How

FEES

Tuition \$15.00; Board \$45.00.

ACCOMMODATIONS

Group cabins.

Central Dining Hall. Central hot and cold showers.

ADMISSION

Submit brief letter of application to: Dr. G. W. Mouser, Iowa State Teachers College, Cedar Falls, Iowa.

State reasons for desiring to take course and session you prefer.

Applicants will be notified as to acceptance or rejection of their application.

REGISTRATION

At the park, Sunday afternoons, June 4 and June 25.

GENERAL INFORMATION

Enrollment for each 2-week session limited to 50 persons.

Iowa elementary teachers preferred. Both sexes eligible.

Second session will duplicate first. It will not be possible for teachers to attend both sessions.

A letter giving complete information about transportation to the camp, desirable equipment, clothes, etc., will be mailed to successful applicants.

COOPERATORS

Iowa State College, Ames, Iowa

State University of Iowa, Iowa City, Iowa

United States Department of Agriculture

Soil Conservation Service

Forest Service

Iowa National Resources Council

Iowa State Education Association

and Others



This brochure is presented with the compliments of the Iowa Division, Isaak Walton League of America in the sincere hope that Iowa teachers will take full advantage of the Conservation Camp. Realizing that conservation must be carried out by today's children, this teacher-instruction is in line with the League's national policies on conservation education and bears its whole-hearted endorsement.



Sponsored by:

Iowa State Department of
Public Instruction

Iowa State Teachers College

Iowa State Conservation
Commission

First Session—June 5-June 24

Second Session—June 26-July 14

1950

APPENDIX C
CAMP PUBLICITY
BROCHURE FOR 1950

(FIRST SIDE)

Why

Where

What

PERSONAL IMPROVEMENT

A new appreciation of nature. New principles for better living. Getting out of your "rut."

COLLEGE CREDIT

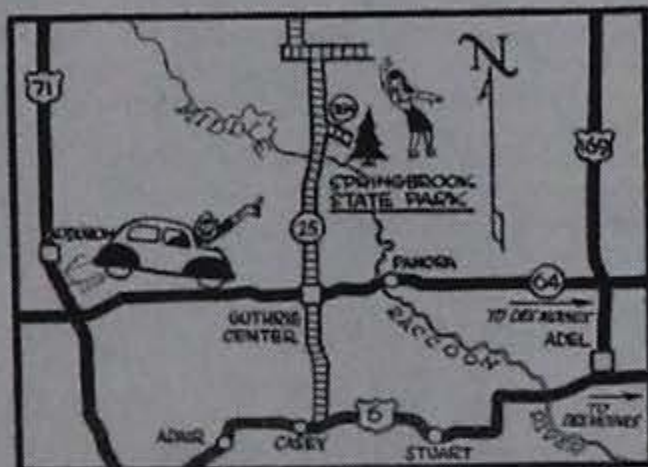
Iowa State Teachers College. Local Problems In Conservation. 5 quarter hours.

BETTER TEACHING

New confidence and ability. New ideas and methods. New professional attitudes. New conservation practices for community use.

FUN

Enjoy recreation with your education.



SPRINGBROOK STATE PARK

is seven miles northeast of Guthrie Center—60 miles northwest of Des Moines. Its 761 acres include heavy woods, recreation and camp areas, and a 27 acre lake.

Recreational facilities include picnicking, swimming (bathhouse, concession, sand beach and lifeguard) boating, fishing, hiking, and nature study.

Birds, animals and other forms of wildlife abound in the lake, stream, marsh, prairie, and woods habitats within the park.

Examples of wise and unwise resource use are within easy driving distance.

Clean, comfortable cabins, laboratories, dining hall, and modern facilities add to comfort and enjoyment of students.



COURSE CONTENT

First Week. Iowa soils and their conservation. Relationship to other resources.

Second Week. Water resources of Iowa. Relationship to plant, animal and human conservation.

Third Week. Forests in Iowa. Forests and wildlife. Local forest problems.

DAILY SCHEDULE

Morning. Bird study. Field trips led by specialists.

Afternoon. Discussion of morning field work. Adaptation to curriculum. Nature study. Recreation.

Evening. Movies. Preview next day's field work.

STAFF

G. W. MOUSER, Camp Director
Iowa State Teachers College

DR. DOROTHY MILLER
Iowa State Teachers College

MISS IVAH GREEN
Iowa State Department of Public Instruction

MISS PAULINE SAUER
Iowa State Teachers College

G. W. WORLEY
State Conservation Commission



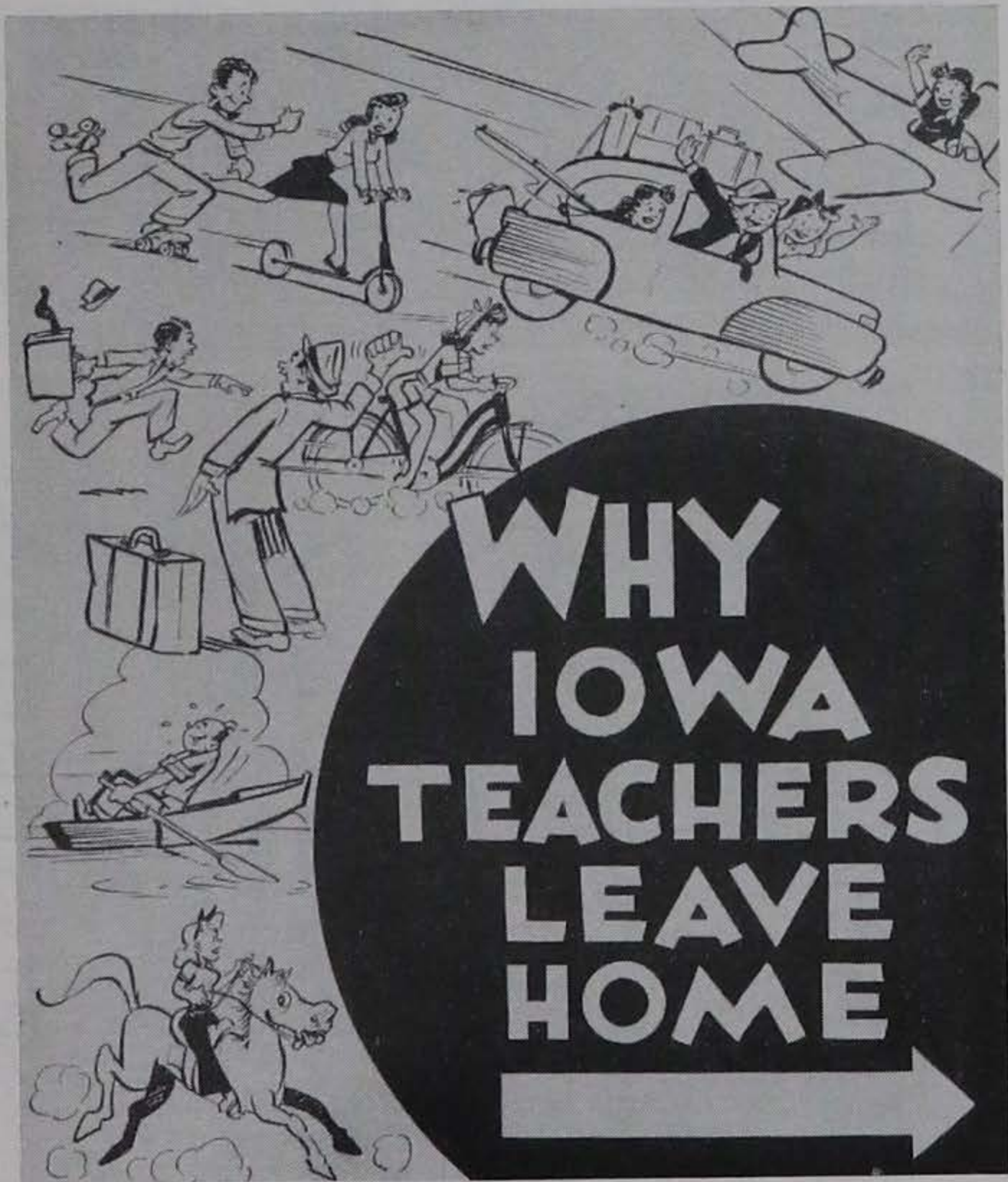
APPENDIX C

BROCHURE FOR 1950

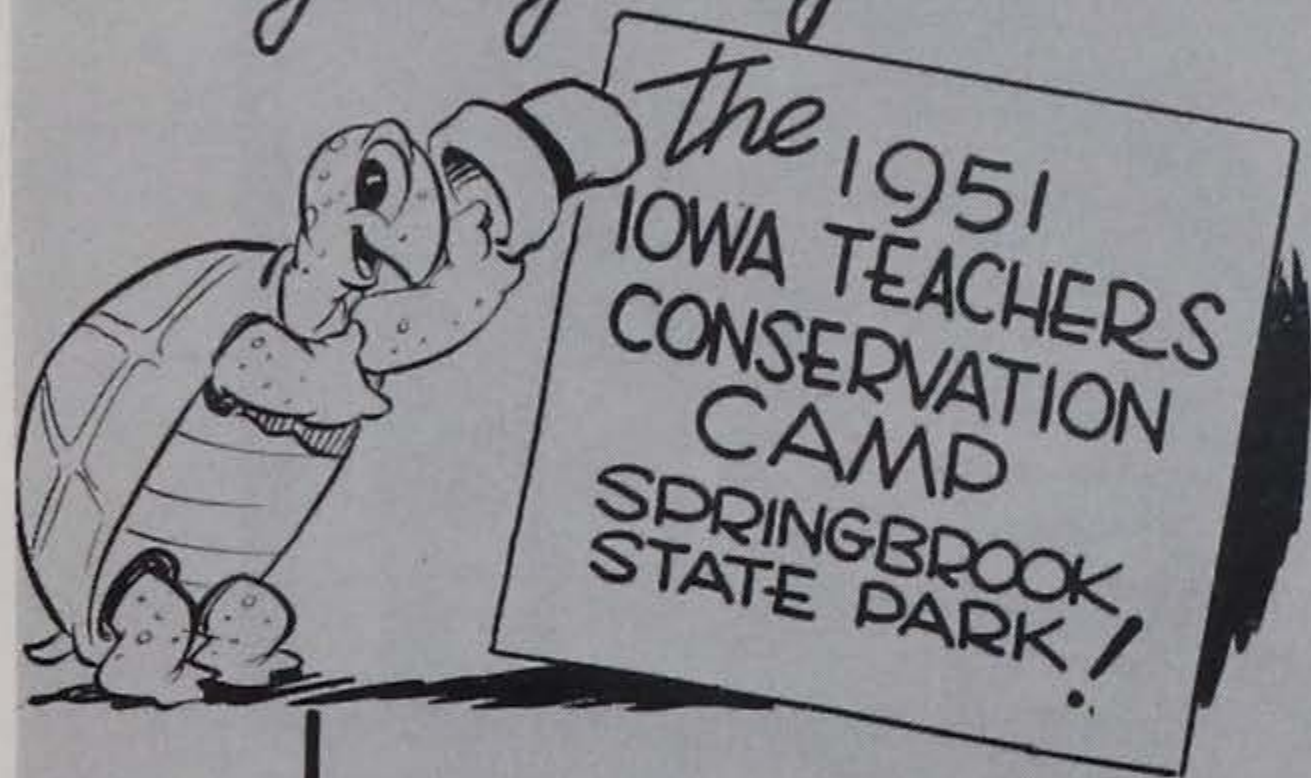
(SECOND SIDE)

APPENDIX C
BROCHURE FOR 1951

(COVER)



they're going to —



JUNE 17 to JULY 7
JULY 8 to JULY 28
1951

it's
SPRINGBROOK OR BUST IN '51

THEY WILL

LEARN { ABOUT NATURAL RESOURCES,
ABOUT CONSERVATION,
HOW TO TEACH CONSERVATION,

EARN { 5 QUARTER HOURS OF
COLLEGE CREDIT.

PLAY {  SWIM FISH HIKE EAT

THEY HEARD

ABOUT LAST YEAR'S
CONSERVATION CAMP...

HAVE YOU?

SPRINGBROOK CALLS FOR '51

● A REPORT ON

The FIRST Iowa Teachers Conservation Camp

PLANNED AND SPONSORED BY

Iowa State Teachers College

Iowa State Conservation Commission

Iowa State Department of Public Instruction

ASSISTED BY

Iowa State College

United States Department of Agriculture

Soil Conservation Service

Forest Service

Extension Service

State University of Iowa

Iowa Natural Resources Council

Iowa State Education Association

Iowa State Soil Conservation Committee

and Many Others

THEY'LL ALL BE BACK IN '51

HOW IT BEGAN...

Emphasis on the teaching of conservation in Iowa schools is growing constantly. Teachers are finding out that if they are to teach conservation effectively they need the self-confidence resulting from familiarity and actual experience with soil, water and other natural resources.

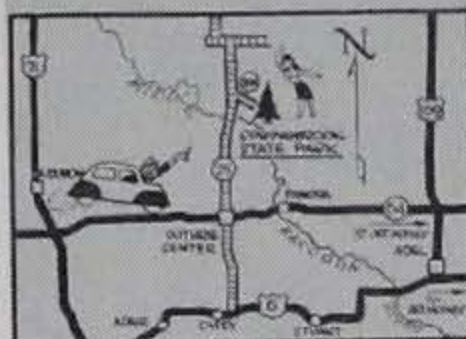
Keeping in mind this need for practical train-

ing in conservation, representatives of the Science Department of Iowa State Teachers College, the State Department of Public Instruction, and the State Conservation Commission formed the nucleus of a group of conservationists and educators who planned and carried out the First Iowa Teachers Conservation Camp.

WHERE IT HAPPENED

Springbrook State Park is in Guthrie County, seven miles northeast of Guthrie Center, Iowa, 60 miles northwest of Des Moines. Its 761 acres include heavy woods, recreation and camp areas, and a 27-acre lake.

Recreational facilities include picnicking, swimming, with bathhouse, concession, sand beach and life guard, boating, fishing facilities, and hiking. Examples of wise and unwise resource use are within easy driving distance.



Clean, comfortable cabins, laboratories, dining hall, and modern facilities add to comfort and enjoyment of students.



WHO CAME TEACHERS



These came the first session



These came the second session

Twenty-five teachers attended each of the two three-week sessions. These fifty teachers represented thirty-five Iowa counties.

IT'S SPRINGBROOK AGAIN IN '51

APPENDIX C
BROCHURE FOR 1951
(CONTINUED)

STAFF



Dr. G. W. Mosser, Camp Director, IRTC; Dr. Dorothy Matala, IRTC; Dr. Elmer Will, IRTC; Miss Pauline Renner, IRTC; Miss Paul Green, State Dept. of Public Inst.; G. W. Wootley, Conservation Commission; Mrs. Lena Feterman, IRTC.

VISITING SPECIALISTS

(Each field trip and discussion period was led by a specialist in that particular phase of conservation. Every effort was made to keep instruction simple and non-technical.)

- | | |
|---|--|
| Dr. C. R. Gwynne, Prof. of Geology, Iowa State College | Ralph Nelson, Fisheries Section, State Conservation Commission |
| M. A. Anderson, Extension Agronomist, Iowa State College | U. L. Zenger, Director, Iowa Nature Resources Council |
| Byron Bates, State Soil Scientist, Soil Conservation Service | Frank Tucker, Assistant, State Conservation Officer, State Conservation Commission |
| L. E. Bishop, Guthrie Co. Extension Director | Lynd Hoff, Des Moines, State Conservation Officer, State Conservation Commission |
| M. B. Hantley, Grants Co. Water Unit Conservationist, Soil Conservation Service | Verl Holton, Lake View, State Conservation Officer, State Conservation Commission |
| Prof. Alton Abraham, Prof. of Geography, Iowa State Teachers College | Warren Wilson, Boone, State Conservation Officer, State Conservation Commission |
| Frank Mendell, State Conservationist, Soil Conservation Service | A. E. McMahon, Jefferson, State Conservation Officer, State Conservation Commission |
| Kenneth King, Asst. State Conservationist, Soil Conservation Service | Wayne Snow, District Center, State Conservation Officer, State Conservation Commission |
| Wayne Pittchard, Okmahan, State Soil Conservation Committee | Earl Diering, Exhibit Department, State Conservation Commission |
| L. E. Clapp, Extension Soil Conservationist, Iowa State College | V. C. Jocke, Chief, Information and Education Division, United States Forest Service |
| Charles Hildebrand, Chairman, Guthrie Co. Soil Conservation District | M. A. Kierhoff, Dept. of Forestry, State Conservation Comm. |
| B. I. Ferriss, Area Game Manager, State Conservation Commission | A. D. Allen, Farm Forester, State Conservation Commission |
| Earl T. Boer, Fisheries Biologist, State Conservation Commission | Dr. John M. Alstead, Biology Dept., Iowa State College |
| Bob Osary, Fisheries Biologist, State Conservation Commission | E. T. Gardner, Extension Forester, Iowa State College |
| Harry Harrison, Fisheries Biologist, State Conservation Commission | H. B. Oatfield, Extension Forester, Iowa State College |
| Dr. John Barbark, Biology Dept., Iowa State Teachers College | Dr. Martin Grant, Biology Dept., Iowa State Teachers College |
| C. E. Schaefer, Civil Engineer, Soil Conservation Service | Robert Driscoll, Farm Forester, State Conservation Commission |
| E. H. Schwab, Civil Engineer, Soil Conservation Service | |

VISITORS

- | | |
|--|--|
| Dr. M. J. Nelson, Dean of the Faculty, Iowa State Teachers College | Dr. M. W. Beard, Registrar, Iowa State Teachers College |
| Miss Jessie Parbo, State Superintendent of Public Instruction | Dr. John W. Christie, Iowa State Teachers College |
| Bruce Miller, Director, State Conservation Commission | Dr. E. L. Miller, Director of Extension Service, Iowa State Teachers College |
| Dr. C. W. Lewis, Head, Science Dept., Iowa State Teachers College | Herman Nelson, Science Dept., Iowa State Teachers College |

Thirty IRTC Branch Summer School students (Miss Marguerite Day, host)

Twelve County Superintendents from Pottawattamie, Adams, Shelby, Clarke, Humboldt, Iowa, Greene, Marion, Audubon, Clay, Guthrie, Franklin, and Harrison Counties.

WILL YOU BE THERE IN '51?

WHAT THEY DID...

EACH DAY

- 5:00 a.m.—(three mornings each week) — bird study
- 7:00 a.m.—breakfast
- 8:00 a.m.—field trip led by visiting specialist
- 12:00—lunch
- 1:30 p.m.—discussion of morning field trip by specialist
- 2:30 to 4:00 p.m.—methods and projects
- 4:00 p.m.—recreation and free time
- 5:30 p.m.—dinner
- 7:30 p.m.—preview next day's work
- 10:00 p.m.—lights out



IN EACH THREE-WEEK SESSION



Soils -- First Week

Reviewed basic geology—Saw evidences of glacial action—Saw colored slides of existing glaciers—Learned to identify common rocks—Correlated geological principles with study of soils.

Saw and felt differences in color and chemical and physical structure of soils—Found and studied typical Iowa soil types—Visited a farm operating under Soil Conservation Service recommendations—Saw waterways, contour farming, terracing and strip cropping in various stages of completion and use.

Worked with soil testing tools and equipment—Learned to use soil maps—Worked with soil specialists—Planned how to use their experiences in the schoolroom.

(Continued on page 8)

WHAT THEY DID (Continued)

Water -- Second Week

Saw animated water cycle exhibits—
Saw erosion and siltation in action—
Studied beavers, muskrats, and other
water animals in natural habitats—
Waded into the middle of a typical
Iowa marsh—Visited Little Sioux Riv-
er flood control project—Visited a
state fish hatchery and waterfowl ref-
uge—Used seines to sample and study
fish life in ponds and streams.



Forests -- Third Week

Studied the place of forests in con-
servation—Visited farm forests, state
forests, windbreaks—Learned to iden-
tify common trees and shrubs—Visited
an Iowa sawmill—Learned how to clas-
sify, measure and manage trees in farm
woodlots—Saw forest fire prevention
methods demonstrated—Learned to
teach local and national aspects of for-
est conservation.



In General

They became better teachers—Learned to identify birds,
rocks, trees, flowers, and other resources—Saw field teaching
techniques—Saw visual aids demonstrated—Examined books
and teaching aids—Worked out classroom projects—Made
teaching aids and equipment—Learned to apply new facts and
information to their own curriculum needs—Enjoyed fellow-
ship and experiences to be found only in a true "camp" situ-
ation.

IT'LL BE MORE FUN IN '51

HERE'S THE NEWS ON '51

WHERE—At the group camp, Springbrook State Park, Guthrie County, Iowa.

WHEN—The first three-week session begins June 17 and ends July 7. The second three-week ses-
sion begins July 8 and ends July 28.

COST—Tuition is \$15, board \$50, for the three-week session. Only other expense will be for text-
books, optional equipment, laundry and miscellaneous.

COLLEGE CREDIT—Local Problems in Conservation—5 quarter hours.

STAFF—Basically the same personnel as in 1950. Resident staff and visiting specialists.

HOW TO APPLY FOR ADMISSION

First—If you have never been enrolled at Iowa State Teachers College write to your high
school and to all colleges you have attended and ask that a transcript of your credits
be sent from these schools to the Registrar, Iowa State Teachers College, Cedar Falls,
Iowa.

Second—By means of a brief letter or postal card, indicate your desire to attend the camp.
Send this request to G. W. Mouser, Science Department, Iowa State Teachers College,
Cedar Falls, Iowa. You will then receive appropriate application forms.

Third—Complete these camp and registration forms and return them to Mr. Mouser.

As soon as your transcript has been received by the registrar you will receive final notice re-
lative to admission.

REGISTRATION AT THE CAMP—Registration for each session will be at the group camp,
Springbrook State Park on Sunday, June 17 and July 8, respectively.

THINGS YOU WILL WANT TO KNOW

You May—Bring a friend—Bunk in the same cabin with your friend if of the same gen-
der—Bring a radio—Have weekend guests and invite them to meals if prior
arrangements are made. (No housing for student guests or families will be
available.)

You Should—Bring fishing tackle—Bring camera and films—Plan to be in camp until Satur-
day evening each weekend. (You will profit from staying in camp over the
weekend but it is not required.)

You Must—Eat in the camp dining hall. (You wouldn't want to miss it anyway.)—Not
bring pets. (There are enough Whip-poor-wills to go around.)—Bring your
own towels and linens.

You Will—Receive special instructions relative to reporting at camp—Receive lists of
special equipment needs as soon as your registration is complete—Pay all fees
at time of registration—Receive mail service daily—Have reasonable laundry
service near camp—Have transportation to church each Sunday.

SIGN UP NOW FOR '51

COURSE OUTLINE FOR '51

First Week - SOILS

- Geology as it affects Iowa soils.
- Study and comparison of chemical and physical make-up of typical Iowa Soils.
- Study of land management. Practice in judging proper use of land.
- Examination of available publications in studying Iowa soils.
- Examination of books and bulletins, motion pictures, slides, and other helps for teaching about soils.
- Techniques of organizing field trips for studying soil.

Second Week - WATER

- Study of the water cycle. Learning to teach the relationship between water, soil, plants and animal life.
- Water as a balancer. Study of examples of balance and unbalance.
- The use and management of water in relation to fish and other wildlife resources.
- Water conservation problems on the local, state and national level.
- Field and laboratory study will be aimed at acquainting the student with animal and plant life found in aquatic environments.
- The use of water as a source of power.

Third Week - FORESTS

- Recognition of Iowa trees. The use of guides and manuals.
- Growth and behavior of trees.
- Types of forests and their value to the State of Iowa.
- The forest as a community of living plants—its management and uses.
- The forest as a soil, water, plant, and animal stabilizer.

DURING THE ENTIRE SESSION EMPHASIS WILL BE PLACED ON INDIVIDUAL PARTICIPATION AND EXPERIENCE. TEACHERS WILL LEARN TO CORRELATE INSTRUCTION IN THE FIELD WITH THE CURRENT CONSERVATION EDUCATION CURRICULUM.

MAKE PLANS NOW FOR '51

DAILY SCHEDULE FOR '51

SCHEDULE—MONDAY THROUGH FRIDAY

5:30 a.m. (Three days each week)	Bird Hike
6:30 a.m.	Reveille
7:00 a.m.	Breakfast
8:00 a.m. to 11:45 a.m.	Field or laboratory study
12:00 Noon	Lunch
1:00 p.m.	Informal discussion with specialists
1:45 p.m. to 3:30 p.m.	Teaching techniques (Making teaching aids and studying procedures for teaching conservation in the field and classroom)
3:30 p.m.	Free time Instruction in fly and bait casting, swimming, fishing, boating, photography, etc.
5:30 p.m.	Dinner
7:00 p.m. (three days)	Curriculum materials
(one day)	Preview of Visual Aids
(two days)	Free time
8:00 p.m.	Preview of next day's work
10:00 p.m.	Lights out

SATURDAY SCHEDULE

Morning	Summary and discussion of the week's work
Afternoon	Construction of teaching equipment for teachers' personal needs

SUNDAY SCHEDULE

Schedule variable according to local church schedule.

LINE UP NOW FOR '51

APPENDIX C
BROCHURE FOR 1951

(CONTINUED)

(COVER)

A SHORT PREVIEW OF '52

A Study of Iowa Wildlife. Emphasis on:

First-hand observation of field markings, habits and habitats of Iowa amphibians, birds, fish, mammals, and reptiles.
Management problems, including methods of habitat improvement, wise harvest and attraction of desirable forms of wildlife.

Consideration of Soil Nutrients. Emphasis on:

Essential and possible trace elements in Iowa soils. The role of soil nutrients in the health of plant and animal populations.
Plant and animal "indicators" of soil nutrient sufficiency or deficiency.

A Study of Balance in Nature. Emphasis on:

Study of food chains, homes, cover, runways, survival, the theory of edges, and their relation to plant and animal balances.
Integration and correlation of the various areas covered in preceding weeks.

EMPHASIS WILL AGAIN BE PLACED ON INDIVIDUAL PARTICIPATION AND EXPERIENCE. ALL LEARNING WILL BE CORRELATED WITH CURRICULUM NEEDS.

ACKNOWLEDGMENTS

The printing of this bulletin was made possible by the generosity and cooperation of Iowa sportsmen's clubs. The following organizations contributed toward the cost of the bulletin. In doing so they indicate their recognition of the fact that conservation must be carried out by today's children, and that training teachers to teach the wise use of natural resources in our schools is essential to a sound conservation program in Iowa.

Iowa Division Isak Walton League
Adair Conservation Club, Adair, Iowa
Anamosa Chapter Isak Walton League, Anamosa, Iowa
Cedar County Conservation Club, Chariton, Iowa
Cherokee Chapter Isak Walton League, Amesbury, Iowa
Conservation, Inc., (Pottawattamie County Conservation League, Iowa) Council Bluffs, Ia.
Crawford Wildlife Club, Inc., Crawfordsville, Iowa
Des Moines Chapter (Men) Isak Walton League, Des Moines, Iowa
Ding Darling Chapter (Ladies) Isak Walton League, Des Moines, Iowa
Green Bay Chapter Isak Walton League, Fort Madison, Iowa
Hunkeler, Wapello Chapter, Jessup, Iowa
Hunkeler, Waterloo, Iowa
Indian Creek Chapter Isak Walton League, Maynard, Iowa
Jefferson County Chapter Isak Walton League, Fairfield, Iowa
Linn Springs Fish and Game Club, Linn Springs, Iowa
Osage Conservation Club, Osage, Iowa
Stuart Conservation Club, Stuart, Iowa
United Sportsmen, Waterloo, Iowa
Wapello County Fish and Game Club, Ottumwa, Iowa
Western Iowa Sportsmen Association, Manning, Iowa
Woodbury County Chapter Isak Walton League, Sioux City, Iowa

Contributions from clubs which were received too late to be acknowledged in this bulletin will be given appropriate credit through other publicity released in connection with the Conservation Camp at a later date.

TYPICAL DAILY SCHEDULE

5:30 a.m. (two days a week)	Bird Hike
6:30 a.m.	Reveille
7:00 a.m.	Breakfast
8:00 a.m. to 11:45 a.m.	Field or Laboratory study
12:00 noon	Lunch
1:00 p.m.	Informal discussion
1:45 p.m. to 3:30 p.m.	Teaching materials and techniques (Making teaching aids and studying procedures for teaching conservation in the field and classroom.)
3:30 p.m.	Free time (Recreation, instruction in casting, photography, etc., if desired.)
5:30 p.m.	Dinner
7:00 p.m. (three days)	Curriculum Materials (one day)
	Preview visual films (two days)
8:00 p.m.	Preview of next day's work
10:00 p.m.	Lights out

NATURE OF INSTRUCTION

- In addition to field work there will be:
 - Informal discussion with resident staff and visiting specialists.
 - A library of conservation education materials.
 - Showing of films, filmstrips, and slides.
 - Preparation of teaching aids and demonstrations.
 - A review of curricular materials.
- All with the object of improving and enriching classroom teaching.
- P.S. It's fun, too.

1952, JUNE 8, 1952
1952-1952-52

STAFF

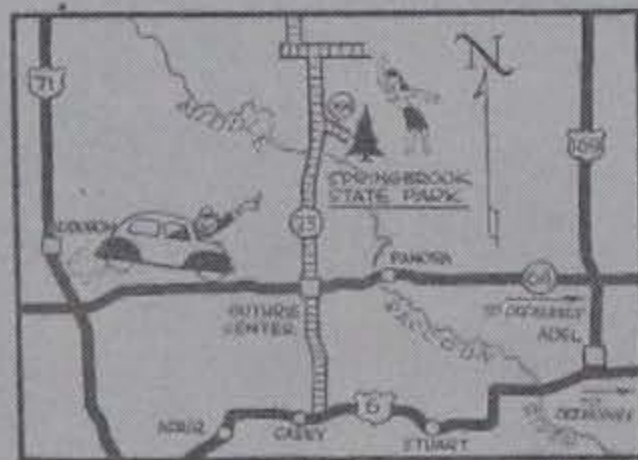
- DR. EMERY WILL, Camp Director
Iowa State Teachers College
 - DR. CLIFFORD McCOLLUM
Iowa State Teachers College
 - DR. DOROTHY MATALE
Iowa State Teachers College
 - ARTHUR C. CARPENTER
Iowa State Department of
Public Instruction
 - MISS GLADYS HORGAN
Iowa State Department of
Public Instruction
 - GEORGE W. WORLEY
Iowa State Conservation Commission
- And 35 instructor specialists from assisting agencies.

SPRINGBROOK STATE PARK

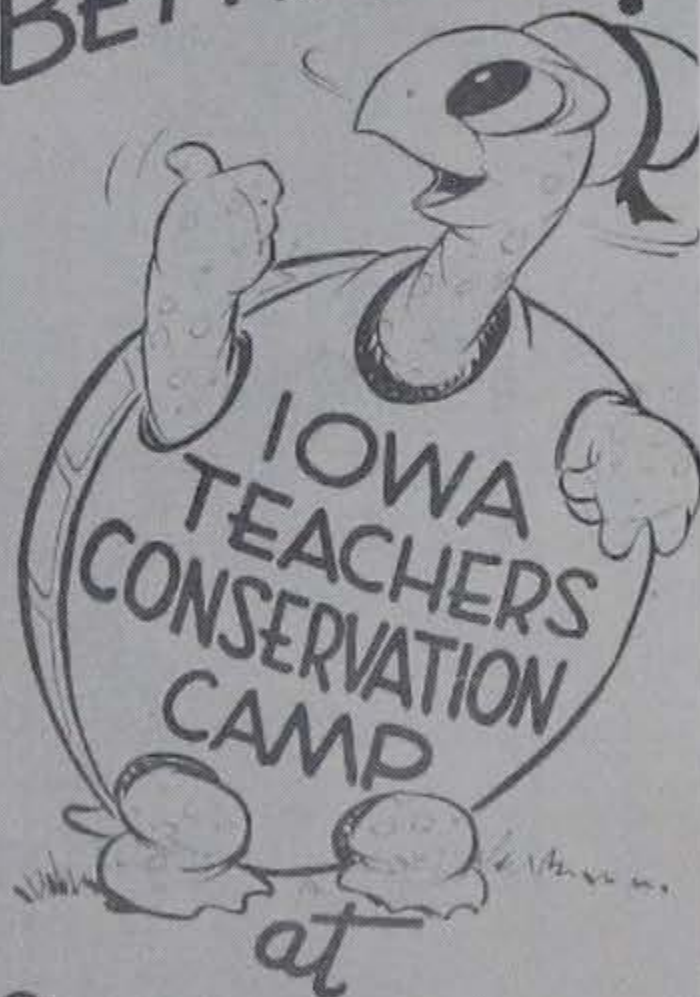
Springbrook State Park is in Guthrie County, seven miles northeast of Guthrie Center, 60 miles northwest of Des Moines. Its 761 acres include heavy woods, recreation and camp areas, and a 27 acre lake.

Recreational facilities include picnicking, swimming, concession, boating, fishing and hiking.

Examples of wise and unwise resource use are within easy driving distance.



It's
**BIGGER and
BETTER in '52!**



(FIRST SIDE)

at
**SPRINGBROOK STATE PARK
JUNE 8-AUG. 16, 1952.**

BROCHURE FOR 1952

APPENDIX C

IOWA TEACHERS CONSERVATION CAMP...

COLLEGE CREDIT

PLANNED AND CONDUCTED BY:

Iowa State Teachers College
Iowa State Conservation Commission
Iowa State Department of Public Instruction

ASSISTED BY PERSONNEL AND FACILITIES FROM:

Iowa State College
United States Department of Agriculture
Soil Conservation Service
Forest Service
Extension Service
United States Department of the Interior
Fish and Wildlife Service
State University of Iowa
Iowa Natural Resources Council
Iowa State Education Association
Iowa State Soil Conservation Committee
and others.

Experience in the field is the basis for first-hand study of natural resources and their conservation.



New COURSES FOR SECONDARY AND ELEMENTARY TEACHERS

COURSES OFFERED IN 1952

FIRST SESSION—for elementary teachers.

June 8 to June 28.

Biology 105, Conservation for Elementary Grades (A).
5 qtr. hours credit.

An even better version of the course offered in 1950 and 1951. Emphasis on soil, water, and forest conservation.



FOR ELEMENTARY TEACHERS!

SECOND SESSION—for secondary teachers.

June 29 to July 19.

Biology 505, Iowa Conservation Problems. Graduate and undergraduate credit. 5 qtr. hours credit.
Emphasis on soil, water, forest and wildlife conservation and management. Individual investigations.

FOR HIGH SCHOOL TEACHERS!



THIRD SESSION—a new course for elementary teachers. Open to new campers and those who have attended conservation camp before. July 27 to August 16.

Biology 105, Conservation for Elementary Grades (B).
5 qtr. hours credit.

Emphasis on soil nutrients, wildlife, and balance of nature.



SECOND COURSE FOR ELEMENTARY TEACHERS!

EDUCATION ! CAN BE FUN !

GENERAL INFORMATION

LOCATION OF CAMP. Springbrook State Park, Guthrie County, Iowa.

COST. Tuition \$17.50, board \$52.00 for each session. Some scholarships available.

ACCOMMODATIONS. Group cabins. Dining hall. Superb food. Central showers, laboratory, library, lecture and recreation rooms. Industrial arts shop. Laundry service.

RECREATION. Fishing, swimming, boating, hiking, fly and bait casting, crafts, photography.

REGISTRATION. Advance registration required. Open to teachers and qualified students. Enrollment for each session limited to 60.

FOR ADDITIONAL INFORMATION. Write to Dr. Emery Will, Camp Director, Science Department, Iowa State Teachers College, Cedar Falls, Iowa.



APPENDIX C
BROCHURE FOR 1952

(SECOND SIDE)

APPENDIX C
SPECIAL BULLETIN FOR 1952

WANTED!

**SECONDARY AND
ELEMENTARY TEACHERS**

WHO DESIRE GRADUATE OR UNDERGRADUATE
COLLEGE CREDIT, OUTDOOR CLASSES, USEFUL
LEARNING, PLEASANT LIVING

THE
IOWA TEACHERS CONSERVATION
CAMP
IS FOR YOU!

SEE THE TYPICAL COURSE
OUTLINE IN THIS FOLDER

THE 1952
IOWA TEACHERS CONSERVATION
CAMP

SPRINGBROOK STATE PARK
THREE 3-WEEK SESSIONS

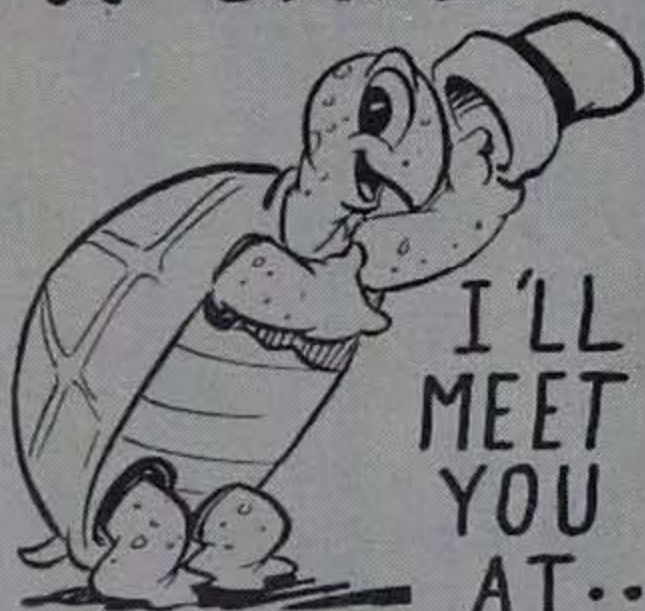
JUNE 8

JUNE 29

JULY 27

APPENDIX C
LEAFLET FOR 1953

LET'S MAKE
A DATE!!



I'LL
MEET
YOU
AT..

THE 1953
IOWA TEACHERS
CONSERVATION
CAMP

SPRINGBROOK STATE PARK
GUTHRIE CENTER, IOWA
Secondary Session -- June 14 - July 3
1st Elementary Session -- July 5 - July 25
2nd Elementary Session -- July 26 - Aug. 15
(over)

PB-19572-S.P.

SUMMER SCHOOL
THAT'S
DIFFERENT

COURSES OFFERED IN 1953

FOR HIGH SCHOOL
TEACHERS!



June 14 to July 3.
Biology 305. Iowa Conservation Problems. Graduate
and undergraduates credit. 5 qtr. hours credit.
Emphasis on soil, water, forest and wildlife conser-
vation and management. Individual investigations.



FOR ELEMENTARY
TEACHERS!

July 5 to July 25.
Biology 105. Conservation, Elementary Grades (A).
5 qtr. hours credit.
An even better version of the course offered in 1950,
1951 and 1952. Emphasis on soil, water, and forest
conservation.

July 26 to August 15.
Biology 105. Conservation, Elementary Grades (B).
5 qtr. hours credit.
Emphasis on soil nutrients, wildlife, and balance in
nature.

GENERAL INFORMATION

COST. Tuition \$17.50, board and room \$55.00 for
each session. Some scholarships available.

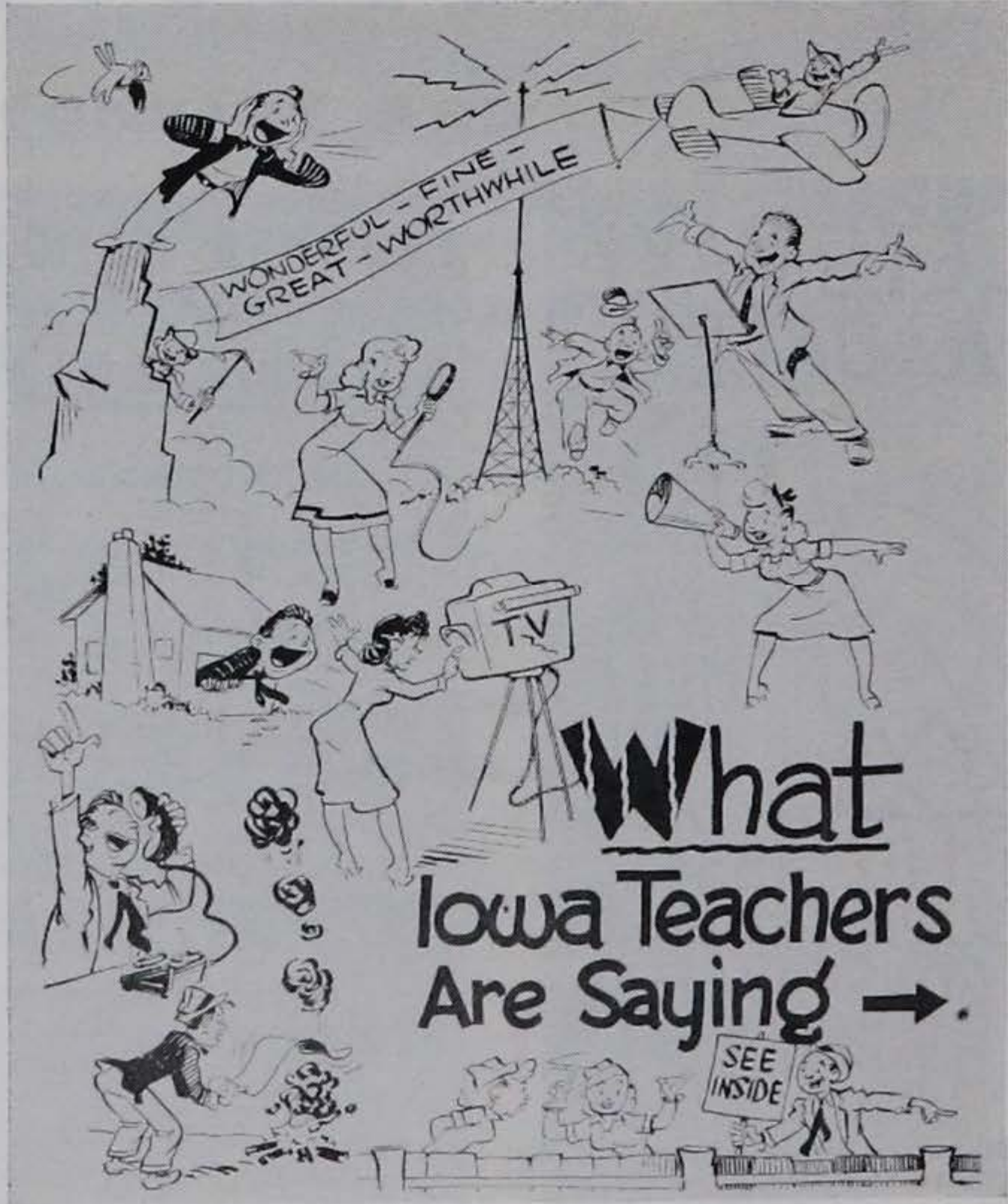
ACCOMMODATIONS. Group cabins, dining hall,
superb food, central showers, laboratory,
library, lecture and recreation rooms, industrial
arts shop, laundry service.

RECREATION. Fishing, swimming, boating, hiking,
fly and bait casting, crafts, photography.

REGISTRATION. Advance registration desirable.
Open to teachers and qualified students. Enroll-
ment for each session limited to 50.

FOR ADDITIONAL INFORMATION. Write to Dr.
H. S. Fowler, Camp Director, Science Department,
Iowa State Teachers College, Cedar Falls, Iowa.

APPENDIX C
BROCHURE FOR 1953



**the Iowa Teachers
 Conservation Camp
 is FUN!**



"A wonderful three weeks! I've enjoyed every minute of the Conservation Camp and made lots of new friends."

"The fine food, the friendly atmosphere, and the outdoor life were all enjoyable."

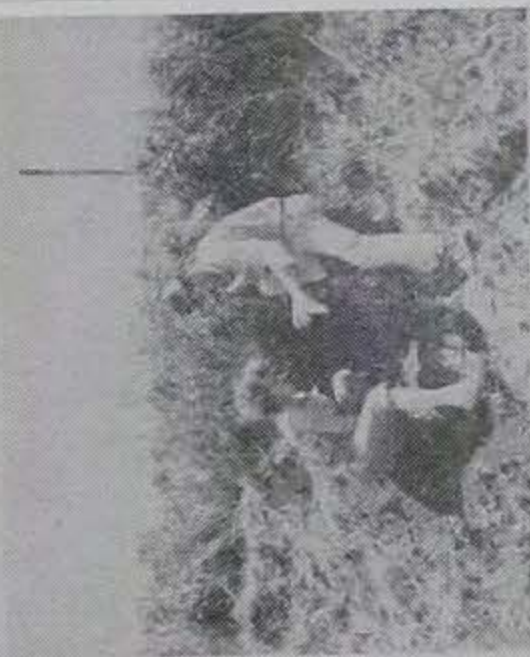
"In my opinion, this was an ideal way to study."

"The camp proved to be an ideal vacation as well as an outstanding learning experience."

"The information was well presented, the food wonderful, and the attitude of the staff excellent."



**the Iowa Teachers
 Conservation Camp!
 is WORTHWHILE!**



"This is the type of education I have dreamed of ever since I became a teacher. It is superb!"


"I enjoyed every minute, and learned more than I ever thought was possible in such a short time. The instructors were, without a doubt, the most unusual I've ever had."

"I sincerely believe that if teachers in the state knew of the benefits to be found at Springbrook nearly all of them would want to attend."

"This has been the most enjoyable, interesting, and enlightening three weeks of summer school I ever attended."

"Here is a college course that teaches us as we should teach our children—through experience."





the Iowa Teachers Conservation Camp gives COLLEGE CREDIT!

First Session, June 11-July 3, Biology 505; Iowa Conservation Problems—5 quarter hours.

The nature and interrelationships of Iowa's natural resources. Management procedures; patterns of wildlife behavior; and associations of soils, plants, and animals. Research problems by students. Conservation curriculum materials. Preparation of visual aids, demonstrations, bibliographies, and projects suitable for public schools. Prerequisite: Science 117, Biological Science 10, or equivalent.

Opportunities for work on graduate theses are available at the camp.

Second Session, July 5-July 25, Biology 105; Conservation for Elementary Grades—5 quarter hours.

Soil, water and forests and their conservation, particularly as found in Iowa. Considerable field experience affords acquaintance with typical forms, with emphasis placed upon associations and interrelationships. Preparation of visual aids, demonstrations, bibliographies, and projects suitable for elementary grades.

Third Session, July 26-August 15, Biology 104; Conservation for elementary Grades—B—5 quarter hours.

Wildlife, soil nutrients, and balance in nature, particularly as found in Iowa. Considerable field experience affords acquaintance with typical forms and conservation problems, with emphasis placed upon associations and interrelationships. Preparation of visual aids, demonstrations, bibliographies, and projects suitable for elementary grades.

BIOLOGY 505 IOWA CONSERVATION PROBLEMS June 11 - July 3 COURSE SCHEDULE

First Week.

Geological influences on Iowa soils.
Rocks and minerals—earth materials.
Soil properties, differences.
Soil associations.
Soil conservation practices on the farm.
Teaching aids in soil conservation.

Second Week.

Water resources and their conservation.
Fish trapping, tagging, marking.
Study of a marsh habitat.
Water management and problems.
Hydroelectric developments.
Sewage disposal.
Flood control.
Teaching aids in water conservation.

Third Week.

Forest resources.
Tree identification.
Woodlot and forest management and problems.
Wildlife resources.
Plant and animal associations.
Fur-bearing animals and upland game mammals of Iowa.

TYPICAL DAILY SCHEDULE Tuesday, June 23

Morning—Field trip to a typical Iowa marsh (Lakin Slough).
a. Observation of plant and animal life in a marsh habitat.
b. Study of birds and bird nests in and around the marsh.
c. An introduction to marsh management.

INSTRUCTION: B. J. Severson, State Conservation Commission.
Afternoon—Further discussion of life in ponds and marshes.
Curriculum development and teaching aids.
AUDIO-VISUAL AIDS: Filmstrips; LEE IN PONDS, LAKES, AND STREAMS; KEEPING AN AQUARIUM.
Film: POND LIFE.

Evening—Water management and problems.
a. Hydroelectric developments.
b. Pollution problems.
AUDIO-VISUAL AIDS: Film: CLEAN WATERS.
INSTRUCTION: Resident staff.



**APPENDIX C
BROCHURE FOR 1953
(CONTINUED)**

**BIOLOGY 101
CONSERVATION FOR ELEMENTARY GRADES—B
July 26 - August 15
COURSE SCHEDULE**

First Week.

Soil formation, properties, profiles, types.
Soil nutrients, associations, fertility.
Testing soils.
Signs of deficiency in soils.
Relation of soil fertility to animal and human nutrition.

Second Week.

Wildlife resources.
Observation of birds—habits, habitats, nests.
Game birds. Attracting birds.
Migration of birds. Banding.
Mammals. Identification, habitat groups.
Fur-bearers.
Evening, coon hunt.
Predation. Hunting regulations.
Fish—habits, habitats, food, management, regulations.

Third Week.

Plant and animal associations.
Habitats—woodland edges, fields.
Terrestrial food chains.
Wildflower identification and conservation.
Aquatic food chains. Study of a pond habitat.
Plant and animal succession.
Animal cycles.
Study of a marsh habitat.



Second Week.

Water resources and their conservation.
What is it like to live in water?
Fish study, trapping, marking.
Study of a pond habitat.
Study of a marsh habitat.
Revealing wildlife signs.
Flood control. Pollution control.
Hydroelectric development.



Third Week.

Forests.
Tree study and identification.
Small woodlot management.
Forest communities.
Wildlife in forests.
Timber resources and management.

TYPICAL DAILY SCHEDULE

Thursday, July 9

Morning—Field trip to three soil associations within a 20-mile radius of Springbrook State Park.
a. Carleton-Welster (typical of central Iowa).
b. Marshall (typical of northwestern Iowa).
c. Shelby-Starpelburg-Winteract (found in much of south central Iowa).

Afternoon—Preparation of soil profile samples collected during morning. Discussion of factors affecting soil and water losses. The nature and problems of soil nutrients.
Initiation of individual observational studies.

AUDIO-VISUAL AIDS: FILMS: GRASS ROOTS IN THE SOIL; KEEP YOUR EYE ON THE SOIL.

INSTRUCTION: Joe Stritzel, Iowa State College; Lotlier Grant, Soil Conservation Service.

Evening—Illustrated discussion of local conservation problems and practices on the land.
Preview of next days field work.

TYPICAL DAILY SCHEDULE

Friday, August 14

Morning—Field demonstration and discussion of legal and illegal practices in hunting and fishing in Iowa.
Discussion of regulations. Field trip to study signs of wildlife activity (tracks, trails, dens, etc.).

INSTRUCTION: State Conservation Officers

Afternoon—Field trip and laboratory work—plaster casts of animal tracks, leaves, etc. Plants attractive to wildlife as food, shelter or escape.

INSTRUCTION: Resident staff.

Evening—Free time until dark, when a "drag" coon hunt will be held, complete with campfire, coon hunter, dogs, stories, and refreshments.

APPENDIX C
BROCHURE FOR 1953
(CONTINUED)

GENERAL INFORMATION

THE CAMP IS CONDUCTED AND SPONSORED BY:

Iowa State Teachers College
Iowa State Conservation Commission
Iowa State Department of Public Instruction

VISITING SPECIALISTS AND OTHER ASSISTANCE FURNISHED BY:

Iowa State College
State University of Iowa
Iowa Natural Resources Council
Iowa State Soil Conservation Committee
Iowa Conservation Clubs and Women's Groups
United States Department of Agriculture
Soil Conservation Service
Forest Service
Extension Service
United States Department of the Interior
Fish and Wildlife Service
And many others.

THE CAMP IS HELD AT:

The group camp at Springbrook State Park, seven miles north of Guthrie Center, Iowa, 60 miles northwest of Des Moines. The park consists of 761 acres including picnic grounds, a 27 acre lake, beach, concession, etc.

RESIDENT STAFF:

Dr. H. Seymour Fowler, Iowa State Teachers College, Camp Director.
Dr. Dorothy Matala, Iowa State Teachers College.
Dr. Clifford McCollum, Iowa State Teachers College.
George W. Worley, State Conservation Commission.
Mrs. Lena Petersen, Audubon, cook.

COST:

Tuition and fees \$17.50, board and room \$55.00 for each session.

SCHOLARSHIPS:

Contact Iowa State Conservation Officer or Camp Director for information on scholarships.

ACCOMMODATIONS:

Group cabins, Dining hall, Superb food, Central showers, laboratory, library, lecture and recreation rooms, Industrial arts shop, Laundry service.

RECREATION:

Fishing, swimming, boating, hiking, fly and bait casting, crafts, photography.

REGISTRATION:

Advance registration desirable. Open to teachers and qualified students. Enrollment for each session limited to 60.

FOR REGISTRATION OR ADDITIONAL INFORMATION: Write to Dr. H. S. Fowler, Camp Director, Science Dept., Iowa State Teachers College, Cedar Falls, Iowa.





OUR HERITAGE WE PRIZE

This certifies that ...

...has completed work
at the Iowa Teachers'
Conservation Camp.
Date _____

C. N. Pantz
HEAD, SCIENCE DEPT., IOWA STATE TEACHERS COLLEGE
Jessie M. Parker
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
Amel F. Hill
DIRECTOR, STATE CONSERVATION COMMISSION.

STATE LIBRARY OF IOWA



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