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# A Survey of the Status of Conservation Education in Junior High Schools of Eight Selected Counties in Northwest Iowa

John E. Voss

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A SURVEY OF THE STATUS OF CONSERVATION  
EDUCATION IN JUNIOR HIGH SCHOOLS OF EIGHT  
SELECTED COUNTIES IN NORTHWEST IOWA

by

JOHN E. VOSS

THIS BOOK DOES  
NOT CIRCULATE

A problem submitted to the Faculty of South Dakota  
State College of Agriculture and Mechanic Arts in  
partial fulfillment of the requirements for the Degree  
of Master of Science.

July, 1953

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## PART I

### THE PROBLEM

In recent years the subject of conservation has acquired considerable importance throughout this country. The very nature of the problem has become so broad as to include nearly every facet of our daily lives. It has come to include human lives, consumer education, and production along with the more traditional areas of our natural resources such as forests, minerals, soil, and water. As with other contemporary topics, this subject has many implications for American education. It has become increasingly evident that if we are to maintain our present high standards of living, some effort in education has to be put forth to aid in this phase of the problem. Although there have been many articles published on this subject, very little of the subject has been investigated on an objective basis.

Statement of the Problem. The problem is fundamentally one for society as a whole in that conservation has projected itself into this nation's economy and production. Thus the destruction of our natural resources in one area has had effects not only on the immediate area but throughout the country as a whole. Conservationists in our government have accomplished much in the past in dealing with this problem; however, as has been the case with similar problems, the final solution

was dependent on an understanding of conservation and a resultant cooperation in conservation work by all members of society. The problem of an understanding of the wide ramifications of the conservation program has become a problem for education. Conservation education has not kept pace with practices in the field of conservation. Hence, the purpose of this study was to determine the current status of conservation education in the schools of a particular geographic area in northwest Iowa. It was thought that if the current status was known, it might then be possible to plan a program of improvement of the conservation-education program and through it effect improvement in the whole conservation program throughout the country.

Importance of the Problem. The various phases of conservation came to the forefront in American life in the 1900's. Although much has been written in regard to conservation programs in the curricula of specific school systems, very little has been done in the way of a comprehensive survey of what actually has been done in this field of study concerning a group of schools. The need for such a study and a resulting improvement of the conservation-education program has become imperative at this time.

An indication of the importance of conservation has been in the tremendous efforts put forth by our various levels of government for solving conservation problems. During the past twenty years frequent mention has been made of governmental work in soil conservation, administering of forest land, planning methods of flood control, and in



more recent years much work in the area of human conservation by working towards better conditions in the field of mental health. Considerable work has also been contributed by independent organizations such as hunting and fishing clubs, agricultural organizations, and other conservation groups.

The problems of conservation faced by society have become increasingly apparent in recent years. These problems have been noted in daily news releases relative to forest fires in California, drought in Texas, corn-borer infestation in Iowa, floods on the Missouri River, and many other examples too numerous to mention. Further emphasis of the importance of conservation was provided by the fact that problems similar to these have been found throughout the world.

The gradual realization of the relationship between conservation and education has culminated in extensive effort towards a coordination of these social forces in recent years. Many recognized authorities have emphasized the need for such coordination of these forces. The National Education Association indicated the importance of this subject when in 1949, their Representative Assembly passed the following resolution:

The National Education Association believes that the depletion of human and natural resources, with the prospect of impoverishing future generations, 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 Department of Public Instruction for the State of Iowa further emphasized the importance of immediate attention to this phase of the instructional program of schools when it stated:

Now, and almost too late, we see our lack of wisdom, our narrow vision, our unconcern for our fellow man and for posterity. The fertility of our farm lands in some cases has been woefully reduced through misuse and erosion; forests have been seriously depleted; mineral resources are becoming exhausted; wildlife suffers from unbalance or has become extinct; and many clear streams and lakes have disappeared, become dangerously polluted, or have been allowed to contribute to floods.<sup>2</sup>

Analysis of the Problem. The writer has long been interested in conservation and its many implications for society. Recently he has been confronted with the problem of teaching conservation to junior high school students. In consideration of the importance of conservation and conservation education, and the writer's interest, this study was undertaken with the hope of improving instruction in conservation. The purpose of this study then, was to determine the status of conservation education. For this research study, conservation education was defined as meaning any intentional school activity designed to effect changes in, or the creation of, concepts and practices in regard to the wise use of our natural resources.

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

2. Department of Public Instruction for State of Iowa, Iowa Elementary Teachers Handbook for the Teaching of Conservation, Vol. 14:7.

In order to secure a complete picture of the problem, the study included a general appraisal by administrators as to the relative importance of conservation education and the problems to be faced in a possible integration of the subject-matter area with the entire school curriculum. Possible problems for consideration included the organization of their school, the adequacy of their teachers' training, and such physical factors as time, cost, and the equipment needed for such a program.

The problem in regard to the actual teaching was studied from the teachers' view point along more specific lines. This included the philosophic side of teaching as shown by principles and other concepts as well as the more practical side of teaching conservation. This latter portion included the actual teaching operation, and the materials and class organization to be used in the operation. A special effort was made to survey the use made of a recently completed course of study of conservation education for the State of Iowa. It was thought that the results would provide a composite picture of the total problem rather than to have emphasized any particular factor in the teaching.

The problem was further studied through a comparison of the administrators' views with those held by the teachers. This was to check the views of the teachers against those of the administrators.

Delimitation of the Problem. It was the purpose of this investigation to determine the status of conservation education in a limited geographic area. The definition of the term 'conservation' has already been given in a previous portion of this report. However, in a subject-matter field as

broad as this, it was necessary to set certain limitations for this definition. These limitations were as follows:

- 1.) Incidental teaching was not considered except in so far as it was mentioned as an attack of the problem.
- 2.) There was no attempt made to identify the individual areas which collectively make up our natural resources.
- 3.) No notice was made of possible transference from related subject-matter areas.
- 4.) In the formation of most of the questions, conservation education was thought of as a unit in a subject-matter field such as science or social studies rather than to be set up as a separate school subject.

The selection of the educational level to be considered as well as the geographic area to be surveyed was placed in PART III on METHODS AND PROCEDURES.

PART II  
REVIEW OF THE LITERATURE

The literature on conservation education was not very abundant in terms of investigation although there were many articles of a descriptive nature which presented the programs of individual school systems. The investigative literature was mostly of recent origin and limited scope. The subjective literature was very plentiful from every part of the United States giving a strong indication that many individual schools have embarked on a conservation-education program.

Literature of a Subjective Nature. An example of this particular type was an article by Scribner<sup>1</sup> in which the Minneapolis, Minnesota program was outlined; starting with a Conservation Commission and its major function of outlining the area of study. Other features mentioned included the problems of teacher training, teaching materials, description of the project methods used, field trips, transfer values, and local applications of learnings.

Another article of this type was presented by McMahan<sup>2</sup> in which she

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1. Ruth S. Scribner, "Conservation Activities in Minneapolis," Progressive Education, 27:56-60, November, 1949.

2. Marie McMahan, "Conservation at the Battle Creek Public School Farm," Progressive Education, 27:60-61, November, 1949.

described the unique farm laboratory used in the Battle Creek, Michigan school system. A farm was given in trust to the school for educative purposes. They used it for a combination Farm-Garden-Forestry course. The entire school system from the fifth grade up used the farm for the study and practices of these areas of study. The article devoted space to the placement of different activities in accordance with the grade level of the pupils. Some space was also devoted to the scheduling of time and transportation for the project.

Literature of an Objective Nature. In contrast with the subjective type of literature, several investigations were published. One of these by Douglass<sup>3</sup> reported on an experiment carried out in Vermont for the evaluation of special instruction and the development of conservation attitudes. The article explained the selection of schools and the equating of them as control and experimental groups. The students were given pre-tests to determine the level of general conservation knowledge and attitudes as well as evaluating the existing conditions by direct observation. The control groups then proceeded with their "normal" classroom instruction for the development of conservation attitudes. An activity program was used with the experimental groups while no particular emphasis was placed on the methods used by the control groups. The writer concluded that the experimental method used had certain distinct advantages

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3. Bennett C. Douglass, "Conservation Practices in the Vermont Program of Applied Economics," Progressive Education, 27:52-55, November, 1949.

over the control group's methods as indicated by improved neatness and care of personal belongings. The writer also pointed out that parents concerned were aware of changes in their childrens' attitudes and actions toward the care of property under their control.

Eckleberry reported a conference of Ohio educators as proposing a long-range program of research in conservation education as consisting of four major areas. The steps to be taken in this program were as follows:

1. Determination of desirable objectives and outcomes of conservation education.
2. Determination of the status of conservation education in the United States.
3. Determination of the attitudes of superintendents, principals, supervisors, and teachers toward conservation education and subject-matter competence.
4. Determination of the instruction offered by teacher education institutions.<sup>4</sup>

The conference indicated that later on there should be further work done on the development of teaching materials, improvement of teaching procedures, the incorporation of conservation education in the curriculum, and a satisfactory means of evaluating the total program. From a direct communication with Mr. Eckleberry, it was learned that, "For various reasons the long-range program of research in conservation education has not been carried beyond the original stage which was holding a conference on the objectives and content of conservation education for American youth."<sup>5</sup>

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4. R. H. Eckleberry, "Research in Conservation Education," Educational Research Bulletin, 25:20-21, January, 1946.

5. R. H. Eckleberry, From Correspondence with the Writer on September 3, 1952.

Prior to this meeting; however, a similar project was started by Carter<sup>6</sup> in the public schools of Zanesville, Ohio where he analyzed the status of conservation education by means of a questionnaire study of the school system. The questionnaire consisted of thirty-three questions intended to get an over-all evaluation by the teachers of conservation education in their schools. He particularly emphasized teacher training and qualifications for teaching conservation. Other portions of the questionnaire dealt briefly with teaching techniques and materials. Carter concluded that the teachers thought conservation education an important part of the curriculum; they questioned their teaching proficiency in the field; and that many of them would like to take in-service courses on methods and content of conservation to improve their teaching.

Iowa Handbook for the Study of Conservation. Another type of literature considered was the state courses of study. A number of states including Michigan, Wisconsin, Illinois, and Iowa have had these made out in the past few years.<sup>7</sup> These pamphlets were similar in many respects although they varied in the emphasis with the type of natural resources found in the particular state. For example, Michigan and Wisconsin emphasized forest resources much more than did Illinois and Iowa, while just the opposite was true in the case of soil resources. All four states, however, devoted some space to all of America's natural resources.

The Iowa Elementary Teachers Handbook on the Training of Conservation<sup>8</sup>

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6. Vernon G. Carter, 'Teachers' Opinions on the Teaching of Conservation in the Elementary School,' Elementary School Journal, 42:367-370, January, 1942.

7. American Association of School Administrators, Conservation Education in American Schools--29th Yearbook, Appendix A, pp. 261-271.

8. Iowa Department of Public Instruction, 'The Teaching of Conservation,' Iowa Elementary Teachers Handbook, 14:17.



is essentially like a course of study for any other subject-matter field in that it also includes the objectives and purposes of the subject-matter area; means of correlation with various science textbooks; and ideas and suggestions on teaching techniques, materials, plans, and organization. The handbook divides the content into nine distinct areas of concentration, as follows:

1. Conservation of Soil
2. Conservation of Wildlife
3. Balance in Nature
4. Conservation of Mineral Resources
5. Conservation of Forests and Timberlands
6. Water Conservation and Flood Control
7. Maintaining Soil Fertility
8. Farm Conservation Planning in Iowa
9. Legumes and Grasses in Conservation<sup>9</sup>

This course of study however, is unique in several ways. First, it points out that the handbook is to be used as a guide and not a directive for the teaching process. Along with this are rather detailed suggestions on getting the course started as in many cases it is a new subject in the curriculum. Second, it arbitrarily divides the nine areas into three groups of three units each which are to be taught in a three-year cycle. This amounts to teaching one area, once every three years. The advantages to such a teaching arrangement are thought to be that of providing a comprehensive coverage of the subject without too great a time loss from other subject areas. Also that in restudying, more advanced materials and activities could be used to re-emphasize important concepts. Third, the emphasis on soil conservation, which is to be expected in an agricultural state, is indicated by having four of the areas devoted to farm conservation.

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9. Ibid., p. 5.

### PART III

#### METHODS AND PROCEDURES OF INVESTIGATION

The method employed in this investigation was a questionnaire survey of conservation-education conditions within a limited area. To get at different phases of the problem, and from different points of view, two questionnaires were used; one of them going to the superintendents and the other to the classroom teachers directly concerned with the teaching of conservation. The geographic area and grade level covered by these questionnaires was determined by the limitations of this being a research problem rather than a thesis, and the interest of the writer in these particular areas.

Educational Level Covered by Questionnaires. The questionnaires used in this survey were limited to the junior high school level for the reasons indicated above. The junior high schools in the area investigated consisted of the seventh and eighth grades of all schools in this area offering twelve years of public education. Usually the junior high school has been thought of as including the seventh, eighth, and ninth grades; however, all schools concerned in this survey were of the 6-6, 6-2-4, or 8-4 type of organization. In most cases this tended to make the seventh and eighth grades easily distinguishable and a practical unit with which to work. A list of the schools surveyed, their superintendents, school enrollment, and the number of seventh- and eighth-grade teachers was placed in

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Appendix A of this report.

Geographic Area Covered by Questionnaire. The eight counties which were considered in this study were chosen on a rather arbitrary basis. The school in which the investigator has been teaching was a member of an interscholastic organization known as the Lakes Conference. This organization was used for workshops and special conferences for the advancement and improvement of their respective educational programs as well as the customary interscholastic competition in the various extra-curricular activities. The communities in the conference were the eight largest towns in eight bordering counties in northwest Iowa. However, rather than limit the survey to the schools of these eight communities, all schools within the eight counties which offered twelve years of public education were included in the study. The use of all sixty-nine of these schools in the area was to provide a much better view of the total picture of conservation education within these boundaries. A map of the area surveyed was placed in Figure 1 on page 14.

The area itself is one of the richest agricultural areas in the country. The major products are corn, soy beans, and limited amounts of small grain. As yet there is no telling loss of soil and soil productivity but experience in other areas of the country shows that this is the ultimate outcome when erosion is allowed to occur.

Other conservation problems however, have become the immediate concern of people in this area. One of these problems has been that of floods. In the past two years, two devastating floods have struck the area.

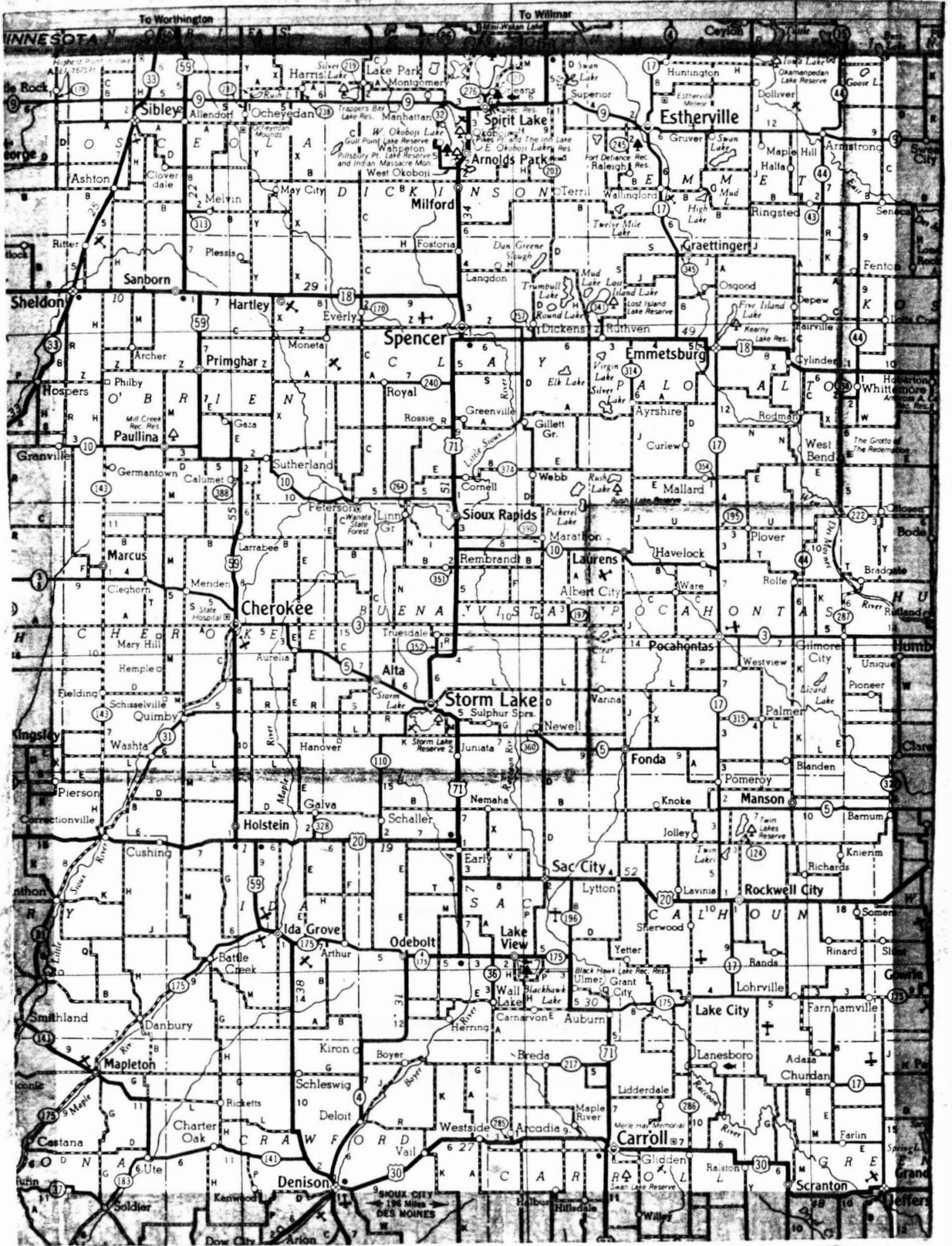


Figure 1 Map of Geographic Area Surveyed by Questionnaires Enclosed by Red Boundaries.

If proper soil cover had existed, these floods would have been considerably reduced in their effects, if not prevented entirely. Another conservation problem of the area has been in the control of the European corn-borer. This is a case of an insect being removed from its normal environment and given favorable living conditions without its natural enemies. Thus in tampering with the balance of nature, man has created a monster of this pest which has cost millions of dollars---dollars which could have been well spent by society.

Utilization of Administrators' Questionnaire. The questionnaire was sent to the administrators of the schools mentioned above. It was intended primarily to obtain their point of view on conservation education, and the problems related to it and its possible integration with the present curriculum. The questionnaire consisted of three general areas. The first of these was related to specific information in regard to the school organization, the class organization of conservation education, and to the responsibility for teaching conservation. The second area of this questionnaire was primarily for the evaluation of the program and the possible means of improving this instruction. The last area of the administrators' questionnaire was for comments on the Iowa course of study and the questionnaire itself, along with the problems of conservation education. It also provided space for the listing of their seventh- and eighth-grade teachers of conservation in order to supply a mailing list for the teachers' questionnaire. A copy of this questionnaire has been placed in Appendix B at the end of this report.

Utilization of Teachers' Questionnaire. The teachers' questionnaire was designed to make a comprehensive study of the actual teaching of conservation. It was divided into the following areas to facilitate answering, tabulating, and analyzing of the results:

1. Concepts of conservation education concerning the definition of conservation, practical aspects for emphasis in conservation instruction, and the principles of conservation.
2. Teaching organization dealing with the class and school organization for the teaching of conservation.
3. Teaching techniques concerning the use of activities, particularly field trips, in conservation education.
4. Teaching materials referring to the use of specific materials such as texts, workbooks, and the audio-visual aids used in this teaching.
5. Teacher training relative to an evaluation of the teachers' training and possible means of improvement of the teaching of conservation.
6. Iowa Elementary Teachers Handbook for the Teaching of Conservation seeking to evaluate the new Iowa handbook in regard to make-up and use.

These questionnaires were mailed to all teachers of conservation as indicated on the returned administrators' questionnaires. When a teacher's name was not mentioned on this returned questionnaire, a copy of the teachers' questionnaire was sent to the seventh- and eighth-grade science and/or social studies teacher of the school. All follow-up work

on these questionnaires was handled by personal requests at various educational group meetings held in northwest Iowa in the fall and winter of 1952. A number of first-year teachers expressed reluctance at filling them out due to insufficient experience in the teaching of conservation. A copy of the teachers' questionnaire was placed in Appendix C of this report.

Upon receipt of both the administrators' and the teachers' questionnaires, a complete and careful tabulation of the answers to all of the questions was made. A complete tabulation of these answers was placed in Appendix D of this report. The information provided by the answers to the questionnaires was used in the analysis of the problem found in the following sections of this report. The analysis of these answers provided further information from which certain conclusions could be safely deduced as reported in this study.

Questionnaire Returns. The questionnaires to administrators were mailed to the superintendents of the sixty-nine schools to be surveyed on October 21, 1952. Most returns were received several days later with all returns received, returned by November 11, 1952. Fifty-four of the sixty-nine administrators completed the questionnaires which gave a return of 78 per cent. With but very few exceptions, all questions were fully answered. A tally of the questionnaire returns by counties was shown as TABLE I. A complete tabulation of the answers to the individual questions from this questionnaire was placed in Appendix D of this report.



The return on the teachers' questionnaire was not as high as the administrators' questionnaire. Of the one-hundred and ten teachers' questionnaires which were mailed, sixty-three returns were received which gave a 57 per cent return. However, this relatively low percentage of return can be accounted for in that in many cases, as indicated in TABLE I, more than one teachers' questionnaire was sent to a school. In many cases only one teacher handled the conservation studies and in several others, two or more teachers collaborated in the answering of one questionnaire. Thus, although the total percentage of returns was only 57 per cent, fifty-one of the sixty-nine schools represented replied, giving a school reply of 74 per cent. The questions were answered completely in all sections of the questionnaire except for the part on the Iowa Handbook for the Teaching of Conservation. This latter was probably due more to a lack of use of the handbook rather than a matter of interpreting the questions.

Reliability of Returns. Every effort was made to obtain reliable information through the use of these questionnaires. Considerable time was spent on the formulation of the questionnaires to insure clear, concise questions in order to get answers that would give a good picture of the over-all problem. The questionnaires were studied by the writer's adviser and several other educators to make certain of the clearness of the questions.

The returns were in sufficient quantity to give a good cross-section of conservation-education conditions in this area. The vast majority of

TABLE I TABULATION OF QUESTIONNAIRE RETURNS

County	Number of Schools	Number of Adm. Quest'rs. Sent	Number of Adm. Returns	Percentage Adm. Returns	Number of Teacher Quest'rs. Sent	Number of Teacher Returns	Percentage Teacher Returns	Number of Schools No Return
Buena Vista	13	13	10	77	21	10	47	5
Cherokee	9	9	8	88	12	7	58	4
Clay	9	9	6	66	12	7	58	2
Dickinson	8	8	6	75	11	6	55	2
Emmet	6	6	4	66	10	7	70	1
O'Brien	10	10	8	80	18	10	55	2
Osceloa	5	5	4	80	9	6	66	1
Palo Alto	9	9	8	88	17	10	59	1
<b>TOTAL</b>	<b>69</b>	<b>69</b>	<b>54</b>	<b>78</b>	<b>110</b>	<b>63</b>	<b>57</b>	<b>18</b>

questions were answered clearly and concisely on all of the returned questionnaires. The schools from which no returns were received did not fall into any one type of school but were rather representative of all the schools surveyed.

The tabulating of answers was done carefully and double-checked to insure accuracy. Thus it would seem safe to say that the questionnaire returns gave a good representation of the condition of conservation education in the area covered by the survey.

## PART IV

### ADMINISTRATORS' ORGANIZATION AND EVALUATION OF CONSERVATION EDUCATION

The analysis of the administrators' questionnaire was divided into three sections to improve the organization of this part of the report. The first section dealt with the general school organization in so far as it would effect the teaching of conservation. The second section was concerned with an administrative evaluation of the present instruction in conservation, and school policies relative to conservation education. An opportunity was given to the administrators in the third section to volunteer any additional opinions they held in regard to conservation education and the Iowa Handbook for Teaching Conservation.

School Organization for Conservation Education. The first section of this questionnaire, consisting of the first five questions, was devoted to getting a general picture of the existing school organization relative to conservation education. These five questions, in the order in which they were stated on the questionnaire, dealt with: (1) seventh- and eighth-grade departmentalization; (2) the subject areas commonly used to include units in conservation; (3) the type of classroom organization used; (4) how teacher responsibility for this instruction in conservation was determined; (5) and the special training of teachers of conservation.

A large majority of these schools, as indicated in question 1, used at least partial departmentalization in their seventh and eighth grades. The eleven schools which did not have any departmentalization were of the smaller size in that they usually had one teacher, teaching both the seventh and eighth grades. This departmentalization would tend to facilitate the use of the unit organization for teaching conservation in that the pupils would come in contact with more teachers capable of instruction in conservation. The supposition was upheld by the replies to question 3 which pointed out that forty-one of the fifty-four schools used this unit organization, while twelve schools relied entirely on incidental teaching. No school offered a separate course in conservation. As indicated later in this section, this condition was due to a lack of time in the school day to offer this instruction.

The subject area most frequently mentioned for the incorporation of a unit on conservation was science with forty-six of the superintendents concurring. Many of the normal topics of a science course would lend themselves to including conservation; so this choice was not too surprising. About one-half of the administrators also considered geography and social studies as classes well-suited for absorbing units on conservation as indicated in question 2. Despite this tendency for certain classes to be used for the inclusion of the conservation unit, most superintendents left the decision up to the teachers themselves. This was specified in question 4 in which only twelve superintendents noted that they or their principals decided which teacher would teach the unit on conservation. In addition to

this, twenty of the administrators listed no determinant for this teaching. This would indicate that there was considerable freedom in the handling of these units.

A major criterion of teacher training in conservation education for Iowa teachers has been attendance at the Iowa State Teachers College Summer Conservation Camp. It was interesting to note in question 5 that only two teachers of the fifty-four schools represented had attended this camp. This would indicate a general lack of specific training on the part of these teachers.

Administrators' Evaluation of, and Policies on Conservation Education. The replies to this portion of the questionnaire were tabulated in TABLE II.

TABLE II ADMINISTRATORS' VIEWS IN REGARD TO CONSERVATION EDUCATION

	QUESTION	YES	NO	NO ANSWER
6.	Do you feel that conservation is important enough to warrant a thorough study on the seventh- and eighth-grade level?	38	8	8
7.	Do you feel that conservation is adequately handled in your seventh and eighth grades?	24	28	2
8.	Does your school have any set policy on who shall teach conservation on this grade level?	16	35	3
9.	Do your teachers follow the Iowa Handbook on the Teaching of Conservation?	21	23	10
10.	Do your seventh- and eighth-grade classes have any group field projects directly concerned with conservation?	20	32	2
11.	Do you feel that teachers need special training to teach conservation?	33	18	3
12.	Is anything done to correlate seventh and eighth grade and the high-school programs of conservation education?	14	40	0

The analysis of this section of the questionnaire was divided into three sections, the first of which was relative to the importance of conservation education and an evaluation of the adequacy of the existing conservation instruction as indicated by the answers to questions 6 and 7. The second section, consisting of question 8, 9, and 12, dealt with the freedom given teachers in the teaching of conservation and the administrative policies relative to this instructional program. Section three, composed of questions 10 and 11, was about the need for special training for the teachers of conservation.

The importance of conservation education was indicated in question 6 where most superintendents noted that the subject warranted a thorough study on the seventh- and eighth-grade level. The evaluation of the importance was quite definite with thirty-eight of the administrators agreeing on this. There were eight returns on which no answer was indicated; however, several respondents questioned the meaning of the work 'thorough'. There was no such agreement in question 7 on the adequacy of the coverage provided by their conservation programs. Here the superintendents were about evenly divided in their opinions. A possible problem in their interpretation of the word 'adequate', as in the preceding question, apparently did not arise as there were only two unanswered replies to this question.

The next section concerning teacher freedom in the conservation instruction was dealt with through the answers to questions 8, 9, and 12. The replies to question 8 stated that thirty-five of the schools had no policy as to who would teach conservation. This was in agreement with

question 4 of the preceding section where it was indicated that the teachers decided who would cover the unit. There was no uniformity shown in question 9 relative to the use of the Iowa Handbook for Teaching of Conservation. The replies were divided quite evenly with ten administrators not answering the question. This probably indicated that the use of the handbook was left to the discretion of the teacher. A further indication of teacher freedom, and the relative lack of organization of the program was seen in question 12, where forty of the superintendents indicated that nothing was done to correlate the conservation education of this grade level with the other levels of the school. This would further extend the teachers' freedom in the areas to be covered in a conservation unit. At the same time a correlation of this kind would be essential to any planned school conservation program. This freedom probably indicated a lack of a suitable solution under the existing situation rather than an attitude of unconcern on the part of the administrators.

In section three a need for special training for teaching conservation was recognized by the administrators in question 8 as shown by thirty-three affirmative replies. This belief was apparently in conflict with their casual attitude regarding conservation education shown in the preceding paragraph. The lack of special training was previously brought out in question 5 of the first section, where it was stated that only two of the seventh- and eighth-grade teachers had attended the Iowa State Teachers College Conservation Camp. The lack of organization of the school conservation-program was possibly due to this lack of training on the part of the teachers. A further phase of this needed training was



considered in question 10 with reference being made to the use of field trips. This teaching technique has been considered essential to the teaching of conservation and yet only twenty of the schools made use of field trips. Special training would be of great value in the use of this type of activity.

Administrator Comments on Conservation Education and the Iowa Handbook. The comments to this portion of the questionnaire were reported in question 13 in answer to the inquiry; "Do you have any comments, adverse or complimentary, in regard to the Iowa Handbook for the Teaching of Conservation?" In that it was a matter of volunteering additional information, only five replies to this question were received. These five answers indicated a belief on the part of these administrators that the handbook was very well organized, and would be of great value as a guide for the teachers if it were used more.

Question 15 gave the administrators an opportunity to offer any comments on conservation education not already covered in the questionnaire. Six of the administrators indicated concern about the time to be used for studying conservation. They were in agreement that conservation had to be considered an important subject, and that time should be devoted to it, but there was a problem in finding time for conservation education in an already over-burdened curriculum. Thus, to use time for conservation education would have meant the elimination or curtailment of some other essential instruction in other subjects. Another comment indicated that conservation was an extremely broad area of teaching which fringed on many other areas and was therefore difficult to limit to one class or

subject. Other comments questioned the importance and value of much study of conservation on this level but these were in the minority.

The cost of a conservation program did not appear at any place in the questionnaire, nor was it mentioned in any of the comments. Apparently this has not been a deterrent in planning for a conservation-education program, or it would have appeared in this area for comments.

The reader will find a comparison of the answers to eight of these questions with the responses made to similar questions by the teachers in a later section of this report.

## PART V

### TEACHER CONCEPTS OF CONSERVATION EDUCATION

The analysis of the answers to the teachers' questionnaire was too lengthy to be limited to one part; consequently, the next three parts of this report were devoted to this analysis. This was done both to facilitate an organized analysis, and to improve the readability of the report. PART V, the first of these three parts, deals with Teacher Concepts of Conservation Education. Teacher Training and Class Organization for the Teaching of Conservation were analyzed in PART VI, and The Use of Teaching Aids in Conservation Education was presented in PART VII.

The teacher concepts of conservation education dealt with in this part of the analysis, were concerned with an appraisal of the fundamentals of such a course in the curriculum. These fundamentals were thought of as the definition of conservation which was taken up in questions 1 and 2; the emphasis on various applications of the learnings to life situations in question 3; and the principles of conservation emphasized by the teachers as noted in question 4.

Definition of 'Conservation' Used by Teachers. The problem of defining conservation was undertaken first in this part of the questionnaire analysis. Due to the broadness of this area of instruction, it has been

difficult to arrive at any one generally accepted definition of the word. Since an understanding of the word and its implication was essential to good instruction, it was emphasized at this time. As can be noted in TABLE III, a great variety of definitions was submitted in answer to this question.

TABLE III DEFINITIONS OF 'CONSERVATION' USED BY TEACHERS

DEFINITIONS	FREQUENCY
a. Wise use of natural resources	13
b. Saving for future generations	6
c. Preservation of natural resources	4
d. Care, protection, and preservation of natural resources	4
e. Use to best advantage	3
f. Intelligent use of our natural resources	3
g. Care of our natural resources	2
h. Saving and replenishing our natural resources	2
i. Prevention of waste or loss, especially our natural resources	2
j. Use of our natural resources in a useful, sensible way that we can enjoy them as long as possible	1
k. Preservation of our natural resources and the prevention of waste	1
l. Preservation of our natural resources by scientific means	1
m. Relationship of man to his survival	1
n. Study of use and mis-use of our natural resources	1

Upon closer scrutiny of this table it becomes evident that by removing many small technicalities, these definitions could have been condensed to two major groups, one of which emphasized the wise use of natural resources; the other the preservation of the resources. It was also noted that even these two were virtually the same in that 'wise use' connoted a preservation of natural resources for future generations. Wise use, however, was not necessarily implied by the

word 'preservation' as it would be possible to preserve with out any use whatsoever. Question 2 demonstrated further that the word 'conservation' implied far more than in past decades when it disclosed that fifty-one of the sixty-three returns included human resources as a part of our natural resources. This amplified the meaning of conservation to such a degree that it has been impossible for a pupil to attend a school without being affected by conservation teachings or practices in some manner or other. As an example, the ultimate aim of a school guidance program has been to help students realize their potentialities in order that they could make full use of these capabilities in the adult world.

Applications of Learnings to Life Situations as Emphasized by Teachers. Learnings of a practical value were next considered in this part of the analysis. As has always been the case, this phase of the problem was considered important in that the relationship between a school subject and the work-a-day world should be as close as possible to improve the learning situation. A tabulation of the number of teachers who emphasized certain applications of conservation was placed in TABLE IV.

TABLE IV TEACHER EMPHASIS OF CERTAIN PRACTICAL ASPECTS OF CONSERVATION

APPLICATION	FREQUENCY
Conservation practices on the farm	50
Care of wildlife in hunting and fishing	41
Care of personal belongings	30
Knowing and understanding conservation	27
Talking conservation to others	23
Care of garden and lawn	18
Others:	
Manpower	3
Hobbies	1
Water	1
Food	1

'Conservation practices on the farm' was indicated as definitely the most important aspect to emphasize. Considering the area concerned, one of the richest agricultural areas in the country, it was quite logical that this should be strongly emphasized. Next in importance was the 'care of wildlife in hunting and fishing' which could be correlated quite closely with the interests, particularly of the boys, in this age-group. These two factors were not applicable to all students as was the third one, the 'care of personal belongings.' All of the applications would affect attitudes and learnings to some extent but the care of personal belongings would be of vital importance to all concerned. It was noted that the last three items received enough consideration to serve as an indication that they should not be neglected in a conservation program. That the care of garden and lawn was mentioned least often could be explained by the nature of the jobs and the distaste many boys and girls had for their performance of this task.

In addition to the applications mentioned in the questionnaire, several others were written in on the space provided. These included manpower conservation, conservation of water, conservation of food, and hobbies designed to develop conservation habits and attitudes. No explanation should be necessary to see that these were related to several of the above topics, and that they would be well worth the time and consideration.

Principles of Conservation Emphasized by Teachers. Principles which should be brought out in the teaching of conservation were con-

sidered next in this part of the analysis. All of the principles listed in the questionnaire were probably brought up in conservation classes to some degree, but as has been the case, certain principles were emphasized more than others. As indicated in TABLE V, the frequency of emphasis of these principles was quite evenly distributed from a high of fifty-eight down to a low of thirteen.

TABLE V TEACHER EMPHASIS OF CERTAIN PRINCIPLES OF CONSERVATION

PRINCIPLE	FREQUENCY
Conservation is everybody's business.	58
Conservation is of both the present and the future.	46
Conservation is controllable by man.	43
Conservation effects economic policies.	37
America's resources are not inexhaustable.	33
Plants, animals, and the earth are interdependent.	33
Conservation has a scientific basis.	29
Conservation is of social significance.	26
Conservation is essentially proper land use.	25
Conservation deals with renewable and non-renewable resources.	21
Conservation practices must be of a democratic nature.	20
Scientific discovery cannot replace good conservation practices.	14
Conservation is a matter of production.	13

The principle that stated, "Conservation is everybody's business.", was mentioned most frequently by a definite margin. This probably was related to the emphasis on cooperation, so frequently found in our schools of today. Awareness of the importance of cooperation could go far in the solving of many of our vital conservation problems. This principle further indicated the broadness of the field of conservation.

Following this, the next two principles noted the fact of conservation being "of the present and the future" and as being "controllable by man". These were in line with the definition previously mentioned as 'the wise use of natural resources', and the preceding principles of 'conservation being everybody's business'.

The remaining principles, although of importance, were not given any particular emphasis. This was not unexpected but for two cases. The comparative lack of concern over the relationship between science and conservation was difficult to understand. This could be because of the obviousness of the principle, or because of the possibility of the relationship becoming too technical for this age-group. Also, the lack of emphasis on democratic conservation-practices was difficult to comprehend, particularly when thought of in the light of modern education and its stressed democratic process. This again could be accounted for by the teachers having accepted this concept in the entire field of education, and then questioned any further emphasis in a specialized area.



PART VI  
SCHOOL ORGANIZATION AND  
TEACHER TRAINING FOR CONSERVATION EDUCATION

This portion of the analysis of the teacher questionnaire returns was devoted to two major considerations of the conservation-education program. The first of these was the school organization used in the teaching of conservation. An evaluation of class organization, its importance, and school policies in regard to it were included in this part of the analysis. The second portion of this part of the analysis was relative to special training needed by conservation teachers. Included in this analysis were topics such as the need for additional training, possible legal requirements for this training, and attendance at the Iowa State Teachers College Summer Conservation Camp.

School Organization for Teaching Conservation. The first consideration in this section were the classes now taught by the teachers; which of those classes they use to emphasize conservation; and their choice of classes best suited for including instruction in conservation. These were considered in questions 1, 2, and 3, respectively. Notice was then given to preferred means of giving conservation instruction. This included such means as to provide for conservation education by means of a separate course, or by the core-curriculum, or as a unit of another subject, as indicated by the answers to questions 4 and 5. The importance of conservation was considered in question 6, while

questions 7, 8, and 9 were devoted to general school policies in regard to conservation education.

The listing of subjects taught by the teachers, subjects in which they emphasized conservation, and the subjects they thought best suited for conservation education were tabulated in TABLE VI.

TABLE VI TABULATION OF CLASSES TAUGHT; CLASSES IN WHICH CONSERVATION WAS EMPHASIZED AND THOSE BEST SUITED FOR CONSERVATION AS INDICATED BY THE TEACHERS

SUBJECT AREA	CLASSES TAUGHT	CLASSES USED FOR EMPHASIS	CLASSES BEST FOR EMPHASIS
Science	35	47	59
Social Studies	18	9	7
Arithmetic	13	1	1
Geography	12	22	29
All 7th & 8th	12	-	1
Spelling	11	-	-
Reading	10	2	-
History	10	10	5
Civics	7	7	5
English	7	-	-
U. S. History	6	1	-
Health	5	7	5
Physical Education	5	1	-
Biology	3	4	2
Iowa History	2	1	-
Government	2	2	-
Home Economics	2	1	-
Physics	2	1	-
Chemistry	2	-	-
Driver Training	1	-	-
Citizenship	1	-	-
Current Events	1	1	1
Agriculture	1	1	2
Economics	-	-	2
High School Subjects	-	-	1
None	-	-	1

The subjects which the teachers taught, as shown on the table,

varied all the way from one teacher handling all the seventh- and eighth-grade subjects to having just one subject such as science or geography. All together the replies showed twenty-five different subjects being taught by these teachers. The answers indicated science and social studies to be definitely ahead of all others which was to be expected in that most of the questionnaires were sent to these teachers. The other subjects which were mentioned more than ten times were general seventh- and eighth-grade subjects, merely pointing out that most teachers in these grades, teach more than one subject. Other replies revealed that in several of the schools, the teachers worked both in the high school and the junior high school. This was shown by the appearance of such subjects as physics, chemistry, and driver training in the questionnaire.

The list of subjects most often used to give emphasis to conservation was considerably shorter than that of the classes taught; however, the subject area of science held a corresponding first place in being most frequently mentioned. Different subjects under the social studies heading came next as they did on the preceding list. This was to be expected in that certain subjects were better adapted to this related topic than were others in the curriculum. Some high-school subjects appeared here as well as in the previous group. One item was difficult to understand: that only thirty-five teachers taught science while forty-seven mentioned science as a subject in which they emphasized conservation. Perhaps the explanation rested with the twelve teachers who indicated they taught all seventh- and eighth-grade subjects,

while none of them indicated that they emphasized conservation in all of the subjects taught. Another possible explanation for this would be the interchanging of the different areas of science mentioned in question 1 with the general term 'science' in question 2.

In the subjects noted most frequently as the best-suited subjects for the inclusion of conservation, science was definitely mentioned most frequently with fifty-nine of the sixty-three replies pointing this out. This was to be expected with the close correlation of conservation with certain phases of the science curriculum. Following science was geography which also naturally lends itself to the teaching of conservation through the study of natural resources, and the interdependence common to all living things on earth.

The teaching of conservation as a unit with another subject was designated in question 4 as the means of instruction teachers would use if they had their choice. From the preceding section, this would mean as a unit with either science or geography. The other three possibilities specified in the questionnaire were as a separate course, as a core-curriculum, and through incidental teaching. These were given equal value as possible means of instruction. All replies revealed no school as offering a separate course in conservation, although seven teachers would like to have such a course. The time factor has undoubtedly prevented this in the average school situation.

The teachers were even more of the opinion that conservation warranted a thorough study than were the administrators. The replies to question 6 showed fifty-four of the sixty-three teachers in agreement

on this. A comparison of these responses was made in a later section of this report.

The teachers were not in agreement in regard to the need for organization of the entire school-conservation program. A majority did indicate in favor of some organization; however, as shown by the replies to question 7, it was not very definite considering the necessity of such organization, if good instruction was to be the goal. This would indicate a lack of concern over school policy on the part of the teachers, or a desire for individual freedom in the conservation teaching. In questions 8 and 9, the teachers again brought out the freedom they had in the teaching of conservation. This was particularly true in question 8 where twenty-two teachers noted that they decided what areas they would cover, while twenty-five teachers did not even answer the question. Along with this, question 9 was in regard to the time of year conservation was stressed. All seasons of the year were represented; however, fall and spring were mentioned most frequently by a definite margin. If the conservation teaching was handled according to the Iowa handbook, the answers to both of these questions would be much more definite in that the handbook stated what areas should be covered, and also provided for one unit of conservation in the fall, another in the winter, and a third in the spring.

Special Training for Teachers of Conservation. The subject of special training for teachers of conservation was analyzed in this section. An evaluation of the teacher's competence was obtained in question 1, while in question 2 the teachers indicated the need for a better

understanding of conservation. Questions 3 through 6 were designed to reveal the amount of special training the teachers had; the possibility of in-service training; their opinion of possible state requirements for teachers of conservation; and attendance at the Iowa State Teachers College Conservation Camp. The answers to the six questions of this section of the questionnaire were tabulated in TABLE VII.

TABLE VII TEACHERS' VIEW RELATIVE TO TEACHER TRAINING FOR TEACHING CONSERVATION

QUESTION	YES	NO	NO ANSWER
1. Do you feel that you adequately teach conservation?	16	46	1
2. Do you feel that if you understood conservation better, you could do a better job of teaching it?	51	8	4
3. Have you ever had any special training in the teaching of conservation?	17	45	1
4. Would you be interested in taking a course in conservation if it could be handled during the school year on a county basis?	44	18	1
5. Do you believe that any special requirements by the State of Iowa should be established for the teaching of conservation?	30	32	1
6. Have you attended the Iowa State Teachers College Summer Conservation Camp?	3	60	-

The evaluation by the teachers of their adequacy in teaching conservation indicated a great need for improvement. The replies to question 1 were very definite in that only sixteen of the sixty-three teachers were satisfied with their teaching of conservation. In light of the fact that teachers felt conservation warranted a thorough study,

this inadequacy was particularly in need of correction. The lack of understanding of conservation was indicated in question 2 as being a primary factor in the inadequacy of the teaching. The opinion was very definite in that fifty-one of the teachers revealed that a better understanding of conservation would help their teaching.

The lack of special training was evidenced by the answers to questions 3 and 6. Only three teachers had attended the Iowa Teachers Conservation Camp, while but seventeen had even had a course in the teaching of conservation. However, the teachers provided a means of supplying this needed training by indicating a willingness to take part in an in-service training program. This was revealed in question 4 when forty-four teachers expressed a desire to get this special training.

The value of possible state requirements for teaching conservation was questioned by the teachers despite the obvious need for better preparation for teaching conservation. The teachers were about evenly divided on this as shown by the thirty-two negative answers to question 5. This could possibly be explained by the need for some such regulation as opposed to the idea of restrictions, and restraints from the Iowa Department of Public Instruction. This was not too surprising in view of the attitude on the part of many teachers in regard to academic freedom.

## PART VII

### TEACHING TECHNIQUES AND MATERIALS USED BY TEACHERS IN CONSERVATION EDUCATION

This last part of the analysis of the teachers' questionnaire referred to teaching techniques and specific materials used in teaching conservation. This part of the analysis has been divided into three sections corresponding with the sections in the questionnaire. The section on teaching techniques had to do with specific means of improving the learning situation through the use of activities. The use of specific teaching materials such as textbooks, workbooks, and audio-visual aids were analyzed in the second section. The third section was devoted to an analysis of the use and value of the new Iowa Handbook for the Teaching of Conservation.

Teaching Techniques Used in Conservation Education. The techniques dealt with in this section were those related to the 'activity' method frequently used in education. Seven questions were used to reveal the use of these techniques. The value of using only discussion techniques was brought out in question 1. The use of general activities, individual- or group-projects, and pupil experiences in conservation were covered by questions 2, 3, and 4. The specific use of field trips, the quality of teacher leadership, and the number of field trips taken



each year were revealed in questions 5, 6, and 7. The statement of these questions along with the tabulation of the teachers' answers was presented in TABLE VIII.

TABLE VIII TEACHERS' VIEWS RELATIVE TO TEACHING TECHNIQUES FOR CONSERVATION EDUCATION

QUESTION	YES	NO	NO ANSWER
1. Can a conservation attitude be developed solely by discussing the problems with the pupils?	14	48	1
2. Do you use activities in your instruction?	46	16	1
3. Do you use individual or group policies in your instructional program?	44	17	2
4. Do you make any special use of the conservation experiences that many rural pupils have had?	46	14	3
5. Are field trips essential to the formation of pupil attitudes on conservation?	49	14	-
6. Do you feel qualified to lead field trips?	31	30	2

The teachers indicated that conservation attitudes were not developed by discussion alone. This was revealed in question 1 with forty-eight of the sixty-three teachers agreeing. This opinion agreed with the modern trend in education towards more teaching of an experience nature, wherein the students joined in the planning of the instruction. A definite need for the use of activities was expressed by these answers.

The need for these activities was partially answered in question 2 when forty-six of the teachers indicated that they used activities in their teaching. The use of individual and group projects was considerable,

as indicated by the answers to question 3. Projects normally used for this instruction would include gardening, care of personal belongings, scrapbooks, panel discussions, constructions, and farm projects similar to those advocated by the 4-H Club and Future Farmers of America organizations. The teachers advocated the use of conservation experiences, particularly those of rural youth, in the instructional program. The answers to question 4 gave a strong indication of this use of conservation experiences of the pupils.

Field trips came in for special consideration in questions 5, 6, and 7. The value of field trips was emphatically stated by the answers to question 5 when forty-nine of the sixty-three teachers agreed on their importance. This was in line with what these teachers previously revealed relative to the use of activities. There was no such unanimity in the teachers' confidence in their ability to lead field trips. The teachers were evenly divided on this as shown by their answers to question 6. The lack of ability to lead field trips would probably have attention devoted to it if the specialized training reported on in PART VI was to be provided the teachers. The number of field trips used each year, reflected this lack of leadership in that, despite the importance of field trips, twenty-one of the teachers had no field trips, and fifty-one of them had less than three field trips a year. Only twelve teachers, as indicated in question 7, had used three or more field trips with two teachers disclosing that they used ten to fifteen trips a year. The exact number of field trips which could be well utilized would be difficult to ascertain; however, considering the availability of transportation, and

the great number of areas suitable for field trips, it would seem the number of trips should have been closer to five in number.

Teaching Materials Used in the Teaching of Conservation. The specific teaching materials used by conservation teachers were considered in this section. A consideration of special conservation textbooks and their necessity was taken up in questions 1 and 2 of the section. An evaluation of the content of the present texts was presented in question 3; while questions 4, 5, and 6 were relative to a conservation workbook. A second area covered by this section of the questionnaire was a survey of the number of teachers who used audio-visual materials such as maps, movies, and special references.

The first six questions relative to texts and workbooks were presented, along with a tabulation of the answers to these questions, in TABLE IX.

TABLE IX TEACHERS' VIEWS RELATIVE TO CONSERVATION TEXTS AND WORKBOOKS

QUESTION	YES	NO	NO ANSWER
1. Do you have a special text for conservation?	5	58	
2. Do you feel that a good conservation text is essential to good instruction?	28	34	1
3. Do you believe that your present texts include all necessary information on conservation?	17	45	1
4. Instead of a text, would a work activity book be more desirable?	46	11	6
5. Do you use the yearly workbook mimeographed by your county Soil Conservation Commission?	20	42	1
6. Does this workbook contribute to the effectiveness of your teaching?	16	19	28

Special conservation textbooks were quite limited in their use as indicated by the answers to question 1. The fact that only five teachers had conservation texts was not surprising considering the lack of good texts in this area of education. The positive need of such a text was revealed by the teachers' answers to question 2. Thirty-four of the teachers questioned its value while twenty-eight registered a desire for such a conservation book. The fact that a comparatively large number of teachers desired a special text for conservation was partially explained in question 3, when forty-five of the teachers expressed dissatisfaction over the content of their current books. The major objection to the current books has usually been in their failure to provide local examples to provide a good local background in the vast picture of conservation. This would be a difficult objection to over-come in books which were nation-wide in sales.

Workbooks would provide a good answer to this problem of providing local examples, and in question 4 the teachers recognized this fact. Forty-five of the teachers expressed approval of the use of the workbook over the textbook for teaching conservation. The major advantages to this use would probably be in the providing of local examples, and keeping up with current practices in conservation. In view of these facts, the answers to questions 5 and 6 expressed a rather surprising apathy on the part of the teachers. The teachers showed a lack of interest in a mimeographed workbook produced annually by their county Soil Conservation Commissions and distributed free of charge to the schools. Perhaps this was explained in question 6 when

the majority of teachers who used the workbook, doubted its value to teaching. There was apparently a need for a better evaluation of the workbook question in this area.

A tabulation of the frequency of the use of standard audio-visual aids was placed in TABLE X.

TABLE X FREQUENCY OF USE OF TEACHING MATERIALS  
AS NOTED BY CONSERVATION TEACHERS

TEACHING MATERIAL	FREQUENCY OF USE
Movies	51
Charts	46
Maps	44
Government pamphlets	37
Reports	35
Special references	26
Stories	25
Private industry pamphlets	18
Models	17
Others: Farmers	3
Slides	2
Film strips	1
Conservation officer	1

Audio-visual aids used for conservation education were more or less applicable to all subject-matter areas. The frequent use of movies, charts, and maps was not surprising considering the general availability of these materials. The wide use of government pamphlets was also consistent with the teaching of conservation inasmuch as the government has taken definite steps in this area, and has issued many informative pamphlets in regard to conservation.

Iowa Elementary Teachers Handbook for Teaching of Conservation. The last section of the teachers' questionnaire was to provide

information about this new Iowa Handbook. The section consisted of seven general questions in regard to an evaluation of it and its general use by the teachers.

Question 1 purported to determine the number of teachers with knowledge of the handbook. The detail of the contents, its coverage of essential areas, the use of the '3-year cycle', and the emphasis placed on 'soil' were taken up in questions 2, 3, 4, and 5, respectively. Questions 6 and 7 were relative to the teachers use of the handbook and the number of years that they had used it in their teaching.

The tabulation of the answers to the first five questions of this section were presented in TABLE XI.

TABLE XI TEACHERS' VIEWS RELATIVE TO THE IOWA ELEMENTARY TEACHERS HANDBOOK ON TEACHING CONSERVATION

QUESTION	YES	NO	NO ANSWER
1. Are you well acquainted with the Iowa Elementary Teachers Handbook on Conservation?	24	39	-
2. Do you feel that it is too detailed for elementary pupils?	14	17	32
3. Do you feel that it leaves out any essential area of the problem?	14	17	32
4. Do you believe that the "3-year cycle" as outlined in the Handbook emphasizes and covers the subject?	17	14	32
5. Do you think that the Handbook emphasizes "soil" enough for an agricultural state?	21	11	31

The lack of replies to these questions was very apparent. This was probably due to an attitude among teachers to ignore courses of

study because of their seeming dictatorial form. Another possible explanation for this lack of response was that most of the advance publicity on the handbook was relative to its use in one-room rural schools.

This lack of response was much in evidence in question 1 when only twenty-four teachers indicated that they had knowledge of the handbook. The answers to questions 2, 3, 4, and 5 were consistent with this apathetic attitude of the teachers. They gave the handbook very little commendation, although the answers were slightly favorable of the topics covered in these questions.

Further mention of the lack of the use of this course of study was made in question 6 when thirty-six teachers characterized their use of the handbook as "Ignore It", while twenty-seven said they "Used It as a Guide". No teacher indicated that they "Closely Followed" the program of conservation education as outlined in the handbook. A possible bright note was found in question 7 when thirty teachers indicated that they had used the handbook one or more years. The amount of use in some cases was questionable but there seemed to be a tendency towards greater utilization of this teaching aid in the future.

This section completed the analysis of the teachers' questionnaire. The analysis included a discussion of the philosophic side of teaching as shown in the principles of conservation and the implications of the definition of the word 'conservation'. Practical aspects of conservation education were covered in the analysis of class organization, teaching techniques, teacher training, teaching materials, and the use of the Iowa Handbook for the Teaching of Conservation.

PART VIII

A COMPARISON OF VIEWS HELD BY  
ADMINISTRATORS AND TEACHERS RELATIVE  
TO THE CONSERVATION-EDUCATION PROGRAM

The questionnaires were designed to survey two different, but related, appraisals of the conservation-education program by the administrators and the teachers of conservation. Due to the divergence of the attacks on the problem, much of both of the questionnaires was not of the form to furnish bases for comparison. However, in the evaluations of a problem, a certain number of comparable items were found. This investigation provided several opportunities for a comparison of the viewpoints on aspects of conservation-education of administrators with those held by the teachers. A number of questions from the administrators' questionnaire were repeated verbatim or with essentially the same idea expressed as in the teachers' questionnaire to provide this information and to allow for this comparison. The analysis of these "repeated" questions has been divided into three sections to improve the organization of this part of the report.

The first section of this comparison consists of the evaluations by the administrators and teachers of the importance of conservation education, and the adequacy of their school's program of conservation education. Seven of the questions for comparison in this part of the



report have been tabulated in TABLE XII. The percentage columns were included in the table because of the differences in the number of persons answering each questionnaire, and because there was a variance in the number of replies to each question. As previously mentioned, fifty-four of the sixty-nine administrators replied in the questionnaire, while sixty-three of the one-hundred and ten teachers' questionnaires were returned in a completed form.

TABLE XII A COMPARISON OF VIEWS HELD BY ADMINISTRATORS AND TEACHERS RELATIVE TO CONSERVATION EDUCATION

ITEM	ADMINISTRATORS			TEACHERS		
	Yes	No	%Yes	Yes	No	%Yes
A. A thorough study of conservation is needed in Jr. High	38	8	70%	54	7	86%
B. Our teaching of conservation is adequate at this level	24	28	44%	16	46	25%
C. A correlation of the programs on all levels is necessary	14	40	26%	34	25	54%
D. Teachers need special training	33	18	61%	46	16	73%
E. Teachers follow Iowa handbook	21	23	39%	24	39	38%
F. Teachers use projects with their instruction	20	32	37%	44	17	70%

Importance of Conservation Education, and Adequacy of Conservation-Education Programs. The study of conservation was noted as important on this grade level by both administrators and teachers as

shown by the responses to Item A. The only difference between the two viewpoints was a matter of the degree of the conviction of the importance of conservation education. This degree was shown in TABLE XII by the fact that 70 per cent of the administrators were convinced of the importance of the study, whereas 86 per cent of the teachers voted 'Yes'. This difference could probably be explained by the usually conservative attitude on the part of administrators relative to changes in, or additions to, the curriculum. Compared with this, teachers have been more responsive to change and perhaps have been more impressionable.

The adequacy of their programs was next considered for comparison in Item B. As to adequacy, the viewpoints were again in agreement; however, here the administrators and teachers failed to agree very closely. Neither of them were satisfied with the teaching of conservation as shown by the fact that 44 per cent of the administrators and only 25 per cent of the teachers believed their programs were adequate. Again the matter of degree entered the picture. The same attitudes of conservatism as held true in regard to the importance of conservation were probably applicable here, along with a highly critical attitude on the part of the teachers in regard to their teaching abilities in this subject-matter field. Thus, in regard to both of the items, agreement existed with a variance in degree presenting the only difference in the respective viewpoints.

General Administrative Policies Relative to Conservation Education. This second section was primarily devoted to the need for a

correlation of conservation education on all grade levels. The comparison of views found in Item C in TABLE XII showed a rather surprising divergence of opinions on the need for this correlation. The teachers indicated a need for a correlation of the teaching in conservation on the different grade levels by an affirmative reply of 54 per cent. Compared with this, only 26 per cent of the administrators thought that there was a need for this correlation. This was difficult to understand in that administrators usually have been concerned with the over-all school picture, while teachers have been more concerned with their own particular phase of education. Perhaps this was due to the interpretation of the word 'correlation'; that is, the administrators did not see the importance of a comprehensive correlation, while the teachers wanted a general idea of what was covered on the other grade levels.

The second question in this phase of the analysis was not placed in the table because it was not similar in form to the other questions tabulated in this group. The question was asked, "If conservation is taught by more than one teacher, how is it decided what areas each shall take?" Possible answers were listed with blanks for the respondent to check the appropriate one. The possible answers included 'Superintendent', 'Principal', 'Teachers', 'Handbook', and 'Committee'. The exact tabulations to this question have been included in Appendix D of the report. Only two answers, however, received sufficient emphasis to warrant attention in this section. The first of these was that the teachers themselves decided on what areas each

would cover in this situation. In the administrators' questionnaire this answer was given twenty-five times as compared with a combined total of nineteen for the other four possible answers. The teachers' answers were in agreement with this in that twenty-two of them decided what areas they would cover as compared with twenty-three indications of the use of the other agents. The second consideration dealt with the number of returns in which the question was left unanswered. Twenty of the administrators failed to answer this question, while twenty-five of the teachers did not respond. Great similarity was to be found in the answers of both administrators and the teachers in regard to who would determine what areas of conservation the teachers would cover in their teaching. The answers in both cases would indicate considerable freedom for the teachers in this situation, and conversely, a lack of a set policy on the part of the administrators. This could possibly be explained by the fact that a majority of the schools had only one teacher teaching conservation and hence, no problem would arise in these schools. In the other schools this could probably be taken care of by discussions in teachers' meetings. The problem of deciding areas of teaching between the grade levels still remained however, and the probable explanation for the lack of policy here would be in the freedom of responsibility given to the teachers in this subject-matter area.

Certain Classroom Practices Used in the Conservation-Education Program. The third section of this comparison was covered by

Items D, E, and F in TABLE XII. One aspect brought out was the need for special training to teach conservation as indicated by the responses to Item D. The administrators and teachers agreed quite closely on this when 61 per cent of the administrators and 73 per cent of the teachers indicated this need for special training. There was no significant difference in the degree of this need registered. The slight difference that did exist, could probably be accounted for in that the teachers would be more aware of the failings of their instruction than would the administrators.

The comparison of views of the administrators and the teachers relative to the use of the Iowa Handbook for the Teaching of Conservation was revealed in Item E of TABLE XII. The administrators indicated that 39 per cent of their teachers used the handbook, while 38 per cent of the teachers stated that they used the handbook to some extent. In both cases the answers indicated a smaller showing than what might reasonably be expected in this situation.

The administrators disagreed with the teachers in the amount of use projects received in conservation teaching as was shown by the response to Item F. The administrators indicated that 37 per cent of their teachers used projects, while 70 per cent of the teachers said that they made use of projects in their teaching of conservation. The difference in these views was probably a result of the interpretation of the word 'project'. The actual use of projects in a subject-matter field such as conservation has been shown to be of considerable value, and

for that reason, the issue should probably be clarified.

Another question considered here which was not included in the table was relative to the class organization for conservation education. There was very little difference in the opinions of the administrators and the teachers in regard to this subject. This was shown by the fact that forty-one of the administrators and forty-four of the teachers agreed that the teaching of conservation was best handled as a unit within another subject-matter field. The subject most commonly mentioned in both questionnaires for including this unit of study was that of science, with the social studies field also being considered satisfactory. Some consideration was given such class organizations as a separate course, core-curriculum, or just incidental teaching of conservation. There was not a strong feeling that conservation education should be set-up as a separate school subject. Both administrators and teachers apparently realized that if conservation education was to be offered as a new subject, something else would have to be dropped.

Thus in the comparison of views on the policy and practice of conservation education, the administrators and teachers appear much alike in most of the items listed. The administrators were considerably more positive than were the teachers that the teaching of the unit is 'adequate' at this level. On the other hand, a need for correlated conservation work at the different levels, and a usage of projects in the work were indicated by the teachers in a much more positive manner than by the administrators. The subject area of science to accommodate the conservation unit was well ahead of other areas in the judgment of both the superintendents and the teachers.

## PART IX

### SUMMARY AND CONCLUSIONS

The purpose of this investigation was to determine the status of conservation education in the junior-high schools of northwest Iowa. It was pointed out that this problem for education was a part of the major problem of conservation which was confronting all of America. Many recognized authorities have emphasized the need for a concerted attack of this problem by means of education. It was hoped that this investigation might provide some suggestions for the improvement of the conservation-education program.

The literature on the subject was limited both in scope and content. Considerable literature was available of a descriptive nature; however, it was usually limited to articles concerning local conservation programs. These articles would indicate a realization on the part of educators that a conservation-education program has become essential to the solution of the larger problem of conservation. Several investigative studies have been started, but these have never been carried out to the point of forming any definite conclusions which could be used to improve the conservation-education program.

The geographic area covered by this study was limited to eight adjoining counties in northwest Iowa. The educational level which this study was concerned with was limited to the seventh and eighth grades of

all schools within the geographic boundaries which offered twelve years of public education. The study was to be carried out by means of a questionnaire survey of the previously mentioned area. Two questionnaires were used in the survey; one going to the school administrators, and the second going to the teachers directly concerned with conservation education on this grade level. The administrators' questionnaire provided information relative to the general school organization as it might affect conservation education, and to also evaluate certain problems which would be faced in the conservation-education program. The teachers' questionnaire provided information relative to the actual instruction in this subject-matter area. This information included such items as the definitions and principles of conservation, the class organization used in conservation education, teaching techniques and materials particularly adapted to conservation education, and the present level of training for teaching conservation.

The newness of conservation education in our schools and the fact that it cannot yet claim and maintain separate-subject status, seemed to preclude extremely positive or negative opinions. On most of the questions there was reasonably complete response. The fact of a 78 per cent response from administrators, and a 57 per cent response from teachers, and a 74 per cent response from the schools which the teachers represented showed a good interest in the whole problem of conservation education.

The following conclusions seem justifiable and as the reader has noted in the previous section, many of these are concurred in by both groups



responding to the questionnaires. These conclusions are based upon the returns from these sixty-nine schools in eight counties in Northwest Iowa. It is reasonable to consider these as recommendations for the further development of conservation education in these schools, and in schools elsewhere. However, as noted previously in the literature, each state and each geographic unit within a state will need to stress different aspects of conservation.

Conclusions:

1. Conservation education is of sufficient importance to warrant a thorough study in the seventh and eighth grades.
2. There is but little satisfaction in the adequacy of the conservation-education programs, probably due to its newness.
3. Conservation is best taught as a unit in a subject-matter area rather than as a separate school subject.
4. Science and geography seem to be the best school subjects in which to develop the unit of conservation.
5. A considerable amount of freedom in conservation education has been granted the teachers, wisely or not, primarily due to a lack of administrative policy on it.
6. Considerably more special training in conservation and methods of teaching it are needed by most teachers of conservation.
7. Conservation cannot be adequately taught as just a textbook subject but must include the use of experience-type activities.
8. Suitable textbooks in the field of conservation are not available at the present time.
9. Much more use could be made of the Iowa Elementary Teachers Handbook for the Teaching of Conservation, although it was mainly prepared for use in the rural schools.

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## APPENDIX A

The following list of schools is made up of the schools surveyed by the questionnaires. All schools within the geographic confines offering twelve years of public education were listed regardless of replies. This was done because in some cases only an administrator's return was received, while in others only teachers' replies were received. With very few exceptions, at least one return was received from each school.

SCHOOL	SUPERINTENDENT	SCHOOL ENROLL.	NO. 7&8 TEACHERS
<u>Buena Vista County:</u>			
1. Albert City	W. Lawlor	362	2
2. Alta	C. W. Hammond	449	3
3. Brookes Township (P. O. Peterson)	J. W. Reng	85	1
4. Fairview Consolid'd (P. O. Alta)	T. Lykins	88	1
5. Hayes Township (P. O. Storm Lake)	R. L. Barnes	163	2
6. Linn Grove	M. V. Samuelson	145	2
7. Marathon	R. B. Trafton	241	1
8. Newell	C. R. Kremenak	327	2
9. Rembrandt	C. W. Bryan	173	2
10. Sioux Rapids	E. J. Parks	324	2
11. Storm Lake	A. R. Block	1,109	6
12. Sulphur Springs (Providence School)	H. E. Simmons	158	1
13. Truesdale	W. F. Couch	121	1
<u>Cherokee County:</u>			
1. Aurelia	D. J. Friedland	460	2
2. Cherokee	R. E. Creel	1,206	6
3. Cleghorn	H. O. Peterson	165	1
4. Grand Meadow Cons. (P. O. Washta)	R. C. Ford	191	1
5. Larrabee	H. C. Rath	137	1
6. Marcus	C. A. Gaumer	356	2
7. Meriden	R. W. Gambach	168	2
8. Quimby	W. E. Barron	347	2
9. Washta	F. R. Glassburner	196	2

## APPENDIX A (CONT.)

SCHOOL	SUPERINTENDENT	SCHOOL ENROLL.	NO. 7&8 TEACHERS
<u>Clay County:</u>			
1. Cornell	M. J. Dahl	122	1
2. Everly	H. C. Blair	250	2
3. Gillett Grove	S. E. Beckman	220	1
4. Greenville-Rossie (P.O. Greenville)	F. O. Wood	213	1
5. Lake Township (P. O. Dickens)	W. J. Waggoner	169	1
6. Peterson	E. A. Christensen	184	2
7. Royal	L. Jordan	288	2
8. Spencer	W. F. Johnson	1,446	10
9. Webb	F. L. Ellson	222	2
<u>Dickinson County:</u>			
1. Arnolds Park	E. L. Maas	305	2
2. Excelsior Township (P. O. Lake Park)	N. Mansfield	127	1
3. Lake Park	R. O. Forbes	303	2
4. Lloyd Township (P. O. Terrill)	R. L. Kinkead	275	2
5. Milford	A. W. Vander Wilt	448	2
6. Okoboji Township (P. O. Milford)	J. G. Geertsema	108	1
7. Spirit Lake	G. A. Orr	866	4
8. Superior	J. H. Smith	137	2
<u>Emmet County:</u>			
1. Armstrong	W. H. Ortmeyer	379	2
2. Dolliver	W. F. Cass	173	1
3. Estherville	N. E. Demoney	1,630	10
4. Gruver	W. L. Juhl	209	1
5. Ringsted	L. E. Bredeson	384	2
6. Swan Lake School (P. O. Maple Hill)	L. E. Mitchell	51	1
<u>O'Brien County:</u>			
1. Archer	R. Brouwer	207	2
2. Gaza	L. B. Dautremont	97	1
3. Hartley	J. W. Harold	522	2
4. Liberty Township (P. O. Calument)	M. L. Vaughn	147	2
5. Moneta	L. H. Meuret	117	1
6. Paullina	J. A. Hjelle	459	2
7. Primghar	L. N. Jensen	319	2

## APPENDIX A (CONT.)

SCHOOL	SUPERINTENDENT	SCHOOL ENROLL.	NO. 7&8 TEACHERS
<u>O'Brien County (Cont.):</u>			
8. Sanborn	K. M. Erwin	377	2
9. Sheldon	R. O. Borreson	885	4
10. Sutherland	J. Micklick	340	2
<u>Osceola County:</u>			
1. Ashton	W. F. McNally	236	1
2. Harris	C. Landhuis	258	2
3. Melvin	D. L. Trail	234	2
4. Ocheydan	L. Poyzer	301	2
5. Sibley	W. P. Forney	746	4
<u>Palo Alto County:</u>			
1. Curlew	C. F. Lauver	85	1
2. Cylinder	L. C. Wehmeyer	251	1
3. Emmetsburg	R. K. Lauger	671	4
4. Graettinger	E. V. Manchester	421	3
5. Mallard	V. Anderson	292	2
6. Rodman	W. A. Butt	162	1
7. Ruthven	L. L. Pickett	404	2
8. Silver Lake Township (P. O. Ayrshire)	H. G. Hayes	264	2
9. West Bend	D. H. Hatfield	375	2

APPENDIX B

1110 East 10th Street  
Sheldon, Iowa  
10/1/52

Dear Superintendent:

The subject of conservation is receiving greater and greater emphasis in our world today. As with many of our other fundamental concepts, our schools play a highly important role in the development and understanding of this field of educational endeavor. The purpose of this questionnaire is to determine to some extent the present status of Conservation Education on the seventh and eighth grade levels.

May I solicit your cooperation in filling out the following questionnaire on Conservation Education in your seventh and eighth grades? All of the replies to this questionnaire will be held in strict confidence and no school will be identified in the written report.

Besides having considerable interest in this subject area, I am going to submit the research as a partial fulfillment of the requirements for a Master's degree. Many of the following questions have come up in my teaching in the Sheldon Public Schools.

Enclosed is a stamped, addressed envelope for your convenience in returning the completed questionnaire. Thank you for your consideration.

Yours truly,

John E. Voss  
Junior High Science Teacher  
Sheldon Public Schools

If you would like a tabulated summary of this questionnaire, kindly check here:

DIRECTIONS: Check (X) the appropriate answer following each question unless specific directions ask for a further elaboration.

1. Are your 7th and 8th grades departmentalized? Completely     , Partially     , Not At All     .
2. Which of the following subject areas place emphasis on conservation education? Geography     , Social Studies     , Science     , Others (specify)     .
3. How is conservation taught in your 7th and 8th grades? Separate course     , As a unit in another course     , Incidental     .
4. If conservation is taught by more than one teacher, how is it decided what areas each shall take? Superintendent     , Principal     , Teachers     , Handbook     , Committee     .
5. How many of your 7th and 8th grade teachers have attended the Iowa State Teachers College Summer Conservation Camp?  
0     , 1     , 2     , 3     , 4     , 5     .

## APPENDIX B (Continued)

6. Do you feel that conservation is important enough to warrant a thorough study on the 7th and 8th grade level? Yes \_\_\_\_, No \_\_
7. Do you feel that conservation is adequately handled in your 7th and 8th grades? Yes \_\_\_\_, No \_\_
8. Does your school have any set policy on who shall teach conservation on this grade level? Yes \_\_\_\_, No \_\_
9. Do your teachers follow the Iowa Handbook on the Teaching of Conservation? Yes \_\_\_\_, No \_\_
10. Do your 7th and 8th grade classes have any group, field projects directly concerned with conservation? Yes \_\_\_\_, No \_\_
11. Do you feel that teachers need special training to teach conservation? Yes \_\_\_\_, No \_\_
12. Is anything done to correlate the 7th and 8th grades and the high school programs of conservation education? Yes \_\_\_\_, No \_\_
13. Do you have any comments, adverse or complimentary, in regard to the Iowa Handbook for the Teaching of Conservation?  
State Briefly:
14. Please name those teachers in your 7th and 8th grades who deal considerably with conservation? (With your permission, I would like to send them a questionnaire on this subject.)
15. Do you have any other comments or suggestions to make in regard to this questionnaire or the subject it is about?

## APPENDIX C

1110 East 10th Street  
Sheldon, Iowa  
10/22/52

Dear Teacher of Conservation:

The subject of conservation is receiving greater and greater emphasis in our world today. As with many of our other fundamental concepts, our schools play a highly important role in the development and understanding of this field of educational endeavor. The purpose of this questionnaire is to determine to some extent the present status of Conservation Education on the seventh and eighth grade levels.

May I solicit your cooperation in filling out the following questionnaire on Conservation Education in your classes: All of the replies to this questionnaire will be held in strict confidence and no school will be identified in the written report.

Besides having considerable interest in this subject area, I am going to submit the research as a partial fulfillment of the requirements for a Master's degree. Many of the following questions have come up in my teaching in the Sheldon Public Schools.

Enclosed is a stamped, addressed envelope for your convenience in returning the completed questionnaire. Thank you for your consideration.

Yours truly,

John E. Voss  
Junior High Science Teacher  
Sheldon Public Schools

If you would like a tabulated summary of this questionnaire, kindly check here: \_\_\_\_\_

DIRECTIONS: Check (X) the appropriate answer following each question unless specific directions ask for a further elaboration.

CONCEPTS:

1. What definition of conservation do you give your classes?  
(state briefly)

2. Does your concept of conservation include human resources as well as natural resources?

Yes\_\_\_\_, No\_\_\_\_

3. What practical aspects of conservation do you emphasize? (Check the three most applicable.)

a. Care of personal belongings

b. Care of garden and lawn

c. Conservation practices on the farm

d. Merely knowing and understanding conservation

e. Talking conservation to others

f. Care of wildlife in hunting and fishing

g. Others (specify):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



4. Which of the following principles do you seek to bring out in your teaching of conservation? (Check the six most applicable.)
- Conservation has a scientific basis. \_\_\_\_\_
  - Conservation effects economic policies. \_\_\_\_\_
  - Conservation is of social significance. \_\_\_\_\_
  - Conservation is of both the present and the future. \_\_\_\_\_
  - Conservation is essentially proper land use. \_\_\_\_\_
  - Conservation is controllable by man. \_\_\_\_\_
  - Conservation deals with renewable and nonrenewable resources. \_\_\_\_\_
  - Conservation is a matter of production. \_\_\_\_\_
  - America's resources are not inexhaustible. \_\_\_\_\_
  - Scientific discovery cannot replace good conservation practices. \_\_\_\_\_
  - Conservation is everybody's business. \_\_\_\_\_
  - Plants, animals, and the earth are interdependent. \_\_\_\_\_
  - Conservation practices must be democratic. \_\_\_\_\_

## TEACHING ORGANIZATION:

- What classes do you teach? (specify) \_\_\_\_\_
- In what classes do you emphasize conservation? (specify) \_\_\_\_\_
- What classes do you feel are best suited to include the teaching of conservation? (specify) \_\_\_\_\_
- Which means of teaching conservation would you use if you had your choice? Separate course \_\_\_\_\_, Core curriculum \_\_\_\_\_, Units with other subjects \_\_\_\_\_, Incidental \_\_\_\_\_, Other (specify) \_\_\_\_\_.
- Do you teach a separate course in conservation? Yes \_\_\_\_, No \_\_\_\_
- Do you feel that conservation is important enough to warrant a thorough study on the 7th and 8th grade level? Yes \_\_\_\_, No \_\_\_\_
- Is the organization of the entire school's conservation program essential to any long term planning of conservation education? Yes \_\_\_\_, No \_\_\_\_
- If more than one teacher teaches conservation in your grades, how is it decided what areas each shall cover? Superintendent \_\_\_\_\_, Principal \_\_\_\_\_, Teachers \_\_\_\_\_, Handbook \_\_\_\_\_, Other (specify) \_\_\_\_\_.
- At what time of the year do you stress conservation? Fall \_\_\_\_, Winter \_\_\_\_, Spring \_\_\_\_.

## TEACHING TECHNIQUES:

- Can a conservation attitude be developed solely by discussing the problems with pupils? Yes \_\_\_\_ No \_\_\_\_
- Do you use activities in your instruction? Yes \_\_\_\_ No \_\_\_\_
- Do you use individual or group projects in your instructional program? Yes \_\_\_\_ No \_\_\_\_
- Do you make any special use of the conservation experiences that many rural pupils have had? Yes \_\_\_\_ No \_\_\_\_
- Are field trips essential to the formation of pupil attitudes on conservation? Yes \_\_\_\_ No \_\_\_\_
- Do you feel qualified to lead field trips? Yes \_\_\_\_ No \_\_\_\_
- How many field trips do you have a year? (specify) \_\_\_\_\_

page 3

## TEACHING MATERIALS:

1. Do you have a special text for conservation? Yes \_\_, No \_\_,
2. Do you feel that a good conservation text is essential to good instruction? Yes \_\_, No \_\_,
3. Do you believe that your present texts include all necessary information on conservation? Yes \_\_, No \_\_,
4. Instead of a text, would a work activity book be more desirable? Yes \_\_, No \_\_,
5. Do you use the yearly workbook mimeographed by your county Soil Conservation Commission? Yes \_\_, No \_\_,
6. Does this workbook contribute to the effectiveness of your teaching? Yes \_\_, No \_\_,

Which of the following materials do you find helpful in teaching conservation? (Check as many as apply.)

Movies \_\_\_\_\_ Charts \_\_\_\_\_ Models \_\_\_\_\_  
 Stories \_\_\_\_\_ Maps \_\_\_\_\_ Reports \_\_\_\_\_  
 Government pamphlets \_\_\_\_\_ Private industry pamphlets \_\_\_\_\_  
 Special references \_\_\_\_\_ Others \_\_\_\_\_ (specify) \_\_\_\_\_

## TEACHER TRAINING:

1. Do you feel that you adequately teach conservation? Yes \_\_, No \_\_
2. Do you feel that if you understood conservation better, that you could do a better job of teaching it? Yes \_\_, No \_\_
3. Have you ever had any special training in the teaching of conservation? Yes \_\_, No \_\_
4. Would you be interested in taking a course in conservation if it could be handled during the school year on a county basis? Yes \_\_, No \_\_
5. Do you believe that any special requirements by the State of Iowa should be established for the teaching of conservation? Yes \_\_, No \_\_
6. Have you attended the Iowa State Teachers College Summer Conservation Camp?

## IOWA ELEMENTARY TEACHERS HANDBOOK OF TEACHING CONSERVATION:

1. Are you well acquainted with the Iowa Elementary Teachers Handbook on Conservation? Yes \_\_, No \_\_
2. Do you feel that it is too detailed for elementary pupils? Yes \_\_, No \_\_
3. Do you feel that it leaves out any essential areas of the problem? Yes \_\_, No \_\_
4. Do you believe that the "3 year cycle" as outlined in the Handbook emphasizes and covers the subject? Yes \_\_, No \_\_
5. Do you think that the Handbook emphasizes "soil" enough for an agricultural state? Yes \_\_, No \_\_
6. Which of the following characterizes your use of the Handbook? Follow it closely \_\_, Use it as a guide \_\_, Ignore It \_\_.
7. How many years have you used the Handbook? 0 \_\_, 1 \_\_, 2 \_\_, 3 \_\_?

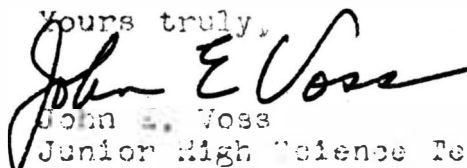
IF YOU HAVE ANY ADDITIONAL COMMENTS, THEY WILL BE APPRECIATED HERE:  
 (Use the back of this page if necessary).

1110 East 10th Street  
Sheldon, Iowa  
3/7/53

Dear Superintendent and Jr. Hi Teachers:

Enclosed is a tabulated summary of the questionnaire which I sent out last fall on the Teaching of Conservation in the 7th and 8th grades. From the 59 questionnaires sent to the superintendents, 54 replies were received and from the 110 questionnaires sent to the teachers, 63 replies were received.

I wish to thank you for your kind cooperation on this questionnaire.

Yours truly,  
  
John E. Voss  
Junior High Science Teacher  
Sheldon Public Schools

SUPERINTENDENT'S QUESTIONNAIRE:

1. Are your 7th and 8th grades departmentalized? Completely 21, Partially 22, Not At All 11.
2. Which of the following subject areas place emphasis on conservation education? Geography 28, Social Studies 24, Science 46, Others (specify) Reading.
3. How is conservation taught in your 7th and 8th grades? Separate course \_\_\_\_\_, As a unit in another course 41, Incidental 12.
4. If conservation is taught by more than one teacher, how is it decided what areas each shall take? Superintendent 9, Principal 3, Teachers 25, Handbook 4, Committee 3.
5. How many of your 7th and 8th grade teachers have attended the Iowa State Teachers College Summer Conservation Camp? 0 51, 1 2, 2 \_\_\_\_\_, 3 \_\_\_\_\_, 4 \_\_\_\_\_, 5 \_\_\_\_\_.
6. Do you feel that conservation is important enough to warrant a thorough study on the 7th and 8th grade level? Yes 38, No 8
7. Do you feel that conservation is adequately handled in your 7th and 8th grades? Yes 24, No 28
8. Does your school have any set policy on who shall teach conservation of this grade level? Yes 16, No 35
9. Do your teachers follow the Iowa Handbook on the Teaching of Conservation? Yes 21, No 23
10. Do your 7th and 8th grade classes have any group, field projects directly concerned with conservation? Yes 20, No 32
11. Do you feel that teachers need special training to teach conservation? Yes 33, No 18
12. Is anything done to correlate the 7th and 8th grades and the high school programs of conservation education? Yes 14, No 40

TEACHER'S QUESTIONNAIRE:

I. CONCEPTS

1. What definition of conservation do you give your classes?
  - a. Wise use of natural resources.....23
  - b. Preservation of natural resources .....12
  - c. Saving natural resources for posterity..... 7

## APPENDIX D (Continued)

2. Does your concept of conservation include human resources as well as natural resources? Yes 51, No 12
3. What practical aspects of conservation do you emphasize? (Check the three most applicable.)
- |  |           |
|--|-----------|
| a. Care of personal belongings                   | <u>30</u> |
| b. Care of garden and lawn                       | <u>18</u> |
| c. Conservation practices on the farm            | <u>50</u> |
| d. Merely knowing and understanding conservation | <u>27</u> |
| e. Talking conservation to others                | <u>23</u> |
| f. Care of wildlife in hunting and fishing       | <u>41</u> |
| g. Others (specify)                              |           |
| Manpower   | 3         |
| Water  | 1         |
| Food   | 1         |
| Hobbies  | 1         |
4. Which of the following principles do you seek to bring out in your teaching of conservation? (Check the six most applicable.)
- |   |           |
|---|-----------|
| a. Conservation has a scientific basis.                             | <u>29</u> |
| b. Conservation affects economic policies.                          | <u>37</u> |
| c. Conservation is of social significance.                          | <u>25</u> |
| d. Conservation is of both the present and the future.              | <u>46</u> |
| e. Conservation is essentially proper land use.                     | <u>25</u> |
| f. Conservation is controllable by man.                             | <u>43</u> |
| g. Conservation deals with renewable and non-renewable resources.   | <u>21</u> |
| h. Conservation is a matter of production.                          | <u>13</u> |
| i. America's resources are not inexhaustible.                       | <u>32</u> |
| j. Scientific discovery cannot replace good conservation practices. | <u>14</u> |
| k. Conservation is everybody's business.                            | <u>58</u> |
| l. Plants, animals, and the earth are interdependent.               | <u>33</u> |
| m. Conservation practices must be democratic.                       | <u>20</u> |

## II. TEACHING ORGANIZATION:

1. What classes do you teach? (specify)
- |                             |    |
|-----------------------------|----|
| a. Natural sciences         | 47 |
| b. Social sciences          | 59 |
| c. All 7th and 8th subjects | 12 |
| d. Miscellaneous            | 44 |
2. In what classes do you emphasize conservation? (specify)
- |                             |    |
|-----------------------------|----|
| a. Natural sciences         | 59 |
| b. Social sciences          | 53 |
| c. All 7th and 8th subjects | 2  |
| d. Miscellaneous            | 7  |
3. What classes do you feel are best suited to include the teaching of conservation? (specify)
- |                             |    |
|-----------------------------|----|
| a. Natural sciences         | 66 |
| b. Social sciences          | 49 |
| c. All 7th and 8th subjects | 2  |
| d. Miscellaneous            | 3  |
4. Which means of teaching conservation would you use if you had your choice? Separate course 7, Core curriculum 6, Units with other subjects 44, Incidental 5, Other (specify) 0
5. Do you teach a separate course in conservation? Yes 0, No 63
6. Do you feel that conservation is important enough to warrant a thorough study on the 7th and 8th grade level? Yes 54, No 7

1. Is the organization of the entire school's conservation program essential to any long term planning of conservation education? Yes 34, No 25
2. If more than one teacher teaches conservation in your grades, how is it decided what areas each shall cover? Superintendent 8, Principal 10, Teachers 22, Handbook 3, Others (specify) Texts 2, None 25.
3. At what time of the year do you stress conservation? Fall 24, Winter 4, Spring 34, All Seasons 8, None 4.

## III. TEACHING TECHNIQUE:

1. Can a conservation attitude be developed solely by discussing the problems with pupils? Yes 14, No 48
2. Do you use activities in your instruction? Yes 46, No 16
3. Do you use individual or group projects in your instructional program? Yes 44, No 17
4. Do you make any special use of the conservation experiences that many rural pupils have had? Yes 45, No 14
5. Are field trips essential to the formation of pupil attitudes on conservation? Yes 49, No 14
6. Do you feel qualified to lead field trips? Yes 31, No 30
7. How many field trips do you have a year (specify)
- |      |           |       |           |              |          |
|------|-----------|-------|-----------|--------------|----------|
| None | <u>23</u> | Two   | <u>13</u> | Four         | <u>4</u> |
| One  | <u>15</u> | Three | <u>6</u>  | Five or more | <u>2</u> |

## IV. TEACHING MATERIALS:

1. Do you have a special text for conservation? Yes 5, No 58
2. Do you feel that a good conservation text is essential to good instruction? Yes 28, No 34
3. Do you believe that your present texts include all necessary information on conservation? Yes 17, No 45
4. Instead of a text, would a work activity book be more desirable? Yes 45, No 11
5. Do you use the yearly workbook mimeographed by your county Soil Conservation Commission? Yes 20, No 42
6. Does this workbook contribute to the effectiveness of your teaching? Yes 16, No 19
7. Which of the following materials do you find helpful in teaching conservation? (Check as many as apply.)
- |                      |           |                            |  |         |           |
|----------------------|-----------|----------------------------|--|---------|-----------|
| Movies               | <u>51</u> | Charts                     | <u>45</u>  | Models  | <u>17</u> |
| Stories              | <u>25</u> | Maps                       | <u>41</u>  | Reports | <u>35</u> |
| Government pamphlets | <u>37</u> | Private industry pamphlets | <u>18</u>  |         |           |
| Special references   | <u>26</u> | Others (specify)           | Ferrers, field trips, slides, film strips, conservation officer. |         |           |

## V. TEACHER TRAINING:

1. Do you feel that you adequately teach conservation? Yes 16, No 45
2. Do you feel that if you understood conservation better, that you could do a better job of teaching it? Yes 51, No 8
3. Have you ever had any special training in the teaching of conservation? Yes 17, No 45
4. Would you be interested in taking a course in conservation if it could be handled during the school year on a county basis? Yes 44, No 18
5. Do you believe that any special requirements by the State of Iowa should be established for the teaching of conservation? Yes 30, No 32

## APPENDIX D (Continued)

5. Have you attended the Iowa State Teachers College Summer Conservation Camp? Yes 3, No 60

## VI. IOWA ELEMENTARY TEACHERS HANDBOOK OF TEACHING CONSERVATION:

1. Are you well acquainted with the Iowa Elementary Teachers Handbook on Conservation? Yes 24, No 39
2. Do you feel that it is too detailed for elementary pupils? Yes 14, No 17
3. Do you feel that it leaves out any essential areas of the problem? Yes 14, No 17
4. Do you believe that the "3 year cycle" as outlined in the handbook emphasizes and covers the subject? Yes 17, No 14
5. Do you think that the Handbook emphasizes "soil" enough for an agricultural state? Yes 21, No 11
6. Which of the following characterizes your use of the handbook? Follow it closely 0, Use it as a guide 27, Ignore it 36.
7. How many years have you used the handbook? 0 33, 1 24, 2 5, 3 1