

TEACHING OF CONSERVATION OF NATURAL RESOURCES IN ILLINOIS COLLEGES AND UNIVERSITIES

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INTRODUCTION

Statement of purpose.—The purpose of this paper is to evaluate the part that the Colleges and Universities of Illinois are doing in promoting education in the field of conservation of natural resources.

Conservation seeks to gain for society the most efficient development and wise utilization of our natural resources. In the settling and building of this nation, the people of the United States have proceeded to waste and destroy our natural endowment at an unprecedented rate; however, partially through the efforts of the conservation minded men of the nation, this onslaught has not proceeded to the point of self destruction. It is fortunate that the conservation movement began to gain power when it did so as to slightly retard the vast wasteful inroads made into the nation's resources.

Even in Colonial times there was evidence of interests in conservation, but the real significant beginnings are not noted until the latter part of the 19th century. In 1873 and again in 1890 the American Association for the Advancement of Science presented a petition to congress urging them to take action to conserve the natural resources of the nation. Probably as the result of

these petitions, there was established in 1891 the Bureau of Forestry in the Department of Agriculture and the first National Forest Reserve was set aside.

Under the leadership of Theodore Roosevelt, the nation made tremendous advances in conservation of natural resources. A great landmark was the Conference of Governors that Roosevelt called in 1908. This meeting marks the beginning of 41 State Conservation Commissions.

It is true that great losses were sustained before the destructive wave was somewhat retarded. The great hordes of passenger pigeons have been swept from the skies forever and only a few remnants are left of the huge forests which once blanketed the nation. The small groups of buffalo left in the West can't even echo the glory that once was theirs as they roamed the Great Plains by the hundreds of thousands.

The objectives of conservation vary within the field. Conservation of the non-renewable resources like iron, zinc, coal and petroleum consists mainly of insuring non-wasteful mining conditions, efficient use of the product and the saving of the scrap. Renewable resources like forests and wildlife can and should be renewed by close control. Soil is a resource that can be easily damaged but need not be if proper conservational practices are employed.

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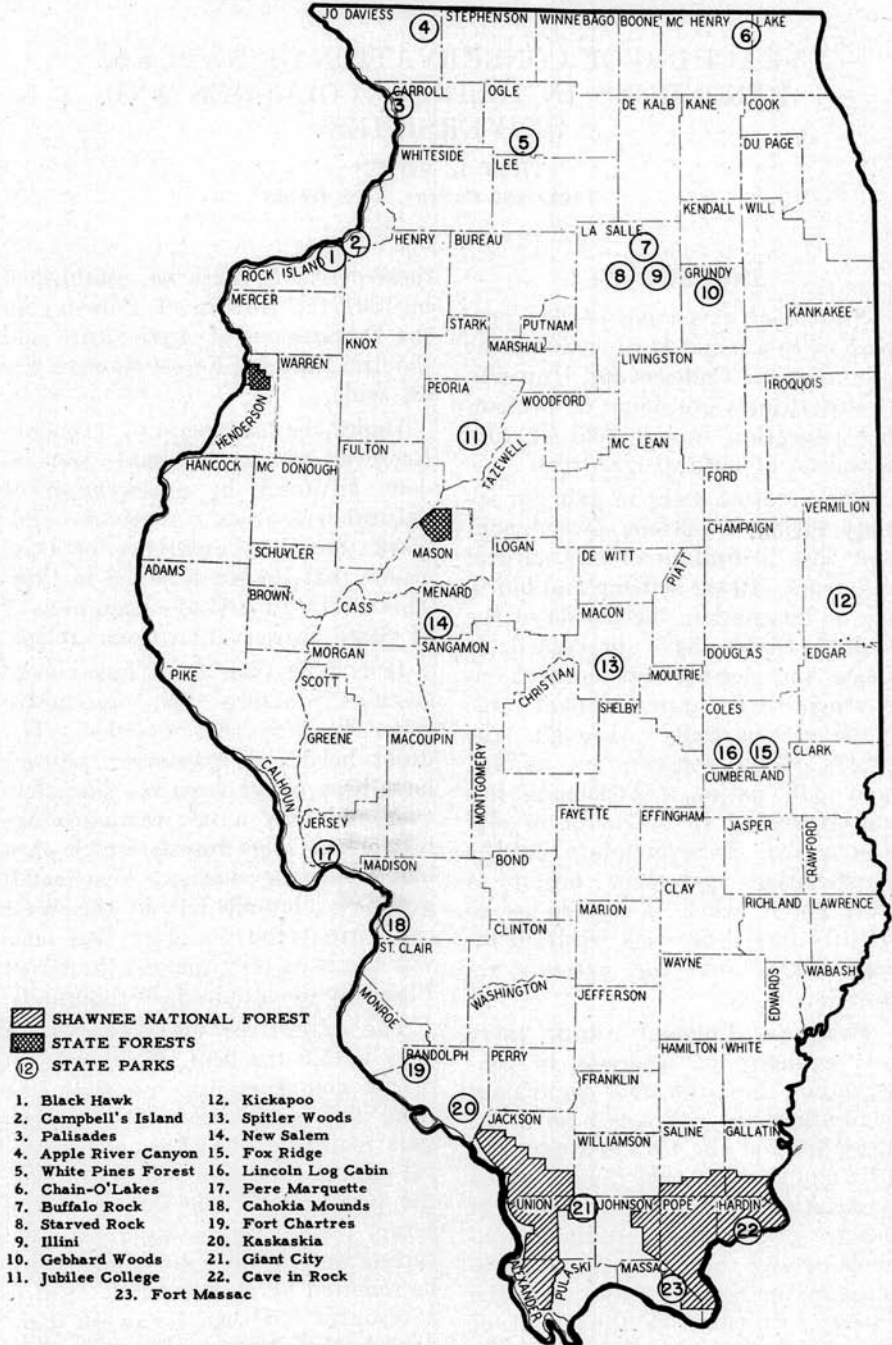


FIG. 1.—Map of Illinois showing the location of National Forests, State Forests and State Parks. (Information obtained from 1945 Official Highway Map of Illinois.)

Areas of exceptional beauty and scientific interest should be set aside for the use of all the people of the State by creating and guarding State Parks and Monuments (fig. 1).

Conservation of natural resources is a huge field of great national import, and its advancement depends upon the cooperation of everyone. But whole-hearted cooperation is impossible unless the people of the nation are aware of the conservation problems and practices.

As emphasized by all conservation organizations, private or public, for wildlife, tree, soil, or National Park conservation, the most favorable method to promote the conservation movement and to acquaint people of the problems and practices of conservation is through education. The schools of the nation provide the best media by which to spread this information; they are the educational organs of the country.

It is the privilege of every student to know the principles of conservation, the agencies trying to promote them and the results obtained through correct conservation practices. The students of today, who will be the nations leaders tomorrow, should be at least exposed to a general course in conservation of natural resources some time during their training. These leaders will have a more understanding background and will be better equipped to serve the country. They should at least know the seriousness of sediment control in streams (fig. 2), requirements and problems of the National Forests, and the type of control necessary over strategic minerals. But the leaders cannot advise or lead

unless the people of the nation are themselves acquainted with the subject of conservation of natural resources.

This learning is becoming more widespread every year but it is still in its infancy. Many groups are interested in conservation and have vigorous campaigns of education, but none of these groups reach as many people as do the schools. It is true that the sportsmen of the country realized very early the problem of conservation of wildlife and have succeeded to a remarkable degree in developing wildlife conservation through private organizations and public bureaus.

It was not until 1910 when C. R. Van Hise published a volume entitled "Conservation of Natural Resources in the United States"¹ was there a popular presentation of the subject. "For the first time this all important topic was presented to the general public in such a clear and concise manner that its true significance could be grasped."²

Since that year only a few similar books have been written. It is true however that much has been written on the various separate phases of conservation in the last decade.

The State of Illinois has done much in the promotion of conservation of natural resources. Much was done prior to 1925 by the various branches of the State government, but it was in that year that the Department of Conservation was created and the State's efforts in conservation were unified. A brief summary of the rights, powers, and duties of the present department is as follows:³



FIG. 2.—Testing the suspended sediment content of the Galena River. The study of stream transported sediment is very important in soil conservation and in deciding the efficiency of such engineering structures as dams, and irrigation ditches.

1. To administer the Fish and Game Code of Illinois.
2. To take all necessary measures for the conservation, preservation, distribution, introduction, propagation, and restoration of fishes, frogs, muskels, turtles, game, wild animals, wild fowls, birds, and forests.
3. To promote and encourage hunting, fishing, and forestry in the State.
4. To take necessary measures for the investigation and prevention of pollution of the waters of the State and to work in conjunction with other departments to this end.
5. To collect, publish, and disseminate statistics and information relating to these natural assets of the State, the activities of the Department, and the industries affected by conservation and propagation.

The Illinois Natural History Survey is another State body which is important in promoting conserva-

tion in Illinois. Its work dates back many years before the formation of its sister body, the Department of Conservation.

Another state-wide group which acts in the interest of conservation of natural resources is the Committee on Conservation of the Illinois State Academy of Science. Many conservation improvements have been brought about by the power of this group.

The Department of Conservation of the State of Illinois has had summer instruction in conservation of natural resources for several years. During the summer of 1945, in their school at Lake Villa, Illinois, two 2-week courses were given to high school students and one 2-week

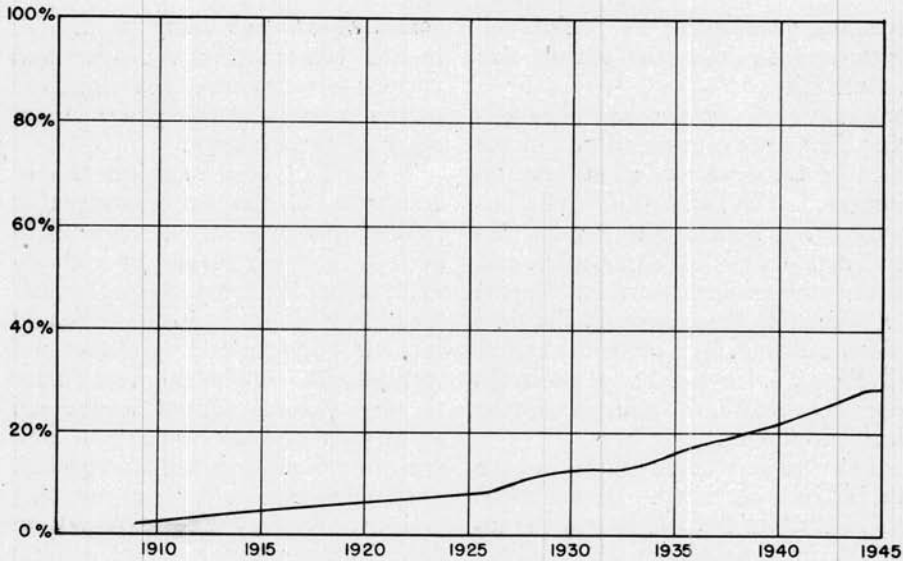


FIG. 3.—Growth of the adoption of a general course of conservation of natural resources by Illinois four-year colleges and universities.

course was given to high school teachers throughout the State.

Although this is very gratifying, this effort does not contact a large group and the courses cannot be very detailed in such a short time. The answer to the question of how to inform the people of the vital import of national and state conservation of natural resources is through the schools.

Students of college age are mature enough to grasp the gravity of conservation problems, and therefore the colleges and universities are the ideal media by which to promote conservation education. The introduction of courses dealing entirely with conservation has been tried in some Illinois high schools but as yet without much success. Perhaps the only school, or at least one of the few, offering a conservation course as such to high school students is the

University High School at Carbondale, Illinois.⁴

In a recent article by V. L. Nickell,⁵ Superintendent of Public Instruction in Illinois, it is revealed the State has a broad program underway to promote conservation education in the elementary and high schools of Illinois.

SURVEY OF ILLINOIS COLLEGES AND UNIVERSITIES

According to the listing of Illinois Colleges and Universities in the 1944 Bulletin of Accredited Higher Institutions⁶ as published by the United States Office of Education, there are 84 such institutions of higher learning in Illinois.

Of these listed, many are art, music, theological or aeronautical schools and are therefore not included in this survey. After excluding these types of institutions, there

remains 69 schools; 24 junior colleges and 45 four-year schools and universities. To each was sent a questionnaire requesting information about the courses offered in the field of conservation of natural resources. The following questions were asked both of the general liberal arts course in conservation and of the advanced conservation course: 1. Name of the course, 2. the date of initiation, 3. how often the course is offered, 4. the number of meetings per week, and 5. the general content and enrollment.

Returns were noted from 52 of the 69 institutions listed. In the event an institution did not return the inquiry, information concerning courses at this school was gleaned from its bulletin or register. Information gained this way probably was not as complete as that from the mailed blank.

The general course.—The most important purpose of the survey was to note the adoption of the general conservation course in the liberal arts curriculum. Such a course is defined as one of at least a semester or quarter in length and devoted entirely to the study of conservation of natural resources such as soil, water, forests, minerals, wild life, etc. This is the course which is open to all of the students and is the most important one in promoting conservation. The advanced courses are for those deeply interested in the subject; such courses do not touch a fraction of the number of students that the undergraduate general course does. It is in this elementary course that the student is introduced to the problems, practices, and importance of conservation. Also he then be-

comes aware that many people are in the conservation endeavor and various societies have been organized in the concern of one phase or another of conservation.

It is true that the subject of conservation of natural resources is briefly mentioned in some courses in geology, biology, geography and economics; but in such a course the matter is treated only as a side issue and its true importance is probably not emphasized. A student would have to take various courses and glean from each a small learning of conservation to attain a fair background of the subject—a background that is very necessary and ~~that can~~ be supplied by taking a good general course in conservation.

According to the data compiled from the returned questionnaires, the earliest any such general conservation course was taught in an Illinois college or university was in 1909 at the University of Chicago. Some state teachers colleges also adopted it quite early. It is revealed that 13 schools or 28 percent of the four-year colleges and universities included in the survey actually have a general conservation course in this curriculum (table 1). None of the junior colleges reported offer such a course; if a computation were made including the junior colleges, the percentage of institutions of higher learning in Illinois offering a course in conservation of natural resources would be 18 percent. An alarmingly low figure! Even if the junior colleges are excluded, the figure of 28 percent is still very low.

The survey reveals that most of the schools have not yet realized the importance of the subject and there-

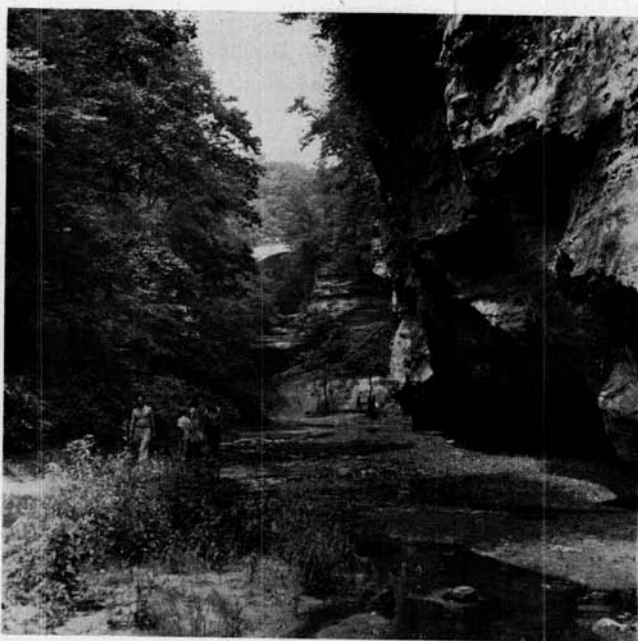


FIG. 4.—Lower dell of Mattheissen State Park Nature Area in LaSalle County near Oglesby. The State has set this area aside as a nature preserve and wildlife sanctuary where the plant and animal life of Illinois may be saved for all time.

fore have not initiated such a general course. But such a nationally important topic, which is becoming increasingly more important as time goes on and which was brought before the public in many ways during the war, cannot be ignored. More schools are adopting such a course every year. The growth of the adoption of a general course of conservation of natural resources by Illinois four-year colleges and universities is given in figure 3. The youth of today must be informed of the importance and necessity of conserving our natural resources or the citizens of tomorrow will live in a depleted world. Future generations should not be forced to live in a world almost void of natural resources be-

cause the present citizens are ignorant of conservation problems.

The fact that almost all colleges formally listed as "Teachers Colleges" have adopted the general course is very encouraging. Future teachers with the advantage of having had such a course in conservation, will be likely to urge the adoption of such a course into the curriculum of the school at which they may later teach. In addition to being offered in the regular curriculum, it may be stated that the general course is also offered in the summer session and as an extension course at one or two of the schools.

According to census of opinion, twelve of the thirteen schools offering the general course have placed it

TABLE 1.—ACCREDITED HIGHER INSTITUTIONS IN ILLINOIS OFFERING COURSES IN CONSERVATION OF NATURAL RESOURCES (1945)

School	Offers a general course	When initiated	Offers advanced work
University of Chicago, Chicago.....	x	1909	x
Illinois State Normal University, Normal.....	x	1914	x
Northern Illinois State Teachers College, DeKalb....	x	1920	
Northwestern University, Evanston.....	x	1927	x
Western Illinois State Teachers College, Macomb....	x	1928	
The Principia College, Elsau.....	x	1933	
Eastern Illinois State Teachers College, Charleston...	x	1935	
Southern Illinois Normal University, Carbondale.....	x	1936	x
Rosary College, River Forest.....	x	1938	
Augustana College, Rock Island.....	x	1940	
Concordia Teachers College, River Forest.....	x	1943	
McKendree College, Lebanon.....	x	1943	x
Chicago Teachers College, Chicago.....	x	1944	
University of Illinois, Urbana.....			x

under the supervision of the department of geography or its equivalent.

The advanced courses.—Advanced courses in conservation are here defined as those which devote all their time to only one phase of conservation and cover it quite thoroughly in a semester or two. These courses are to be generally found only in the larger universities and are attended by students seriously interested in soil, forest, wildlife, etc., conservation and probably plan to make it, directly or indirectly, their livelihood. These courses generally have certain prerequisites which keep the subject from the undergraduate student body.

Six schools gave indication that the study of conservation of natural resources is carried beyond the general course. The University of Illinois, one of the largest schools in the nation, offers advanced training in soil conservation in the Agricultural School; a course in forestry is offered in the Liberal Arts School; and

a general study of the conservation of wildlife is listed but is open to only advanced zoology students. As far as known, the only course in "Methods and Problems in Conservation" offered in an Illinois school is the one scheduled at Southern Illinois Normal University at Carbondale.

Another factor to consider when discussing a school course is the student attendance. Most of the colleges list 20 to 30 as the approximate pre-war size of the general conservation classes; the universities list slightly larger classes. These figures are perhaps average for elective courses in the various schools, maybe slightly below average. The only way to influence more students is to make the course a required one. It should not be listed as fulfilling the science requirement nor should it be placed as a substitute for another subject. Need it be listed as a substitute for anything? Surely a subject so important as the future of a nation and

how to insure it should rank high on the list of subjects "required to know" or subjects needed for a liberal education.

If the upward trend toward conservation through education continues, and surely it will, more educators will awaken to its importance and in the end perhaps require that at least a general course in conservation of natural resources be taken by every student.

Illinois, with its tremendous wealth of natural resources (fig. 4) and its wonderful colleges and universities, should be one of the leading states in education of conservation of natural resources. The students of the nation should be taught the importance of conservation of natural resources by being required to take at least a general course during their college days. It is the educators duty to see that the youth is informed of the importance of conservation to insure our national heritage for future generations.

CONCLUSIONS

1. Twenty-eight percent of the four-year colleges and universities of Illinois offer the student a chance to become aware of the importance of conservation by offering a general course in conservation of natural resources.

2. As far as known, no junior college in Illinois offers such a course.

3. Six Illinois schools offer advanced work in conservation of natural resources.

ACKNOWLEDGMENT

The author wishes to express his appreciation to all the persons who took time from their busy schedules to submit data concerning conservation courses at their respective schools. Figure 2 is reproduced through the courtesy of the Rock Island Office of the United States Army Engineers, and 4 through the courtesy of the Illinois Department of Conservation. The drafting was done by Mr. Nelson and Mr. Engeland.

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