

Conservation in School Camping

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I firmly believe that one of the important objectives in the teaching of biology is the development of an understanding of the principles of conservation. I firmly believe that a school camping program offers one of the better means of achieving this conservation education. I also believe that no such value accrues from such a program automatically.

School camping started in the decades of 1930 and 1940, and as it has developed has had a profound effect upon public school education in many parts of the country. For many years organized camps for children have been a familiar part of summer vacation activities. However, the unique aspect of camping as embodied in the modern school camp program is the acceptance of an educational camp experience as part of the school curriculum. *School camping is a resident experience in an outdoor setting, sponsored by a school system during the school year as part of the school curriculum.*

The advocates of school camping have stated many objectives for the program, but from the early days of this movement one of the more important objectives has been that of conservation or resource-use education. This has been reiterated many times by many authorities, including groups within the National Association of Biology Teachers. The *1955 Handbook for Teaching of Conservation and Resource Use* of the National Conservation Committee of the National Association of Biology Teachers gave emphasis to school camping as one of the ways in which the teacher could use the community in conservation education.

Conservation educators have good reasons to support school camping as a means of conservation education. In my view there are four subject areas of the school curriculum which, by their nature, are especially suited to learning in a school camp. These are citizenship, conservation, natural science, and physical education. It is recognized that citizenship and conservation, as such, are seldom

listed as school subjects, but they are among the goals of most schools.

What are the factors which make this environment excellent for education in these areas? First, the twenty-four-hour-a-day living situation presents an opportunity for citizenship education, unmatched by any day-school situation, where the total living activities of a child may come under the guidance of one authority. This same all-day experience provides many opportunities for physical education, in the larger sense of the word, where rest, cleanliness, and proper food are not read about from a book, but are actually within the guiding control of the school teachers. Secondly, the outdoor aspect of camp life contributes another opportunity for physical education, for these outdoor spaces, of necessity, require physical exertion to be utilized. This is meaningful physical activity. Finally, it goes without saying that much of the learning material of natural science and conservation is in the field, and therefore, the outdoor laboratory is one of the better places to learn about such material. One only needs to consider the folly of trying to train a forester without ever getting him into the woods or, indeed, of studying any area of ecology without having access to material beyond the classroom, to see the close ties between school camping and the subjects of natural science and conservation. There is no need to labor this point with biology teachers.

And so the involvement of conservation education in the school camping movement has been constantly in evidence, and the support of conservation educators has rightfully added greatly to the rapid development of this educational program. Yet in these early years of the school camping movement there has been very little objective evaluation of the school camp as an agency for conservation education.

In 1954 and 1955 I had the opportunity to engage in a detailed study of the programs of eight school camps in the Michigan-Ohio region. Special attention was given in this study to the status of conservation education in the camps.

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One of the major questions was, "What emphasis do the staff members of these camps place upon conservation education as an objective of the program?" I have mentioned the support given to conservation education in camping by professional conservation educators nationally. But what about the rank and file of classroom teachers, college students, and others who serve as school camp staff members?

To determine the answer to this question the staff members in these eight school camps were interviewed and asked to participate in a selection device involving twenty-eight different potential objectives for a school camping program. For purposes of handling the data these objectives were grouped into six categories as follows: conservation and natural science; health, safety, physical education, and recreation; classroom correlation; school subjects; personal values; and social objectives. For example, the four objectives in the "conservation and natural science" grouping were as follows: "to provide functional learning of the principles of conservation; e.g., to teach the wise use of our natural resources through care of them in the camp setting"; "to increase sensitivity to the beauty of nature"; "to teach citizenship in a democratic community; e.g., in determining camp policy, in caring for public property"; "to emphasize relationships in nature; e.g., the effect of an animal upon its habitat, the relationship between geologic forces and present land form."

Eighty-six staff members completed this selection of objectives, and the response of this group was most gratifying for those of us interested in natural science and conservation. The specific objective which dealt with conservation received the second highest rating among the 28 objectives, significantly higher statistically, than the ratings for 14 of the 28 objectives. When the constellation of objectives dealing with conservation and natural science is considered as a whole the same high rating is seen. This group of objectives was rated significantly higher than all but one of the other groups; i.e., higher than: health-safety-physical education-recreation; school subjects; classroom correlation; and personal values. Only the social objectives rated anywhere close to the conservation-natural science group. It is interesting that of the two major groups of objectives chosen by these

school camp staff members one is a subject matter grouping, and the other is a group of so-called "intangibles" related to group living. This may be of some assurance to school camp people that there is a balance in their programs. Certainly the great majority of the staff members working in these school camps considered teaching about nature, and man's relationships with nature, of primary importance in a school camping program.

A second major question in the study was, "What emphasis did these school camps give to natural science and conservation in their actual programs?"

To secure this information observations were made of a weekly program of each of the camps, and detailed records were made both of the number of minutes devoted to different subject areas of the camp program and of the exact nature of the material covered in each of these subject areas. The subject areas chosen for tabulation were: arithmetic, arts and crafts, campcraft, conservation, health and safety, language arts, music, natural science, physical activities, and social studies. This analysis of the use of time in school camp programs dealt not only with the morning and afternoon activity periods when field trips usually take place but also with the more routine periods of meals, clean-up periods, evening programs, etc. In this way only can an appreciation be gained of the total program of a camp and of the relative role which one activity or subject field plays.

For the conservation educator the results of this time study were as disheartening as the results of the objective study were heartening. The actual amount of conservation education carried on at the eight camps was greatly in contrast with the high rating of conservation education as an objective. Of all the program time in which the activities were directed or guided by staff members, only 3.8% was devoted to conservation education. Of the ten subject areas already mentioned, conservation ranked seventh in per cent of time devoted to it, outranking only language arts, arithmetic, and health-safety. It ranked significantly lower than physical activity and natural science. The small amount of time spent on conservation education becomes more apparent, perhaps, when one speaks in terms of minutes rather than percentages. The mean number of staff-directed minutes per camp week devoted to

conservation education was seventy-two. One hour and twelve minutes of staff-directed activities dealing with conservation in a week would hardly make one think it was a major objective.

Perhaps it should be mentioned here that in this study conservation was strictly separated from natural science in definition. Worthy as natural science and nature appreciation may be in establishing a milieu favorable to conservation, conservation itself does not begin until there is a concern over the management of natural resources. Only that education which had this quality was considered "conservation education."

For natural science, the time study at these eight school camps showed a great emphasis, completely in line, this time, with the importance placed upon objectives in this area by the school camp staff members. The mean per cent for all camps of directed time devoted to natural science was 15.7%, significantly higher than the means for six other subjects; viz., arithmetic, art and crafts, conservation, health and safety, language arts, and social studies. To the extent that knowledge and appreciation of natural science provides a background for conservation learning, conservationists may take pleasure in this ascendancy of natural science.

I would like to enlarge upon this point somewhat. The belief is widely held among conservationists that an understanding of ecology is essential to an understanding of conservation. Intelligent management of natural resources must take into account the many, varied relationships which exist among the forces of nature, including man. Nature education which is ecological in character can have a direct connection with conservation. Nature education which deals only with identification, or other isolated facts, can have only a remote connection, if any at all, with conservation. For instance, while it may be interesting and enjoyable for a person to be able to identify an elm tree or a fox squirrel, there can be little connection with conservation understandings unless the person goes a step further and learns something about such relationships as exist among the elm tree, the elm bark beetle, and the Dutch elm disease, or until one learns something about the food and shelter requirements of a fox squirrel.

The problem resolves to the fact that, in

spite of the very high placement of conservation education among the objectives of school camping by the majority of people connected with the field, and in spite of the widespread belief that the school camp offers one of the most valuable opportunities that we have for conservation education, there is a small amount and a low quality of conservation education in many of our school camps. In the study which I have mentioned we have seen that conservation ranks low among the subjects of the school camps in terms of the amount of time devoted to it. In addition, the detailed accounts of material studied in conservation at each of the observed camps showed notable lack of coverage in certain areas. Even at the camp which spent the greatest percentage of time on conservation education, practically no attention was given to forest conservation. In another case there was practically no attention given to either forest or wildlife conservation, and in still another camp, at a site which abounds with opportunities for teaching soil conservation, there was no mention made of it.

But just as disconcerting as the relative lack of conservation education was the poor quality of much of what did exist. This poor quality was evident in three respects:

1. *The tolerance of negative "conservation activities."* Educators say we learn by doing. If camp staff members permit campers to do things of a harmful nature to our natural resources what kind of resource stewardship is then being learned?

Two campers chopped down a live tree in the presence of a staff member; there was no reason to do so other than to have some chopping practice, and there was plenty of dead wood to practice upon. Campers swept the leaves away from a large area adjacent to their cabins in one camp, completely exposing the soil to the force of rain and water run-off. A camp director leading a hike told the forty-nine campers with him, "Everyone get a Jack-in-the-pulpit."

2. *Inconsistency between what staff members tell the campers and what the staff members do.* The first weakness, already mentioned, might be excused on the basis that such staff members simply did not understand relationships in nature and their connection with conservation. This second weakness is more difficult to explain or accept. How can a child

be expected to believe what he has been told about conservation if he sees his leader doing almost the very opposite thing?

On one trip two staff members led a group of campers past a "No trespassing" sign into a field which was being severely eroded but which juniper trees were invading. One of the leaders led a discussion about the erosion and told the campers that the farmer had received an offer to sell his juniper trees to a nurseryman but that he did not want to sell them. Then, in spite of all these indications that one should treat this farmer's property with great care, these leaders permitted the campers to pull up young juniper trees to take to their homes to plant.

On a wildflower field trip in a metropolitan park, some campers and their leader walked past signs saying, "Do Not Pick the Wildflowers." One camper saw another pick some flowers and said twice, "Hey, you aren't supposed to pick them!" The leader said nothing and led the group on down the trail, picking some flowers, himself, as he went.

A sense of stewardship for our natural resources begins with little things. All of a leader's talk about care of resources means nothing if the camper sees this leader do the very opposite.

3. *The choice of less appropriate methods of teaching conservation.* School camp leaders have accepted the following two principles as part of the very basis of their camping philosophy. First, those things should be done at camp which are suitable thereto but which are difficult or impossible to accomplish in the classroom. Second, effective learning requires a certain amount of direct learning experience.

Acceptance of these beliefs would indicate that in conservation education at school camps a premium should be placed upon projects which include "doing activities"; e.g., building check dams, planting trees, along with discussion. A second choice would be the observation of many things related to conservation which one would not easily find in the ordinary school setting. The last choice would be those things such as reading books, watching motion pictures, and hearing lectures, which can be done just as well, if not better, in the classroom. Yet, in seven weeks of observations, only one work project in

conservation was observed; namely, construction of check dams in a gully.

Of the fifty-six minutes spent on conservation education at one camp only two minutes were spent teaching outdoors. Of the forty minutes spent on conservation at another camp only four minutes were spent teaching outdoors. Most of the indoor time at both these camps was devoted to the showing of a motion picture dealing primarily with soil and water conservation. Both camps had streams passing through their camp sites—streams having problems of stream bank erosion, spring flooding, pollution. Both camps had bare soil and gullies available for observation or conservation projects. Yet in the two camps combined, the observer noted only one minute of time devoted to teaching about soil or water conservation outdoors.

All of this does not mean that motion pictures, books, and indoor lectures or discussions should have no place in a school camp program. Such teaching aids are valuable supplements to the field work. But there is no justification for teaching conservation indoors at school camp, just as one would do in the classroom at school, while disregarding fine teaching opportunities on the camp site.

One must not assume that there were no outstanding examples of conservation education observed in these camps. There were, in fact, some very fine teaching activities in conservation or ecology.

A forestry session conducted by a resource person included: growth ring studies on parking lot posts; a game involving study of a large white oak as a wolf tree, a den tree, and a shade tree; digging of soil samples; and a contest in deciding whether certain tagged trees should be cut for lumber or not.

A mammal study field trip, conducted by a university student involved observations, trapping of meadow mice, and making of plaster casts of animal tracks.

A self-guided nature trail, using an ecological approach, was devised by another leader.

Several fine field trips were conducted at abandoned farms—including one conducted by a classroom teacher, another conducted by a graduate student using maps and compasses.

In a number of cases staff members were noted seizing opportunities to involve conservation in other activities, not so directly concerned with conservation, e.g., cook-outs.

No one could ask for better teaching than what is represented by these examples. But the fact remains that in these school camps, generally, neither the quantity nor the quality of conservation education was what the observer would have expected to find on the basis of the selection of objectives by staff members.

The crux of the problem lies, of course, in the poor training of staff members in this subject field. These camp leaders certainly did not plan to slight conservation; they simply were not prepared to do what they would like to do. Many leaders are confused as to what conservation is and have a vague feeling that when they are teaching identification of trees or when they observe pond life, they are teaching conservation. Of those who know what conservation is about, there are not many who are competent enough in the subject to be able to do an adequate job of teaching. Unfortunately, the reverse side of the coin is true, also. Many of the resource people who know natural science or conservation facts have little knowledge of how to teach; this results in such things as indoor lectures at camp.

The importance of the situation becomes greater when one considers classroom education in our schools. If in school camp, where conservation is one of the major objectives, the status of conservation education is so low, what, then is its position in the classroom where, as an objective, it probably becomes comparatively less important? Many of the same leaders are teaching there as at camp, but there is not the stimulus of the environment which is present at camp.

Hope in the future may lie in the following areas:

1. *Realistic leadership on the part of school camp directors.* There is a growing group of highly dedicated, professional school camp leaders, centering around those who are directing the programs. It is this group which holds the key to the future of school camping. So far, in the development of school camping, these people have had to spend a great portion of their time in public relations and in organizing new programs. These people realize they have a valuable educational program in school camping. Furthermore, they are essentially in agreement on the importance of conservation education in the school camping plan.

However, they have been so involved in the spread of this program that many of them have not appraised it carefully enough. When one is so close to a program it is difficult to see it in perspective, and there have been few objective studies of school camping to help these people in their appraisals.

If we professional school camp staff members can carefully re-examine our objectives, take a realistic look at our programs, and accept justifiable criticism, school camping will have the leadership it needs. If an attitude prevails that there is no poor school camping, that a child only needs to go to camp to reap its benefits, then not only will conservation education be weak, but also a valuable educational program will gradually wither.

2. *Reorganization of the use of resource people.* Very much of the conservation taught at school camps has been dependent upon the use of resource people brought in for this purpose on a short-time basis. For example, a district forester will spend a morning at a school camp to work with students in forestry. I believe that it is time for school camps to reorganize the manner in which these resource people are used.

The use of resource people in direct teaching of children probably has persisted because of attitudes on the part of both school people and nonschool conservationists. The school leaders have used the resource people, partly because this represents a way to teach conservation when one knows little about it himself, but also partly because it represents a way to increase the staff of the school camp. Conservationists have accepted the resource person role because, recognizing that very little conservation is taught in the schools anyway, they see here an opportunity to reach a few more children.

I believe that both groups are defeating their own purposes in the long run. Such a staff organization results in weaknesses in the program—leaders not knowing how to teach, leaders not knowing the nature of the children they are teaching, and activities unrelated to one another. The net effect produces little conservation education, at best, and a camp program which may not stand the test of time. It is the school-employed teacher who must teach conservation, either in the classroom or at camp, and if that person does not know conservation, then he must learn it.

It is recognized that there is educational value in occasional use of resource people for specific objectives; however, this is different from the wholesale use of resource people to cover a complete subject area.

I believe that the following specific steps must be pursued: First, the regular camp leader must retain control of the learning situation when a resource person is used. The regular leader must always be present, must not only introduce and close a session with a resource person, but also continually contribute during the session, if necessary, asking questions where needed, restating in understandable language any material which children cannot understand, and seizing control of the situation in cases where obviously the resource person is going in the wrong direction. The regular teacher must remember that he is basically responsible for all the learning during a session with a resource person. The resource person should be what the title says, a "resource," not the director of the learning situation.

Second, a resource person should be careful in accepting a resource role in a school camp. He should be sure that both he and the regular leaders understand the objectives of the particular activity session. He should expect the regular teacher to accompany him on the session for two reasons—because the regular teacher is responsible for the learning process, and because it is an opportunity for the regular teacher to learn the subject matter of conservation.

Third, in cases where a resource person is used, an attempt should be made to have the person spend as long a time as possible at camp, staying through meals, evening programs, free-time periods, etc. The resource person then would have a better chance to know the children and the whole program, and the other staff members would have more opportunity to gain knowledge from the resource person.

Finally, in order to accomplish more quickly the needed staff training in this field, school camp leaders and conservationists, alike, must work toward a shift of emphasis from resource people working largely with children to resource people working largely with adult leaders—at adult conferences and training programs.

3. *Greater use of college students in school camps.* A final, practical step which school camping leaders can pursue to improve the status of conservation education in school camps is to achieve greater participation of college students in a training role at camp. Prospective teachers of today are the teachers who will be going to school camp with their own classes in five years. If properly handled, their college experiences at school camps can be invaluable to the school camping movement in the future. College students can be helpful in the camp program, but the experience should be looked upon primarily as an educational experience for them. If this experience can give them a sound approach to conservation education, then school camping in the future will be different from what has been portrayed in this report.

Conclusion

I do not believe that what criticism I have made of school camping programs implies exceptional weaknesses on the part of the staff members. I have been concerned about the nature of school camp programs and especially about the status of conservation education. As such, I have reported the situation as observed with the hope that this information might lead to improved practice. It is very likely that if such close scrutiny, as has been given to these eight school camps, were given to similar programs such as those of the classroom or the summer camp, that the same disparity between practice and ideal would exist.

There is no question that school camping offers some excellent opportunities for conservation education. However, school camping leaders and conservationists, alike, must realize that we are a long way from making full use of these opportunities. School camp leaders must appraise their programs carefully and work to bring their programs more closely in line with their objectives—or else change their objectives. Conservationists must work hard to train the school camping leaders in the field of conservation. If fuller use is made of the opportunity to teach conservation in school camps, it is very likely that school camping will prove to be a lever having an effect upon the whole school program.