

## CONSERVATION EDUCATION

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*Proc. Ann. Conf. S.E. Assoc. Fish & Wildl. Agencies 34:610-613*

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In the Proceedings of the 29th Southeastern Conference held in 1975, a paper was presented by Susan E. Taylor and David Samuel entitled "Wildlife Knowledge and Attitudes of Public School Teachers." In their concluding remarks the pair wrote, "School teachers definitely show a lack of knowledge about wildlife and management," and "A strong push should be made by the Information and Education Department of each state to reach these teachers who can do so much to mold the thinking of school children, so that they have all the facts about wildlife management and not just what they pick up from television programs."

Prior to 1978, our conservation education efforts consisted of scattered appearances at schools as time allowed, and the publication of a conservation notebook which was included in alternate months in our monthly magazine. Yet we knew we needed to do more. Of course we operate, as many states do, under limitations of staff size and time, and therefore have to assign wildlife-journalists to develop special materials for the teaching profession. In other words, we didn't and still don't have the full-time education specialist you sometimes find in other states.

Then, in the summer of 1978, a professor at East Central State University, who has been very active in promoting conservation education in the state, offered to let our staff enlist the help of teachers enrolled in a course he was teaching in curriculum development. Together we would develop a teaching guide to Oklahoma wildlife. The teachers would have the experience of designing actual lesson plans, and we would have the benefit of the finished product. Our staff would maintain control of the content, and the teachers would put it into a form educators could easily use. Naturally, we jumped at this opportunity. Four of our staff made a weekly trip to the University in Ada, Oklahoma, about 80 miles from our office, to meet with the class and get them started on the project.

Before the first meeting with the teachers, our staff met to outline the concepts we hoped to teach in the guide. After we had them all on paper, it appeared they would fit into 3 major sections: habitat, wildlife interrelationships (including population dynamics, food chains and predation) and mans affect on wildlife. We decided to name the guide Critters and Concepts.

After our outline was ready to go, I came across a study by Robert Roth, University of Wisconsin, who had sent a questionnaire asking wildlife professionals nationwide what concepts about wildlife were most important for young people to learn. The 5 concepts selected by these professionals so closely matched those in our outline that we used Roth's material as statements from which the background information text was written.

The first 2 meetings in Ada were devoted to familiarizing the teachers with some basic wildlife biology. We provided them with textbooks and an outline which covered those concepts we wanted to incorporate into the guide. The professor then assigned individual teachers to develop activities for 1 or more concepts. It was not too hard for these educators to come up with an activity to teach the concept of food chains, but it was another matter to find an activity which adequately demonstrated carrying capacity.

As we went through the activities turned in by the educators, we found that only about 30 percent of them were going to be useful, even with editing and rewriting. So we filled in

by writing a few activities ourselves and borrowing some of the ideas we had seen in guides from other states.

After 4 months of researching, writing and design we were ready to go to the printer. We printed 5,000 copies on the first run at a cost in paper and binding alone of \$6,400. Additional costs included artwork, full color front cover and salary of 2 Information and Education Specialists and 2 print shop people. That October we put out an announcement in the state teachers' bulletin and gave away about 1,500 at the 1978 Oklahoma Education Association convention. Convention demands the next year and requests throughout the 2 school years depleted our 5,000 copies, so in August of this year we printed our second 5,000.

Before we did, we sent out a questionnaire to all teachers who had received the guide. (We keep a list of names so that if we make additions to the guide or develop new materials for classroom use we will know who will be interested in receiving them.) We didn't get many suggestions for specific changes for the second printing, although we did add a table of contents and numbered the pages. Many of the teachers expressed interest in the addition of posters and spirit masters rather than additional activities.

The second major education program we have in Oklahoma is our docent program. Docent is a word describing volunteer teachers or guides. Our docents visit schools to teach fourth graders about wildlife and the importance of habitat. The program is modeled after one developed by Bob Hernbrode while he was with the Arizona Game and Fish Commission. Bob has visited a number of states to present the program and share information about how to get started, so you may be familiar with it already. The Oklahoma Wildlife Federation sponsored Bob's trip to Oklahoma. Several states have started versions of this program including Michigan, North Carolina, Ohio, Iowa, Illinois, New York and Wisconsin. The Arizona version uses the mountain lion as the feature animal, but this of course had to change for Oklahoma so we adopted the coyote. We also made some changes in the script used in the program because we felt some of the presentation needed to be strengthened to get difficult ideas across.

The program is organized into 3 sections. The first uses the skin and skull of a coyote in a "detective game." The students look at the physical features of the skull and the volunteer, using the inquiry technique, helps the students use these facts to figure out what the animal was. This intrigues the students and builds an interest in the animal.

For the second part, the docent tells the students that they are going to help build a picture of the coyote's home or habitat on a felt board. After this is completed, the students are organized to go outside to play a blocks game which shows how certain factors can limit the number of coyotes any area of land can support. The game teaches the concept of carrying capacity.

At the end of the program, the students are given a test to see how many of the concepts they have learned. These scores are compared to scores on the same test given a week earlier to measure how much the students already knew about the concepts.

As the docent leaves the classroom, the teacher is asked to fill out an evaluation form about the program and is given a packet, which includes a copy of Critters and Concepts, for further wildlife study. The students each get a hand-out entitled "What I Can Do For Wildlife." This sheet is very important because, while the program does a good job of getting across the need for habitat, the sheet offers suggestions of things the students themselves can do for the "cause."

The program is easy to give and is guaranteed to captivate the attention of the average fourth grader, which makes it an enjoyable experience for the volunteer. Our volunteers have been a diverse group, including housewives, students, substitute teachers, retired, and working people, and the program seems to inspire a lasting interest in all of them.

Our docents receive 3 hours of training a week for 6 weeks before they begin giving programs. We publicize the upcoming training sessions on radio and television as well as in news releases to daily and weekly newspapers county wide. We also send releases to civic clubs and organizations and make a few talks to groups such as the Audubon Society and The Ankle Express, a backpacking club.

In September, 1979, we began our first training session with 12 participants, 8 of which graduated and began giving programs. In February we began a new training session with 10 attendees. 6 of the individuals completed the training. By the end of the 1979-80 school year, our volunteers had given 69 programs in the Oklahoma county area, reaching more than 2,000 fourth graders.

We started this school year with a new training session which attracted only 4 volunteers. With the 8 who stayed with us over the summer, we now have 12 volunteers. This year we are trying some changes in our scheduling system. Last year, we scheduled all programs either through incoming requests from teachers or principals or by contacting schools ourselves. This proved to be terribly time consuming and was cutting into other responsibilities. Then, last spring, one of the volunteers was put in charge of scheduling. But since she only worked 1 day in the office, we still ended up handling a lot of the load. This year the docents are doing all of their own scheduling, although we did send out a letter telling Oklahoma County school principals that a volunteer would be contacting them to book a program. We also explained that if a principal wanted to be one of the first to receive a program, he could call our office and we would then take down the information and contact the docent working in his area.

We have divided the county into specific areas, by the way, so each docent is able to work in the schools closest to his home. This cuts down on the docent's gasoline and time expenditure. This year, too, we have enough materials for docent teams to keep boxes at one of their homes or offices. This saves volunteers from having to drive to the Department office to pick up materials, drive to the school, and then return the materials to our office. These steps have kept some of our best volunteers from having to drop out of the program because of time restraints. We still keep up with all programs given, in that each volunteer sends us the evaluation forms filled out after each visit. These forms include averages of the pre and post tests, so that we can see how well the students are absorbing the concepts.

Our long-term goal for the program is to expand it state-wide. University educators have offered to explore the possibility of incorporating the program into their respective education departments as a practicum option for student teachers, which would certainly give the students some good teaching experience. The university, in such a plan, would act as a coordinator of materials and scheduling.

It has been interesting to see how "Critters and Concepts" and our volunteer program have gotten our agency more involved with other conservation education projects throughout the state. We have been asked to participate in a number of environmental education workshops, some aimed at teachers, some at students. One of the best was a workshop for deaf students sponsored by the State Department of Education. Our state education department has taken some interest in conservation education, and at present they are developing a teaching guide that encompasses wildlife, water, soil, forest, and energy conservation. The various state agencies responsible for these resources are acting as consultants and sharing funding responsibilities.

Several of the federal agencies have education specialists who are meeting with state people to act as catalysts for progress in environmental education programs. The U.S. Fish and Wildlife Service specialist has participated in meetings between the education department and other state agencies to explore the possibility of forming an environmental education advisory council. This person also organized a training workshop for federal

refuge personnel to further their efforts at using these areas for educational purposes. Our staff acted as instructors for this workshop.

Eventually, our division hopes to have a full time conservation education specialist. This person could increase our workshop involvement, the variety in our volunteer programs and the number of educational materials available for distribution to those who influence our children's attitudes toward wildlife conservation. Certainly, any effort to reach and influence young minds in regard to wildlife conservation is an effort well spent.