

## Global Education

# Educating for the Environment

By linking timely issues with imaginative technology, the National Audubon Society's Science Institutes help teachers enhance their students' interest in science and technology *and* their concern for the Earth.

*Photograph by Jeffrey Markowitz*



Attending an Audubon Science Institute field trip to Huntley Meadows, Virginia, in 1990 are (kneeling) Al Coleman, science teacher, Backus Junior High School, Washington, D.C.; (leaning over Coleman's shoulder) Chris Palmer, President of National Audubon Society Productions; Mary Johnson, co-director of ASI and director of special programs at Washington, D.C., Public Schools, and Ernest Skinner, Citibank Community Development Director

The crisis in American education is converging with another, equally significant concern: the unchecked destruction of our natural environment. America is losing valuable resources. As more and more young people leave school without the necessary skills in science and technology to become successful citizens, our planet continues to lose many of its animal species and wilderness areas.

The plight of schools and the fate of our Earth are vitally linked. Without citizens who have adequate scientific knowledge, our planet will deteriorate further. Science education fosters appreciation for the natural world and produces the know-how to conserve it. In fact, environmental education, an important component of science education, is the single most important and effective tool for environmental conservation.

## Bringing Environmental Issues to Life

The National Audubon Society is working vigorously to sharpen that tool. Building on its popular conservation program for elementary schools (Audubon Adventures), Audubon has developed a program that introduces teachers to the latest issues in environmental science and to innovative uses of science-related video and computer resources.

The program, funded by Citibank, is now entering its third year in the District of Columbia Public Schools and its second year in Montgomery County, Maryland, Public Schools. The skills and materials teachers receive at



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this series of workshops help them bring environmental issues to life for their junior high and middle school students.

Back at their schools, the teachers help their students learn by making their own discoveries: through hands-on experimentation, group projects, decision making, and state-of-the-art technology. By designing experiments, manipulating images and computer graphics, or planning active projects, they can see, explore, and understand wetlands and pollution problems, for example, or study endangered species.

Because computers command children's attention while simplifying and enlivening complicated subjects, they are especially effective for explaining the interdependence of humanity and the environment in classrooms. Therefore, Audubon has been working with innovative companies to produce software and multimedia technology for use in the classroom and at home. *Grizzly Bears* and *Whales* are two topics already available in the Audubon Wildlife Adventures line of software, and we are developing mystery-format, interactive multimedia products combining laser disc, computer software, and television technology.

### Exploring Classroom Uses

At each pilot Audubon Science Institute, held in June 1989 and 1990, about 20 teachers attended daily workshops on specific issues led by Audubon experts, followed by hands-on work with videodiscs, videotape viewings of relevant Audubon television programs, and analysis of computer-collected data from scientific probe. Audubon's new environmental science software, databases, and simulation software were included as instructional tools. Among the topics studied were endangered species, population effects, urban pollution, wetland issues, and protection of parks and wildlife.

During the afternoons, after each day's seminar, teachers worked with experts to design instructional units. By the end of the week, they had developed 36 modules for 7th and 8th graders, outlining objectives, activities to spur student creativity, and a variety of resources. The goal of this activity

was not to produce professionally developed curriculums but, rather, to solidify teachers' awareness of the rich potential of the media and print resources made available by Audubon and to explore the ease with which these materials could be introduced into classrooms.

After each week-long workshop, the teachers were eager to return home and expand the existing environmental programs at their schools. They left the institute with computer software, videotapes, books, and other supplemental teaching aids provided free by Audubon. Later, in follow-up workshops, teachers have told us that the infusion of environmental topics into the required science curriculum frequently stimulates student interest and improves test performance.

### Transforming the Science Curriculum

This year, with a grant of \$210,000 from the Federal Department of Education, the Audubon Science Institutes will initiate a trainers' workshop at Audubon's highly acclaimed Greenwich, Connecticut, ecology camp. The 2 trainers from 5 school districts who attend the workshop will then conduct institutes in their own jurisdictions for 25 middle school science teachers. After evaluating this expansion, Audubon hopes to extend the program eventually into a self-supporting, nationwide network, with special effort to target districts serving minorities.

Audubon believes that teachers are the key to transforming the science curriculum; they can provide the expertise to stimulate students' interest not only in environmental issues, but in science and computer technology in general. And, when teachers employ technology to explore environmental issues, they are doing something about the crisis in education and helping preserve the Earth. □

**Christopher N. Palmer** is President and Executive Producer of National Audubon Society Productions. **Carol Muscara** is Director of the Audubon Science Institutes. For further information, write or call the National Audubon Society, 801 Pennsylvania Ave. SE, Washington, DC 20003; 202-547-9009.

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