

Enhancing Wildlife Conservation Through Education

CONSERVATION ACROSS BOUNDARIES[®]

Meeting the Challenge of Teaching Conservation Education in the 21st Century

Challenges: Hop in a plane and take a look at the American landscape. Below you will see a mosaic of boundaries—some created naturally, others resulting from the development of cities, towns, communities, agricultural practices, forest management, mining, transportation networks, and water use. Every piece of land has some type of boundary imposed on it. These boundaries affect the movements of wildlife, land use patterns by people, and how humans now and in the future exploit natural resources required for survival. By learning to recognize and identify boundaries on the landscape, people of all ages will begin to develop a “big picture” or “systems” view of the interconnectedness of natural resources across all biological, economic, political, and social boundaries.

What type of boundaries must be considered when attempting to manage and conserve wildlife and other natural resources? Our first thoughts might be of geographical and political boundaries. Such boundaries exist at the continental, national, state, regional, and local levels. At a continental scale we often encounter conservation problems not under our immediate control, such as loss of habitat for migratory species, subsistence hunting, etc. Political boundaries between countries such as the United States, Canada, and Mexico may inhibit conservation because of variations in laws and conservation practices, or, in some cases, the lack thereof. Within the U.S., laws and issues differ from state to state and even regionally within states. Most often, the average citizen is generally unaware of such differences or why they exist.

At state and regional levels, there are perpetual conservation challenges produced by factors such as private versus public land ownership; historical and current land use practices; societal, cultural, and ethnic differences; economics and class differences; generation differences; human population demographics; public ownership of wildlife; and advancing technology.

Individual attitudes, which are strongly influenced by people's values, are very important because they can determine cross-boundary relationships as they relate to wildlife conservation, and stewardship of natural resources. Cooperation across boundaries is enhanced when people share values and understand the basic value of natural resources,



By Lisa Flowers

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“Conservation education is the theme around which the rest of our curriculum can be wound. It connects students to their habitat and to the rest of the world. I firmly believe that outdoor education is the key to getting students interested in their environment and in conserving it.” - 2002 CAB Participant

"This was the best teacher workshop I have ever attended. The course did not only bring two regions together, but people from different customs and cultures together. Furthermore, we developed lifetime friendship opportunities. We opened the doors for our children to learn wildlife and history across boundaries. It was a program that crossed cultural, ethical, and racial boundaries and brought them together, not just educationally but at a personal level. I will make certain to highly recommend this course to all educators in any region of the state." – 2001 CAB Participant

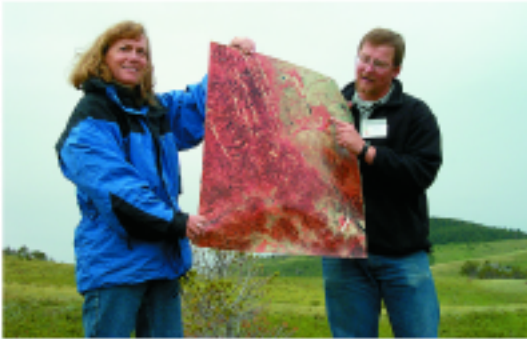
which provide them with food, clothing, shelter, and other necessities of life.

Conservation education must provide opportunities for educators to learn about, experience, and to discuss conservation-related issues openly with natural resource professionals. Only then will educators be able to assist the younger generation in their development of a land ethic. Attitudes, values, and perceptions concerning the importance of land stewardship, habitat enhancement, and best management practices can be developed given time and education. Mentors also play an important role in the development of an appreciation and respect for healthy lands, plant and wildlife diversity, and human influence on natural systems.

Most of us who are involved in natural resource management and conservation education had parents, grandparents,

aunts, and uncles who passed to us their interest in the outdoors whether it be hunting, fishing, camping, bird watching, hiking, or other activities. With changing demographics, future generations will see less and less of this parent-offspring mentoring process. Who will fill the mentoring gap? We believe teachers, if properly educated and inspired, will become empowered with new knowledge and enthusiasm through their experiences, and in return will feel compelled to teach their students about natural resource conservation. There are many obstacles to surmount before conservation awareness and appreciation becomes commonplace in our society. Even more challenging is for the human population to make conservation a part of their philosophy of life. Each person in American society needs to develop a personal land ethic that considers the

IMAGES FROM THE 2002 CAB COURSES IN MONTANA AND TEXAS



"What "Conservation Across Boundaries" means to me after taking the course is dealing with conservation issues worldwide (across countries, continents, states, counties, etc.), across disciplines (including social perspectives, economics, politics, cultures, and science), fences, and habitats. Conserving our natural resources is vital to our survival and we cannot begin to do an adequate job of conserving what we have if we don't include all of these issues." - 2002 CAB Participant



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needs of present and future generations, understands natural systems and their carrying capacities, and connects them with being a part of a healthy community. It is our belief that public school teachers are one of our most valuable resources in reaching this goal.

Opportunities

Outstanding conservation education programs and curricula currently exist: Project WILD, the Leopold Education Project, Project WET, and Project Learning Tree to name a few. These educational programs have been implemented at the local, national and in some cases international levels. The materials and concepts provided within these resources are invaluable. Other supplementary curricula exist that are more focused on environmental awareness and ecology. Many, if not most, of these resources emphasize cross-curricular learning and teaching with connections to the outdoors, a concept integral to development of a land ethic.

A new teacher education project titled Conservation Across Boundaries™, developed by conservationists and educators from the Boone and Crockett Club and the Welder Wildlife Foundation, takes this concept to a higher level. Teachers learn to use a systems approach to integrate science knowledge, problem solving, and critical thinking regarding issues surrounding conservation of wildlife and natural resources. Specifically, the course is designed to train teachers to integrate biological and ecological knowledge, natural resource conservation issues, and computer technology with regional historical and cultural knowledge. This methodology will allow development of a systems view of the underlying causes and solutions to issues regarding wildlife and natural resources. The spark that fueled this project was led by Dr. Jack Ward Thomas of the Boone and Crockett Club, and Dr. James G. Teer and Dr. D. Lynn Drawe of the Welder Wildlife Foundation, leaders within the field of wildlife conservation and management.

The basic design of the course includes invited professionals from the fields of natural science and resource management who discuss current conservation issues with the teachers. Most lessons and activities are incorporated into field experiences, such as setting up transects to measure plant and animal diversity, collecting, identifying and preserving plant specimens; however, teachers also learn to utilize computer modeling, geographic information systems, and map-

ping technology that can be integrated into their curricula. Teachers also learn to use

PowerPoint and other computer programs that will enable their students to develop multimedia presentations, which can be shared with other students and adults. To further emphasize the systems approach to learning, teachers are exposed to how historical, cultural, and socioeconomic aspects of human settlement and land use activities have shaped the conservation issues regarding wildlife and natural resources within the different regions. In addition to using the outdoors as a scientific “classroom” in two diverse ecosystems, participants learn about the history and economy of both regions, hunting practices and hunting ethics, the role that agriculture plays in providing wildlife habitat on private lands, and current challenges facing farmers, ranchers, and hunters.

The most unique aspect of the course is assembling teachers from throughout North America to allow the interchange of regional and cultural knowledge pertaining to the use and management of natural resources in their home regions. Ten teachers from Texas and ten from Montana participated in the 2001 two-week college course. The 2002 course was extended by two days and included teachers from Alaska, Kansas, Montana, Nebraska, Texas, and Mexico.

To further enhance and nurture the continued use of their newly gained knowledge about natural resource conservation, teacher partners are established and joint yearlong projects are developed and carried out by students in the teachers’ home classrooms. The project requires that students investigate and share information regarding their local regions with their “partner classroom.” In the end, both classrooms work collectively to develop a solution to some particular conservation problem in each region.

One of the greatest challenges within our public school systems is relating basic science and mathematics knowledge to problem solving of real world situations. Solving conservation problems must begin by taking a systems and scientific approach to understanding the underlying causes of the problems. This approach to teaching science is different than that used in the past and entails going beyond simply teaching basic science facts. In fact, in the Texas Education Agency’s

Texas

Essential
Knowledge and
Skills (TEKS), a set

of criteria students
are required to

achieve before advancing

to the next grade or course

level includes several criteria found universally in each natural science course.

These criteria state that students should:

(1) make wise choices in the use and conservation of resources;

(2) investigate, analyze and explain characteristics of systems and their parts; and

(3) build and use conceptual and mathematical models to describe and solve problems.

Science Content Standard 5 of Montana Standards for Science says that students should understand how scientific knowledge and technological developments impact society by being able to:

(1) identify and describe key factors (technology, competitiveness, world events, etc.) that affect the development and acceptance of scientific thought;

(2) model the ongoing, scientific process of gathering and evaluating information;

(3) analyze benefits, limitations, costs, consequences, and ethics involved in using scientific and technological innovations to make reasoned decisions; and

(4) give examples of scientific innovation challenging commonly held perceptions.

We understand there are many factors that impede conservation; however, it need not be difficult to meet the needs of science education while also instilling how important conservation of natural resources is to each student, their families, and to future generations. We believe the Conservation Across Boundaries® project is the solution to meeting the needs of conservation education in the 21st century. It is our vision to reach 100 teachers per year through a network of Conservation Across Boundaries®, partners offering this same course framework in different locations throughout North America. ■

NOTE: FOR CAB 2003 INFORMATION AND COURSE DATES VISIT THE BOONE AND CROCKETT CLUB WEBSITE WWW.BOONE-CROCKETT.ORG UNDER THE EDUCATION TAB.