Implementing the North American Conservation Education Strategy

Agency Examples





A Project of the Association of Fish and Wildlife Agencies' North American Conservation Education Strategy

Funded by a Multistate Grant of the Sport Fish and Wildlife Restoration Program

December 2011

Implementing the North American Conservation Education Strategy – Agency Examples

Introduction

The North American Conservation Education (CE) Strategy is just that – a strategy. It is a strategy to elevate the value of conservation education, advance the AFWA conservation education agenda, achieve excellence in conservation education, maximize partnerships, and secure funding for conservation education.

While many tools and resources have been developed as a part of the CE Strategy, it is through implementation that strategies become reality.

These stories provide examples of ways in which state fish and wildlife agencies have implemented the North American Conservation Education Strategy; how they have used the tools, incorporated core concepts into agency-wide messages, provided training, worked with partners, and even justified wildlife education to the state legislature.

Use these examples to advance your own conservation education programs. The document is designed so that each example – or in some cases several related examples – can be excerpted and printed as a stand-alone document to share with your administration, partners, or others. They are meant to be shared and built upon. Examples are organized by topic, though in fact many examples include multiple topics.

Implementation is a continuous process and these examples represent one point in time. Share what you are doing today with fellow conservation educators at www.facebook.com/conservationeducation.

Topic Areas:

Implementing the CE Strategy and Elevating Conservation Education

Children and Nature Partnership Initiatives

Connecting Children and Families to Nature

Outdoor Skills Education

Teaching Science through Field Studies

Teacher and Volunteer Education



Implementing the CE Strategy and Elevating Conservation Education

North Carolina Wildlife Resources Commission Funding for Conservation Education

In FY 2011-12, the NC Wildlife Resources Commission's Wildlife Education program was required by the state legislature to conduct an extensive, year-long review to justify \$778,000 in state funding for the program. Wildlife Education staff had incorporated CE Strategies Best Practices in our program development process, using the Core Concepts framework as the conceptual base for programs. The program development process itself was used as the "measure of effectiveness" required by the legislature. The process includes needs assessment, core concepts and objectives that directly support the concepts, and an evaluation component that relates directly to objectives. The Best Practices standards and the Core Concepts Framework were key elements in persuading the NC House Committee on Natural Economic Resources and the governor to reinstate the full \$778,000 funding for the Wildlife Education program in their budget drafts. At the time of this writing, the final budget had yet to pass the full legislature this year, but signs look hopeful at this point that Wildlife Education will retain its funding.

Arizona Department of Fish and Game Staff Training and Implementation

In 2010, the Arizona Department of Fish and Game began development of a plan to inform and train staff on the Conservation Education Strategy. It was determined that the primary focus would be the Education Branch staff. First, the Department provided an overview of the Conservation Education Strategy to all Education Branch staff. This was a simple introduction to the conference, the tools, and the strategy as a whole. Next, the Department held a branch work session. The goal of this session was to begin the development of a scope and sequence for the Department's formal education programming. Education staff was asked to place their specific programs along a grade level timeline. This allowed us to review what currently exists:

to identify ways to tie the programming into the CE core concepts

- to align programming to the CE Scope and Sequence
- · to identify key grade level gaps in programming
- to identify connections between programs to ensure a consistent reach and message through the formal education experience.

Future plans include:

- reviewing the non-formal programming to develop a bridge between classroom and public programming
- staff training on specific tools within the Conservation Education Strategy



Implementing the CE Strategy and Elevating Conservation Education

Arizona Department of Fish and Game Arizona's North American Model Curriculum

Arizona Department of Fish and Game's North American Model curriculum is its greatest effort to date in Conservation Education Strategy outreach. Since its release in September 2010, the Department has hosted a number of workshops focused on the curriculum. These include three online workshops, four regional workshops around Arizona, two social studies resource fairs, a presentation at the 2011 Wildlife Society Conference, and a poster session at the 2011 National Council for the Social Studies annual conference. As a result of these efforts:

- More than 100 teachers have been trained.
- The curriculum has been provided to at least 650 educators. Distribution has included:
 - More than 100 copies of the national curriculum
 - Approximately 350 copies of the Arizona curriculum
 - Approximately 100 copies of the DVD curriculum
 - More than 130 downloads
- The curriculum is available in at least 42 states.
- More than 47,000 students will potentially be reached this year alone.

- Safari Club International has included the curriculum in each of their Hands-on Wildlife Boxes. In addition, all teachers attending their annual American Wilderness Leadership School receive a copy.
- Welder Wildlife Foundation included the curriculum in their Conservation Across Boundaries teacher education program.
- A copy of the curriculum is being included in the new version of the Department's Bone Box resource trunks.

In October 2011, after repeated requests, three related activities were created to bring the concepts of the North American model to non-formal audiences. This included a presentation at the Association of Zoos and Aquariums annual conference.

In addition to outreach specific to the North American Model, the Department is including components of the Conservation Education Strategy in its programming. Specifically, all new lesson plans are being aligned to at least one of the Conservation Education Core Concepts.



Implementing the CE Strategy and Elevating Conservation Education

Indiana Department of Natural Resources Conservation Education

A long, long time ago in a state far away three Hoosiers stepped out of a small plane on a foggy, rainy night. It was the eve of the AFWA CE Summit held at the National Conservation and Training Center in West Virginia in 2004, and there began Indiana's involvement in the Conservation Education Strategy. The three Hoosiers included Glen Salmon, then Fish & Wildlife Division Director; Mike Crider from the Indiana Division of Law Enforcement; and Warren Gartner, then Indiana Project WILD Coordinator. Conservation information and education activities are conducted by the Department or Natural Resources Division of Communications.

Glen was and is a strong supporter of conservation education and believes it is the future of the agency. Under his leadership the Division's education programs grew from Project WILD and Go FishIN (angler education) to include Hoosier Riverwatch (volunteer water monitoring), Project WET, Hoosier Outdoor Heritage (recruitment and retention) and a Conservation Education Coordinator position, which Warren moved into in 2005. At its peak, the Indiana Division of Fish & Wildlife's education staff included seven full-time and nine part-time staff.

Indiana Division of Fish & Wildlife created their own "top 10 Core Concepts of wildlife conservation" based on the CE Strategy core conservation concepts. These were presented to all Division staff at an annual staff meeting and a poster of the concepts was created. These statements started showing up as tag lines to staff emails and the concepts were hanging on cubical walls of Fish & Wildlife offices. Also, after the Division of Fish & Wildlife produced their core concepts, the Division of Forestry also developed a set of core concepts for their agency.

In the programs, staff was encouraged to use the concepts as talking points or planning tools. As the first Hoosier Outdoor Experience (outdoor expo) was being planned, coordinator Amanda Wuestefeld looked at the activities planned and made sure all of the core concepts were presented at some point of the experience. Volunteers received training on the core concepts and were asked to include them in their programs. They also received training on the basic concepts of wildlife management, and the role of the agency and the public in sustaining healthy wildlife populations. The retreats and facilitator training turned out to be an excellent venue for discussing the North American Model of Wildlife Management, the funding cycle, the role of hunting, trapping and fishing and how that supports conservation in general. One result was that volunteers who had not hunted or gone fishing decided to purchase a license to support wildlife management. Also at the retreat, volunteers heard about the Sportsmen's Benevolence Fund which processes deer to give to local food pantries. The volunteers donated enough money to pay for processing two deer.

Ever since Mary Hayes (then- IN Project WILD Coordinator) attended the 2010 CE Strategy Training with Warren in Nebraska, the Wildlife education staff has been looking at the toolkit pieces and how they can use them. Mary successfully used the field investigations activities with a group of educators attending a summer wildlife education course sponsored by Purdue University.

The core concepts, scope and sequence, and benchmarks were presented to Indiana's Environmental Literacy planning group as models to possibly incorporate into the state Environmental Literacy Plan.

The current Fish & Wildlife Division Director, Mark Reiter, expressed an interest in the CE Toolkit and has been reviewing it as the agency makes changes to education programming due to cutbacks in funding and staff. The Division has decided to align its educational programming and staff with the three major areas identified by the AFWA CE Strategy – Environmental Literacy (Project WILD, Project WET, additional wildlife ecology programs), Stewardship/Citizen Science (Hoosier Riverwatch and possibly other volunteer monitoring programs), and Skills Education (Go FishIN and Hoosier Outdoor Heritage). The agency is moving from identifying staff by the programs they conduct to their role in the agency mission, for example from Project WILD Coordinator to Environmental Literacy Coordinator. This structure is helping the agency think through how efforts are evaluated.

This is very much a work in progress and the agency plans to continue to look at the pieces of the toolkit and apply them in their programs as appropriate. If you have any questions, contact Warren Gartner at 317-547-3104 or wgartner@dnr.in.gov.



Implementing the CE Strategy and Elevating Conservation Education

New Hampshire Fish and Game Department Adapting to Change Initiative

The New Hampshire Fish and Game Department embarked on an Adapting to Change Initiative in 2009, challenging itself to examine where it was as an agency – and defining new opportunities that would strengthen the support and work of the agency. During this process, the Department reaffirmed its' mission, analyzed new constituent groups and took a look at what the agency needed to be doing to better adapt and change with the times.

Over the course of several meetings, a large group of staff from across the agency wrote goals for the effort. One goal focused on developing a broad and diverse constituency support base that would sustain the Department's work to maintain healthy wildlife populations and habitats. Several specific conservation education strategies were identified under this goal, including strengthening conservation education funding to build knowledge about conservation practices and concepts from pre-K to adult; creating a citizen science program; and supporting the New Hampshire comprehensive outdoor recreation plan, including increasing stewardship opportunities.

The North American Conservation Education Strategy effort could not have come at a better time for the agency, as the tools and concepts identified by the strategy dovetailed quite nicely with the Adapting to Change effort. Three staff from the Department attended the 2010 Conservation Education Strategy Training in Omaha. The planning time at the training allowed the staff members to be armed with a plan for implementing the strategy when they returned. The three made a commitment to go back to New Hampshire and to get fellow conservation educators on board using the conservation education strategy tools, and to rethink how conservation educators do their work. Because of the nexus with the Adapting to Change process, the group received support for a two-day retreat for 17 educators. Mirroring the sessions from Omaha, the group tackled the conservation core concepts, scope and sequence, fostering observation skills, field investigations and the use of inquiry. They spent a half-day creating a vision of what conservation education should look like in our agency. At the end of the two days, by unanimous consent, the group felt that it should continue with monthly meetings and activities to strengthen collective, as well as individual, work.

These monthly meetings have been very productive, resulting in an agreed-upon vision for conservation education, even though the agency serves multiple audiences and teaches a wide variety of content and skills. In addition, the agency has started to align its programs with core conservation concepts, including providing consultation to several of the programs to develop new activities based on the concepts and the scope and sequence. The time the group spends together has deepened their understanding and appreciation of everyone's work. Two professional development sessions, including one on inquiry and one on introducing the new products, have been held.

What made this work? A number of factors in addition to the Adapting to Change process helped the agency get to this implementation phase. They include the commitment of the first three staff and support from upper administration – but most importantly, credit is given to the staff for their desire to get to know each other, break down silos and work better together. The greatest revelation was that everyone in the group was dealing with the same kinds of things. The conservation educators have been able to create ownership amongst the staff for the need for a comprehensive conservation education strategy.



Children and Nature Partnership Initiatives

Idaho Department of Fish and Game Be Outside, Idaho!

www.visitidaho.org/children-in-nature/

Be Outside, Idaho! grew out of conversations among a handful of natural resource agency employees concerned about nature deficit disorder. The group solidified as the Idaho Children and Nature Network following a community meeting held in conjunction with the 2008 Idaho Environmental Education Association Conference. Today, the group has grown into a coalition of over 150 public and private partners, all concerned with the issue of nature deficit disorder and its prevention. The group's mission is:

> "Connecting children with nature in Idaho, from backyards to mountaintops."

Partners include natural resource agencies, teachers, health care professionals, businesses, faith-based groups, non-profit organizations, parents, and others. Chapters are forming in different regions of the state to help promote activities and events that help get children and families outside. A Steering Committee consisting of two co-chairs, the chairs of the seven standing subcommittees, and two advisory members directs overall organizational efforts. Standing subcommittees consist of Arts, Communications, Education, Finance, Health, Legislative, and Partners. Organizational efforts have been primarily focused on raising awareness of the issue of nature deficit disorder and its causes and solutions. The organization also works with partners to help promote their events to Idaho families. In 2009, the Idaho Children and Nature Network formally launched its Be Outside! initiative. Governor C.L. "Butch" Otter proclaimed 2009 "Be Outside -Children in Nature Year." Governor Otter and his wife, First Lady Lori Otter, are supporters of this effort based on personal experience with their grandchildren. After reading Richard Louv's book Last Child in the Woods, Governor Otter made it required reading for all state agency directors. Mrs. Otter attended the 2009 kick-off event and read the governor's proclamation. Throughout the rest of the year, the Communications Subcommittee produced weekly television news stories that aired statewide. These stories focused on raising awareness and showcasing successful programs and activities that engage children with nature. A website was also created to provide visitors with "101 Things to Do Outside" and connect families with outdoor events around the state. This website is undergoing revision to make it more useful to partners and the public.

Awareness-raising continued in 2010 with a Rotunda Day at the State Capitol during the legislative session. Members visited with legislators and passed out information packets to all state legislators. The Idaho Legislature passed a concurrent resolution recognizing the Idaho Children and Nature Network and encouraging Idaho families to enjoy Idaho's many forms of outdoor recreation.



Children and Nature Partnership Initiatives

Other accomplishments include:

- Letter of support from Idaho's Congressional Delegation
- Statewide guest opinion pieces from Senator Mike Crapo
- · Briefings with statewide community leaders
- Presentations to
 - Idaho Association for Physical Education, Recreation, and Dance
 - Idaho Science Teachers Association
 - Idaho Environmental Education Association
 - Coordinated School Health Conference
 - Idaho Conference on Recreation and Tourism
 - Treasure Valley Partnership
 - Idaho Association of School Boards
 - Tri-State Parks and Recreation Association Conference (Idaho, Montana, Wyoming)
- Materials and articles provided for:
 - Idaho Family Physician Annual Conference
 - Assorted community health or environmental fairs
 - Idaho Pediatrician's magazine
 - Treasure Valley Family Magazine
 - Boise Parks and Recreation Activity Guide
 - Watchable Wildlife Newsletter
 - Idaho Master Naturalist Newsletter

- Partnered with the Idaho Library Commission to create an "Idaho is Wild About Reading" theme for a statewide Family Reading Week
- Worked with Idaho Public Television to produce a Dialogue for Kids (D4K) program on nature deficit disorder that aired statewide
- Worked with Silver Sage Girl Scout Council to paint a "Be Outside" mural in downtown Boise
- Created a "Writing Wild" summer journaling program with the Log Cabin Literary Center in Boise
- Created a Facebook page
- Created a Twitter account
- Held a Partners meeting in November 2010
- Set up an e-newsletter and email program for better communication with Partners
- Attended 2010 National Children and Nature Network Gathering



Children and Nature Partnership Initiatives

Texas Parks and Wildlife Department Texas Children in Nature – A Grassroots Approach

Texas Parks and Wildlife Department recognized the importance of the children in nature movement as a way of bringing many new advocates in support of our efforts to recruit new users, retain or reinvigorate existing participants, and foster conservation. We took on a leadership role in developing a grassroots effort.

In 2006, TPWD education staff facilitated a volunteer collaboration to develop outreach materials, recruit others to share in the message, and develop a recognition program called Green Ribbon Schools (www. greenribbonschools.org).

In the fall of 2009, a bipartisan group of Texas legislators requested that the Texas Parks and Wildlife Department, along with three other state agencies create a public-private partnership and strategic plan. Over 85 professionals formed the Texas Partnership for Children in Nature and developed the plan. In December 2010 the group held a statewide conference of over 300 professionals to launch the plan. Conference attendees also volunteered to work on action teams and in regional collaboratives based on the plan.

Today we have in place:

• Texas Children in Nature (TCiN) network – informal sharing; a Facebook page and Google Group.

- TCiN Steering Committee oversees implementation of the plan.
- Action Teams working on specific statewide goals in the plan.
- **Regional Collaboratives** (teams) local partnerships, creating regional web sites, holding events and providing outreach based on the organization of the plan.
- **Children in Nature Network** TPWD retains a leadership presence at the national level.

TPWD and its director enjoy a positive reputation in the state and we believe our participation and leadership has helped give the children in nature movement more strength and legitimacy in Texas. In return, we now have more interest and involvement in our mission from unexpected sectors. As planned, TPWD is slowly stepping back from primary leadership at the state level to an advisory/resource role and others are stepping up to take on leadership roles.

For more information, contact Nancy Herron, TPWD Outreach & Education Director, nancy.herron@tpwd.state.tx.us



Connecting Children and Families to Nature

Colorado Parks and Wildlife Environmental Learning for Kids (ELK)

www.elkkids.org

Since 1998, the Colorado Division of Parks and Wildlife (CPW) has partnered with Environmental Learning for Kids (ELK), a Denver-based, 501(c)3 organization established in 1996 when two CPW minority staff members saw firsthand the lack of diversity within the natural resource field. They created ELK to fill the growing need of introducing and educating Colorado's urban youth about science, math, leadership, and natural resource careers.

Since its inception, ELK has played a major role in the outreach efforts of the CPW Angler Education Program, assisting in educating more than 100,000 youth and their families about the joys of fishing.

More than 100 ELK youth and staff have worked with the CPW fishing program, teaching the skills necessary to become a successful angler and steward. This a very unique program where the youth that live in the inner city actually provide other youth from their own communities the opportunity to participate in a high-quality outdoor experience.

In its own right, ELK has served more than 70,000 youth and families of color and a majority of youth who participate in ELK, through one-on-one mentoring by ELK staff, have gone on to become first-generation college students and graduates. In ELK's year-round program, 98 percent of the students graduate from high school. The retention rate for the same program is 95 percent – once students get involved, they come back year after year.

Florida Fish and Wildlife Conservation Commission E-Field Trips

Electronic education field trips coordinated by Distance Learning, Inc. has allowed the Florida Fish and Wildlife Conservation Commission to provide information about manatees and North Atlantic right whales to a national audience. Once the program is created and available on the site, students and teachers are able to download education materials that they use on the field trip. On average each year, more than 500 teachers use the field trips and register more than 10,000 students who would otherwise not be able to visit Florida or take a field trip.

Florida Fish and Wildlife Conservation Commission

Chinsegut Conservation Center

myfwc.com/chinsegut

The Florida Fish and Wildlife Conservation Commission's Chinsegut Conservation Center hosted 72 programs specifically for youth and families in 2008 using 56 Regular Service Volunteers and 123 additional Occasional Service Volunteers. A total of 4,486 people participated in a program on site. Adults and youth alike assisted with creating a

butterfly/bird garden, trail maintenance and nonnative plant removal. In addition, participants gained skills in archery, insect and bird identification, orienteering, spiders, pioneer history, botany, reptiles and amphibians, threatened and endangered species, prescribed fire, astronomy and conservation.



Connecting Children and Families to Nature

Maine Department of Inland Fisheries and Wildlife Maine Wildlife Park

www.mainewildlifepark.com/

The Maine Wildlife Park is a unique wildlife park owned and operated by the Maine Department of Inland Fisheries and Wildlife located in Gray. It is home to more than 30 species of native Maine wildlife that cannot be released back into the wild due to injuries or human dependence. The park houses moose, bear, deer, lynx, hawks, owls, eagles, turtles and other critters in spacious exhibits interspersed with nature trails, interpretive exhibits, a picnic area and more. More than 3,000 children participate in wildlife and conservation education programs here annually, and more than 95,000 people visit the park during its six-month open season. The park exists to demonstrate the programs and projects of the Department in its efforts to protect and preserve Maine's valuable wildlife and habitats.

New Hampshire Fish and Game Department Amoskeag Fishways Partnership

www.amoskeagfishways.org

The Amoskeag Fishways Learning and Visitors Center, an environmental education center located in Manchester, is a partnership between the New Hampshire Fish and Game Department, U.S. Fish and Wildlife Service, Public Service of New Hampshire (statewide electric utility) and the New Hampshire Audubon. This unique partnership was formed in 1995 to foster cultural and ecological stewardship of the Merrimack River watershed and riparian systems, particularly among urban dwellers. The Fishways serves more than 22,000 visitors every year through an interactive exhibit hall and a wide variety of programs offered to school children, families and adults that focus on the urban wildlife, history and ecology of the local area.

New York State Department of Environmental Conservation After School Conservation Club

The After-School Conservation Club brings environmental education to and fosters a sense of stewardship in inner-city elementary-aged children involved in after-school programs. Environmental educators from New York State Department of Environmental Conservation provide training and support for the site coordinators and youth counselors. AmeriCorps members of the Student Conservation Association from New York City to Albany conduct lessons at the sites. Every site conducts three to four hours of environmental education activities and stewardship projects each week. During the fall, students learn basic environmental concepts, such as predator/prey relationships and adaptations, and their stewardship project involves developing recycling programs at their host site (community centers and schools). In the spring, students learn about water resources, including fish, wetlands and water quality. Their spring stewardship project is creating butterfly gardens and other wildlife habitat.

Currently, 17 high-need sites throughout New York City participate in the program and close to 1,500 students have participated since its inception in 2006.



Connecting Children and Families to Nature

Idaho Department of Fish and Game Salmon and Steelhead Days

http://fishandgame.idaho.gov/public/education/?getPage=264

Celebrating its 15th year in 2011, Idaho Salmon and Steelhead Days is a three-day event that introduces 5th grade students to one of Idaho's most iconic natural resources, its anadromous fish. For many students and teachers, this event is their first introduction to the natural history of salmon and steelhead. Through hands-on activities, students learn about the life cycle of salmon and steelhead, and the importance of these keystone species to the natural and cultural history of Idaho.

Since its inception, approximately 1,500 students plus teachers and parent chaperones attend annually (approximately 21,000 students in 14 years).

Students rotate through a series of stations where they learn about stream ecology, salmon life cycle, salmon migration, aquatic insects and macroinvertebrates, tribal culture and salmon, salmon evolution, and the Japanese art of fish printing, gyotaku. Most of these stations engage students through direct activity. They don boots and wade into the Boise River to capture and study aquatic macroinvertebrates. They simulate smolt migration by navigating through a maze the same way as young salmon and steelhead – backwards! Nez Perce tribal members give students the chance to examine traditional fishing equipment as they learn about the importance of salmon to tribal culture. Hundreds of colorful fish prints flutter in the breeze as they dry in the autumn sun. And perhaps most importantly, students get the chance to be "faceto-fish" with Chinook salmon swimming past the viewing windows in the nature center's stream and alpine lake.

The presentation of this event relies on an army of staff and volunteers from the partner organizations. Personnel from all walks of agency life come out to lend their expertise and a hand whether it is as a presenter or guiding a class from station to station. Volunteers include nature center volunteers, members of organizations such as Trout Unlimited, students from high school environmental science classes, and many others.

Teachers consistently rank Salmon and Steelhead Days as their best field trip every year. Competition to secure a spot is fierce and registration closes quickly leaving a waiting list of hopeful teachers. Even more encouraging is the number of student participants that return to the MK Nature Center with their families in tow. Eager to share their new knowledge, they head to the viewing windows to let their parents and siblings make a face-to-fish connection.



Connecting Children and Families to Nature

Michigan Department of Natural Resources Salmon in the Classroom

Salmon in the Classroom is a natural resource education program offered by the Michigan Department of Natural Resources, in partnership with groups such as Trout Unlimited and Steelheaders. Salmon in the Classroom offers students the opportunity to obtain salmon eggs in the fall and raise them until spring, when they will be three to four inches in size. They are then released into a suitable river that has been pre-approved by the Department, where the fish will imprint before making their journey to the Great Lakes.

The program's goal is to promote natural resource stewardship, conservation and a better understanding of one of the Department's greatest success stories, the introduction of Chinook salmon into the Great Lakes, thereby creating future resource stewards. Each teacher accepted into the program receives a resource kit full of teaching supplies that can be used with the comprehensive curriculum guide – that is correlated to Michigan's Science standards from 3rd–12th grade. Salmon in the Classroom began in the early 1990s with a few teachers and has exploded into a program with 142 schools participating, totaling 151 teachers statewide at last count. With increased participation, the Department is working to establish all the tools and information necessary for teachers and students to have a successful year raising the fish. Teachers are required to attend a one day training session, are supplied with activities to do with students, and receive information about how to maintain their equipment, raise healthy fish and troubleshoot problems that may arise.

Funding is the biggest limitation in growing the program. With additional funding, more equipment and supplies could be granted to teachers, allowing them to participate; and a part-time staff member could be hired to help administer the program.

Pennsylvania Game Commission Seedlings for Schools

www.pgc.state.pa.us/

In 2008, the Pennsylvania Game Commission began the Seedlings for Schools program. Through this program, schools can receive tree seedlings to plant on school grounds or to send home with students for planting. The program is a collaboration of the agency's Howard Nursery and the Information and Education Bureau. Howard Nursery staff grows the seedlings and provides the planting expertise, while the education specialist develops the teacher guide and student pages. By the end of the third year, Seedlings for Schools provided students and teachers with more than 225,000 seedlings. In 2011, more than 800 schools participated. With the help of program sponsors Wildlife for Everyone Foundation, Waste Management, Mealey's Furniture, and the USFWS-Partners for Wildlife, the Pennsylvania Game Commission hopes to continue providing seedlings for students and wildlife throughout the state. To visit the website, please go to www.pgc.state.pa.us and click on Seedlings for Schools.



Children and Nature Partnership Initiatives

Texas Parks & Wildlife Department "Texas Buffalo Soldier" Outdoor Educational Programs

"Texas Buffalo Soldier" Outdoor Educational Programs emphasize Texans' multi-shared western heritage of the 9th Cavalry Buffalo Soldiers, Vaqueros, Negro Cowboys, Frontier Women, Native Americans and other cultural groups in Texas during the 1800s. Buffalo Soldiers set up encampments at schools and special events, accompany trail rides and carry the colors at official ceremonies.

Operated as a volunteer regiment, the program follows military procedures and volunteers are held to a strict code of conduct – "above the age of 18, effective, able-bodied, sober, of good character and habits may be enlisted." The Community Services effort is led by the Texas Buffalo Soldiers (Educational Programs), Exploring Texas Roots (Cultural Research Programs), Blazing New Trails (Outdoor Educational Programs) and Texas Buffalo Soldiers Heritage Trail Program (Heritage Education/ Heritage Tourism Programs). The core functions of the Community Services Programs are education and outreach programming, with specific program management and coordination with the Texas Historical Commission through the Texas Buffalo Soldiers Memorandum of Understanding.

Texas Parks & Wildlife Department Coastal Expo

www.tpwd.state.tx.us/landwater/water/conservation/coastalexpo/

Coastal Expo is a fun, family-oriented event that provides opportunities to learn about coastal ecosystems, why they are important and how to protect them. Visitors see and touch crabs, sea stars and other coastal animals; view a glass-bottom stream; solve a mysterious fish kill; learn what washes up on the Texas coast; fish for live catfish; skill-building with angler education stations; and participate in other great activities.

Coastal Expos create awareness and understanding of the functions and values of coastal ecosystems through communication about topics like water conservation, recycling and use of native plants. Coastal Expos uniquely focus this message toward minority populations of Texans and particularly those who may never otherwise see firsthand the Texas coast. The Coastal Expo concept recognizes that most of Texas forms the watershed for the Texas coast and that Texans all over the state, not just living along the coast, have a critical role in protecting coastal ecosystems.

Over the years, Coastal Expos have been held at malls and community events. For example, the Coastal Expo at South Park Mall in south San Antonio averages participation of more than 5,000 Texans of all ages each year. Coastal Expos at Sea Rim State Park engaged more than 700 elementary students each year, with over 75% African-American or Hispanic participants. Other Coastal Expos have been held at Beaumont's Neches River Festival, McAllen's Tropic Nature Festival, Bentsen/ Rio Grande State Park and Edinburg in the lower Rio Grande Valley.



Connecting Children and Families to Nature

Wisconsin Department of Natural Resources Children's Discovery Area, Horicon Marsh International Education Center

The Children's Discovery Area is designed to provide hands-on activities/materials specifically targeting younger children (pre-school to early elementary). The Department creates new exhibits and activities every 2-3 months, connecting topics to the seasons. Each new exhibit includes a hands-on activity, craft, coloring sheet, interesting facts, reading table and hands-on objects such as furs, shells, feathers, and bones. For example, in one exhibit about worms and vermicomposting children could make their own worm bookmarks that said "Compost" and dig around in the working vermicomposter. Take-away resources included instructions on how to build your own vermicomposter, which parents loved, and many people ended up making their own. A reading area was set up with books all about worms and compost. The Department plans to add a scavenger hunt activity that relates to the exhibit that will expand the indoor portion to the outdoors. In this activity, families will search for natural objects that relate to the exhibit. This provides a way for families to not only explore the education center, but also get out and experience Horicon Marsh.

Visitors love the creative exhibits and that they cater to all learning types. Many parents, teachers and grandparents have taken crafts home to do with their children and have recreated some of the other activities such as the vermicomposter or toad house.

Wisconsin Department of Natural Resources Horicon Marsh Candlelight Snowshoe/Hike

http://www.horiconmarsh.org/

The Horicon Marsh Candlelight Snowshoe/Hike is an event for kids and their families (as well as adult visitors) held at the Horicon Marsh to enjoy snowshowing and hiking as well as to experience some wildlife conservation education programs. The Wisconsin Department of Natural Resources along with the Horicon Marsh International Education Center wanted families to understand that winter is still a great time to experience the Marsh. Over a mile of trails are lined with luminary candles, a bonfire, owl talks, astronomers with telescopes, and winter bird feeding crafts/ activities for children and their parents.

The response the first year was enormous. In its' first year, more than 300 people attended this event. Visitors reported very positive comments on evaluation forms. Many people said they would be back next year and bring friends. They appreciated the snowshoes that were loaned out and loved being able to take home a birdfeeder for their kids. Many people came back to make more after hanging them in their backyard and watching the birds eat the pinecone clean! We also got donations from local businesses for almost all of the supplies.

This shows that people do want to learn about Horicon Marsh no matter what season. This opens up educational programs for not only that event, but the Department also plans to add other naturalist programs throughout the winter to cater to the public's thirst for more knowledge about winter on Horicon Marsh!



Children and Nature Partnership Initiatives

Wisconsin Department of Natural Resources Wisconsin Family Play Days

Through Family Play Days, the Wisconsin State Park System offers family-friendly, nature-based programs designed to encourage children and their families to explore nature around them and overcome barriers to outdoor recreation. Family Play Days is part of a larger State Parks initiative – Get Outdoors, Wisconsin! – which is designed to connect families with nature. This initiative intends to:

- · Reconnect kids (and parents) with nature
- Overcome the parental "fear factor"
- Educate parents about where to go and what to do outdoors
- Promote health and wellness
- Promote appreciation of the environment
- Provide safe, accessible places for nature-based recreation and exploration
- Provide opportunities for unstructured, naturebased play and outdoor recreation, as well as traditional naturalist programs
- Encourage families to explore state parks and forests at their own pace and in their own way

Family Play Days are also designed to be easy to implement for property staff and volunteers. They consist of a selection of activity stations, each contained in an activity kit. Each kit contains all program materials and supplies, including complete instructions, for the activity station. Programs include nature art, eco-scavenger hunts, fishing, animal tracks, nature building, wildcard games (wildcards are business-card sized information keys to Wisconsin flora and fauna) and geocaching.

The approach to Family Play Days is based on the success of the "drop in" approach to interpretive programming that most of the Park's naturalists employ. These programs involve setting up a stationary program "hub" in a high-traffic area, presenting information in a continuous fashion using props and very brief hands-on activities, and allowing visitors to come and go at will. The Park has found that these programs are, by far, the most popular at all properties where they're offered.



Teaching Science Through Field Studies

Missouri Department of Conservation Discover Nature Schools

Missourians have long supported a tax to help conserve the state's natural heritage in a sustainable way. However, the key to successful conservation is the stewardship ethic of individuals. For the future health of Missouri children and the natural world, the Missouri Department of Conservation offers "Discover Nature Schools." The program is designed to help children experience nature outside the classroom close to home, while helping administrators and teachers deliver hands-on, placebased learning and overcome the challenges of funding and testing. Key components of the program include: instructional materials (teacher and student guides) that focus on conservation

and nature study aligned with Grade Level Expectation testing standards; grants for related teaching resources and equipment; grants for field trips; and teacher training. Middle school, 4th/5th, and high school units have also been developed.

The Department provides approximately \$1,000 in grants per Missouri middle school for initial instruction resources; \$7 per student up to 500 students per school for field experiences/ travel; and student guide (color) and teacher guide (b&w). The Department has budgeted approximately \$250,000 for the initial program, but that will grow as more schools participate.

New Hampshire Fish and Game Department Great Bay National Estuarine Research Reserve

www.greatbay.org

The Great Bay National Estuarine Research Reserve, a state and federal partnership between National Oceanic and Atmospheric Administration and the New Hampshire Fish and Game Department, has conducted environmental education programs for K-12 student audiences and the general public since 1996. Great Bay Discovery Center in Greenland serves as the conservation-education headquarters for the Reserve; it has served more than 40,000 school children in programs focused on estuarine education. Blending the mission of fish and wildlife conservation with coastal and estuarine issues has allowed the Center to cover topics ranging from global climate change, fisheries management, recreation and natural and cultural history. The Center has incorporated several green design features into its buildings and grounds and includes a New England-style barn featuring geothermal heating and cooling, composting toilets, a porous asphalt driveway and porous concrete walkways, as well as interpretive exhibits about these features.

New Hampshire Fish and Game Department Weather and White-tailed Deer Curriculum

Weather and White-tailed Deer is a wildlife management curriculum unit that provides middle school students with an opportunity to practice science process skills like collecting data and becoming involved in real-life wildlife management. Students from 35 schools located throughout the state gather crucial data used by New Hampshire Fish and Game biologists in determining the annual Winter Severity Index (WSI). They participate by measuring daily temperatures and snow depths between December I and April 30. The WSI is used to estimate the effects of cold, snowy winter conditions on New Hampshire's deer populations. Winter severity is measured using a system that involves keeping track of the number of days when the minimum temperature is 0 degrees Fahrenheit or less and/or when the snow depth is 18 inches. Data sets from previous years are available for student analysis and integration in the curriculum.



Teaching Science Through Field Studies

New Hampshire Fish and Game Department Kids for Karners

www.wildlife.state.nh.us/Wildlife/Nongame/projects/karner_project.html

School children have been helping to restore an endangered species to a globally rare ecosystem, right in Concord, New Hampshire. "Kids for Karners" involves local children in hands-on restoration of the endangered Karner blue butterfly through the propagation and planting of wild blue lupine and other native flowers, increasing the available host plants and nectar sources in Concord's remaining Pine Barrens plant community. Karner restoration provides a wealth of educational opportunities, as it teams professional biologists with students and addresses a real environmental issue involving ongoing field investigations that help teach the process of science through inquiry.

Each year more than 600 children and youth in 25 classrooms have each cared for their own wild blue lupine plants and transplanted thousands of seedlings onto the Pine Barrens. As the wildflower seedlings grow in the classroom, students learn about butterfly ecology and life cycles, the important relationship between Karner blues and their host plants, the ecology of the Concord Pine Barrens and the concepts of endangered species, habitat, and conservation. Modeling the biologists' investigations, "Kids for Karners" teachers have incorporated inquiry into their part of the project, the planting of the lupine and nectar plants such as NJ tea, blunt-leaved milkweed, and yarrow. They've guided their students in experimenting with planting media, planting containers, lighting, temperature, watering and coverings for the planters. As the seeds germinate and grow in their classrooms, the students observe and measure growth, collect and analyze data, and report out their results to New Hampshire Fish and Game. They describe plant growth on their tracking sheets, compare different lighting or watering schedules, and correlate multiple variables such as temperature and substrate.

Elementary students focus more on the science process skills, while the middle and high school students (both 9th grade bio classes and the Advance program) engage in more complex investigations and with a higher level of content. Students construct much of their knowledge, coming up with questions and trying to answer them through investigations, to arrive at conclusions.

New Hampshire Fish and Game Department Project HOME – A Schoolyard Habitat Model

www.wildlife.state.nh.us/Education/project_HOME.html

The New Hampshire Fish and Game Department's Project HOME: Homes for Wildlife in the Schoolyard program makes a difference for wildlife and provides learning experiences in schoolyard landscapes, cultivating stewardship and connection to place. More than 20 percent of the schools in New Hampshire have been involved with creating a schoolyard habitat, and more than 60 schools have received Homes for Wildlife Action Grants to assist in the development of their sites. The Project HOME program provides school communities the tools for developing projects and creating outdoor classrooms using an interdisciplinary approach that engages all learners and meets the state's Framework for Science Literacy. The program involves teacher professional development and community training focused on building field investigation skills, developing an enhancement plan, installing a project and garnering ongoing support for the project.



Teaching Science Through Field Studies

Washington Department of Fish and Wildlife Citizen Science Program

Washington Department of Fish and Wildlife has successfully created a citizen science program for schools and adult volunteers to monitor biodiversity and to undertake stewardship both through policy changes and physical eco-management projects, using The NatureMapping Program, the "Facebook" approach to nature, jointly run by the Department's Education Division and the University of Washington.

Adult volunteer groups engage in NatureMapping for the near shore, monitoring the progress for restoring the Puget Sound; and assist agency biologists in collecting data for common bird and mammal species to help meet the agency mission to conserve fish and wildlife. Schools use citizen science to develop K-12 students' science inquiry skills in field investigation, and contribute the results of their studies to biologists' questions. High school students are motivated to stay in school as they undertake culminating projects in which they explore ways the natural environment sustains their community and green jobs. These citizen science projects involving field studies and stewardship are published in a school journal. The journal is published by the Pacific Education Institute, a consortium of state natural resource agencies (including the Department) and education organizations providing leadership in rigorous and relevant applied math and science education in the environment for schools.



Outdoor Skills Education

Arizona Game and Fish Department Recruitment and Retention Success in Arizona

www.azgfd.gov/

There are currently 148 schools statewide participating in the Arizona Game and Fish Department's National Archery in the Schools Program (NASP). The Department is unique in this outreach effort as it's the only state participating in the program to offer the equipment at no cost to the schools. It is estimated that through the Arizona NASP Schools nearly 30,000 students are reached each year. The Department has trained 296 certified archery instructors.

Arizona's Scholastic Clay Target Program reaches 21 teams consisting of a total of 674 athletes.

Students from the age of nine through graduation of high school can participate in this team-based youth development program. Each club is organized independently. The Hunter Recruitment and Retention programs offered 24 hunting-related camps, which attracted 650 participants in 2010. The Department partners with sportsmen's organizations, clubs and industry to provide a variety of opportunities during the events. The majority of camps focus on recruitment efforts and providing the foundation to an appreciation of the outdoors.

The Department has a strong partnership with Parks and Recreation Departments. Currently shooting sports programs are being implemented through 12 park locations with the potential to reach a total of 34 parks in the next two years. The Department is providing training and equipment for administration of archery, air-rifle, wildlife viewing and outdoor skills camps.

Arizona Game and Fish Department Outdoor Expo

www.azgfd.gov/expo

The Outdoor Expo is an annual event conducted by the Arizona Game and Fish Department to give the public the chance to learn about wildlife-related and outdoor recreation activities, including wildlife viewing, fishing, hunting, archery, shooting sports, camping, off-highway vehicle recreation, and boating recreation.

In 2011, the Outdoor Expo drew a record 37,500 people over the March 26-27 weekend at the Ben Avery Shooting Facility in Phoenix. Saturday's attendance was 22,000 and Sunday's was 15,500. In addition, a record 4,500 schoolchildren, teachers and chaperones attended the Expo Youth Day on Friday, March 25, meaning 42,000 people total attended over the three days. In addition to the hands-on activities, more than 180 exhibitors were on hand, including sportsmen's and conservation organizations, government agencies, and commercial vendors of outdoor products and services.

The Outdoor Expo promotes wildlife-related and other outdoor activities to current and future customers who support the department's mission and funding through their engagement in those activities. The Department receives no Arizona tax dollars, and no tax dollars are used in conducting the Expo.



Outdoor Skills Education

Florida Fish and Wildlife Conservation Commission Kids' Fishing Clinics

myfwc.com/education/outdoor-skills/fishing-clinics/

Kids' Fishing Clinics, conducted by Florida Fish and Wildlife Conservation Commission's Division of Marine Fisheries Management, are one-day educational events spread regionally throughout Florida. The Kids' Fishing Clinics strive to create responsible marine resource stewards by teaching children the vulnerability of Florida's marine ecosystems as well as teach fundamental saltwater fishing skills and provide participants with a positive fishing experience. An estimated 4,000 children attend the clinics each year accompanied by 2,000 parents or guardians and assisted by 1,000 volunteers.

Since 1996, more than 46,000 children have participated in Kids' Fishing Clinics accompanied by an estimated 31,000 parents or guardians. The clinics wouldn't be possible without the 8,000 volunteers who have assisted in educating young anglers about fishing techniques, marine habitats, ethical angling and conservation.

Iowa Department of Natural Resources Fish Iowa! Angling Education Program

www.iowadnr.gov/Education/ForTeachers/EducationTrainingPrograms/Fishlowa.aspx

The lowa Department of Natural Resources' Fish lowa! Angling Education Program is a multi-pronged approach designed to introduce youth (and novice adults) to angling. The focus is on building local capacity to develop local support networks to support/sustain fishing education. Major components include a basic spincasting module designed for use in physical education courses and other recreational programs; grants programs for development of longer-term initiatives though after school, youth group, and parks and recreation programs; a spincasting contest held in conjunction with the lowa Sports Foundation; and support for local fishing education events targeted to youth and families. Ice fishing and fly-fishing modules are available to local partners who want to offer additional fishing education opportunities.

The Department provides training and teaching resources. Local partners house some 3,000 rods and reels at over 100 locations around the state. They may also provide instructors, volunteers, and even funding for local programs.

More than 3,000 educators and youth leaders have been trained since the inception of the program in 1990. Estimated participation in school and community-based fishing programs is more than 180,000 youth and novice anglers annually.

Maine Department of Inland Fisheries and Wildlife Youth Conservation Camps

The Maine Department of Inland Fisheries and Wildlife holds an annual auction of 10 moose hunting permits in order to raise funds to provide scholarships for Maine boys and girls, ages 10-14, to attend conservation camps in Bryant Pond and Princeton, Maine each year. During the week of residential camp, thousands of kids enjoy the opportunity to learn about Maine's wildlife, woods and waters; participate in Hunter Safety, Bow Safety and Boater Safety programming; and experience fishing, camping and hiking adventures.



Outdoor Skills Education

Michigan Department of Natural Resources Archery and Bowhunting Education

www.michigan.gov/archery www.michigan.gov/recarchery www.michigan.gov/explorebowhunting

The Michigan Department of Natural Resources is currently working on a multi-program approach to introduce both youth and adults to the sport of target archery and bowhunting. Currently, three programs are being utilized to engage more people into the sport. They include: The National Archery in the Schools Program, Recreational Archery Program and the Explore Bowhunting Program.

The National Archery in the Schools Program (NASP) is designed to introduce target archery to students in 4th through 12th grade physical education classes during the school day. To date, over 470 schools representing 75 counties statewide have adopted the program. It is estimated nearly 100,000 students per year experience target archery because of this program. The Department provides free basic archery instructor certification for teachers and equipment grants to schools. Students who participate in NASP often seek next step programs such as recreational archery or bowhunting.

The Recreational Archery Program is designed to provide community archery and bowhunting education opportunities for any organization looking to provide introductory or next step archery opportunities for youth, adults and families. The program is available to municipal parks and recreation program leaders, nature and outdoor education staff, school teachers, non-profit youth-serving organizations such as YMCA, Boy and Girl Scouts, and 4-H. The Department currently provides a two day archery training academy to ensure recreation leaders obtain archery instructor certification and training on how to implement all the various archery programs available. Instruction is also provided on how to develop community archery parks, in an effort to mainstream archery with other popular sports at public recreation areas. This program provides the community with accessible shooting sports opportunities and makes the sport of archery more visible to non-traditional users. To date, nearly 15 communities in Michigan participate in the program. The Department currently provides equipment grants to municipal parks and recreation programs.

For students and adults who want to take their archery skills to the next level, the Explore Bowhunting program is a great fit. Explore Bowhunting is an outdoor conservation education program focusing on interaction with people and wildlife. The curriculum contains 22 chapters that teach students how to interact with the natural world by developing basic skills used to bowhunt, which focus on getting close to animals. Not only does Explore Bowhunting teach students how to interact with nature using ageless hunting skills, but it also teaches an appreciation of what is around them and enhances their encounters with the outdoors. Students who participate in this program are encouraged to take Hunter Education and to participate in their first mentored hunt. Currently the DNR provides this program to educators at no cost and loaner equipment trunks are available statewide. The program is available both to schools and other organizations.



Outdoor Skills Education

North Carolina Wildlife Resources Commission Youth Hunter Skills Tournament

www.ncwildlife.org/News/Blogs/NCWRCBlog/tabid/715/EntryId/34/How-to-Start-a-Youth-Hunter-Education-Skills-Team. aspx

The Youth Hunter Skills Tournament, conducted by the North Carolina Wildlife Resources Commission, is a competition that is an incentive component of the state's Hunter Education Program. It is provided as an opportunity to showcase outdoor skills and demonstrate safety, with events in rifle, shotgun and archery marksmanship, as well as an orienteering challenge and a wildlife knowledge test. Teams are organized within public and private schools, while home-schooled students and teams representing organizations such as 4-H or FFA also can compete, provided they meet eligibility requirements. In 2011, nearly 600 students from 52 schools participated in the tournament, which determined state champions in team and individual categories. Teams and individuals qualified for this event during nine district-level tournaments held across the state in March, with thousands taking part.

Nebraska Game and Parks Commission National Archery in the Schools Program

outdoornebraska.ne.gov/Education/Programs/NASP/nasp.asp

The Nebraska Game and Parks Commission implemented the National Archery in the Schools Program (NASP) in 2004. At that time, Nebraska did not have statewide Physical Education Standards in place. In 2008, the Nebraska Department of Education did develop standards. While the NASP was aligned to national Physical Education Standards, Nebraska did not have the program aligned with the new state standards. In an effort to expedite this process, the Commission contracted with a retired curriculum coordinator to align the program with the new state standards. Within a few months, the program was aligned with the new Nebraska Physical Education Standards. Key Lessons:

- 1. Having a relationship with the state's Department of Education helped the Commission learn about the newly developed standards and their importance.
- 2. Having a relationship with a curriculum coordinator for one of the larger school districts in Nebraska gave the agency an outstanding opportunity for a quality alignment by a professional.
- 3. The alignment project has helped the NASP become established in several schools in Nebraska where such an alignment was important.



Outdoor Skills Education

Nebraska Game and Parks Commission Outdoor Discovery Programs

outdoornebraska.ne.gov/ODP/index.asp

In Nebraska, several school districts have not allowed or shown comfort with outdoor skills programs focusing on hunting and shooting sports. In an effort to expose these and other schools to such programs, the Nebraska Game and Parks Commission developed a series of Outdoor Discovery Programs that stemmed from its Outdoor Expo. Such programs are like an Expo in format but developed specifically for Nebraska schools, grades 4-6. They have allowed the agency to offer a quality outdoor skills program to nearly 6,000 youth annually in various regions of the state. By far, the most popular are the shooting sports including archery, shotgun, and air gun. The Outdoor Discovery Program is also infused with a host of non-consumptive programs such as wildlife tracking, habitat programs, fishing, camping, and many other outdoor skills programs. Teachers are sent a packet in the fall outlining 40 outdoor skills programs and are asked to register their class for five. When developing the small educational workshops that make up this large event, all educators were asked to develop a small curriculum and align it with an appropriate educational standard for that grade. Educators then took the concept of their program, such as shotgun shooting, archery, game tracking or fishing, and developed their curriculum around one or more education standards. Providing this alignment was very important as most teachers surveyed stated that having the alignment done was an important

element in their being able to attend the Outdoor Discovery Program. In their fifth year, the programs are proving to be a valuable first introduction for thousands of Nebraska youth in the areas of outdoor skills.

Key Lessons:

- 1. Taking the initiative to make a simple alignment when developing a new program can be important down the road.
- 2. Taking a large program and breaking each activity into smaller components helped spread the alignment effort by each educator and made aligning programs to one or two standards much easier.
- 3. All educators learned how simple aligning outdoor skills programs to education standards can be by taking part in a small portion of the alignment process.
- 4. The program has opened the world of outdoor skills and conservation to thousands of new students each year. Because each program is aligned with state teaching standards, teachers feel the outdoor skills programs are a great way to meet academic standards and expose their kids to quality outdoor skills programs that would not be possible in a school setting.



Outdoor Skills Education

New Mexico Department of Game and Fish Fishing Skills and Watershed Watch

Fishing Skills and Watershed Watch are two New Mexico Department of Game and Fish programs that teach youth fishing skills and promote ethical attitudes toward water resources.

Fishing Skills builds awareness and knowledge of aquatic ecosystems, teaches fishing skills and ultimately provides life-long anglers who purchase annual fishing licenses. This directly connects to the Department's Strategic Plan and of course a large part of its funding. This program has been run successfully for approximately 20 years. It is in very high demand by schools and communities. The agency provides all of the relevant equipment needed to run a large, statewide program on fishing skills.

Watershed Watch, a Fisheries Monitoring Program, involves anywhere from 18 to 23 high schools in eight watersheds around New Mexico. This program connects students to their watershed as they monitor the water closest to their school. Students visit the water field sites monthly to test a variety of chemical parameters and to collect macroinvertebrates. Students learn how to identify the invertebrates to the family level. Students post data on a special database and present their findings at end-of-the-year 'congress' gatherings. Schools sign Memorandums of Understanding with the Department and then are provided with water monitoring equipment.

Both the Fishing Skills and the Watershed Watch Programs are managed by the Conservation Education Section. The programs teach skills to youth that they can use throughout their education. They learn how to observe, to ask questions in a field investigation setting, and to operate and handle scientific equipment. The programs bring academic skills to the outdoors and to real life experiences for students.

New York State Department of Environmental Conservation Environmental Education Summer Camps & the Camp Diversity Program

www.dec.ny.gov/education/29.html

New York State Department of Environmental Conservation operates four residential summer camps across the state. The camps serve youth ages 12 to 17 years old, who take part in week-long environmental education programs. In 2008, the camps celebrated 61 years of operation, with more than 1,500 youth attending camp. More than 75 percent of the children come to camp through sponsoring organizations such as local sportsmen, garden and service clubs. The Department's Camp Diversity Program funds nearly 20 percent of the campers through "camperships," made available to underserved youth in need who wish to attend camp.

The Camp Diversity Program was established in 2004 to encourage under served youth to attend the camps. It

provides outdoor and natural resource experiences to youth, especially those from urban areas, who would otherwise not have such opportunities. Inner-city youth take part in outdoor and environmental activities, both pre- and postcamp, to prepare them for the camp experience. Pre-camp activities include fishing, hiking, overnight camping and nature exploration. Post-camp activities also include career exploration and visiting colleges with natural resource and environmental quality majors.

Together, these experiences connect inner-city youth to nature, preparing them for a lifetime of enjoyment of the outdoors.



Outdoor Skills Education

Texas Parks & Wildlife Department Urban Outdoor Program, Major Metro

http://www.tpwd.state.tx.us/learning/urban_outdoor_programs/

The Urban Outdoor Program, Major Metro, brings outreach programs to the Austin, Houston and Dallas/Fort Worth areas. Specialists network with and develop community partners who use Texas Parks & Wildlife Department sites, programs and activities in their own programs; arrange Outdoor Kids Adventure Days and other events; and conduct team meetings with local Department program staff who assist in these efforts. These can include Becoming an Outdoors-Woman; state park interpretation; angler, boater and hunter education; Texas Youth Hunter Program; the CO-OP grant program; and other Department education, interpretation and outreach programs. Created in 1998 as the agency's initial outreach effort, the education branch placed regional outreach specialists in Houston, Dallas, San Antonio and finally Austin to specifically break down urban populations' barriers to participation in outdoor recreation. Today, specialists are located in Houston, Dallas/Fort Worth and Austin targeting underserved urban populations in an effort to engage them in the outdoors and the Department's mission. Heavy reliance is placed on volunteers provided by other agency programs such as Aquatic Education and Hunter Education as well as other constituent partners like the Master Naturalists.

Wisconsin Department of Natural Resources Richard Bong State Recreation Area Great Outdoor Challenge

For three years, Wisconsin Department of Natural Resources staff at Bong Recreation Area has offered the Great Outdoor Challenge. Teams of two to eight people are invited to try their hand at a variety of outdoor skills teaching stations. Each Challenge station focuses on one outdoor skill and that station is timed or scored. Challenge stations include such topics as fishing, archery, wildlife identification, boating skills, hunting, or using a compass or GPS unit. Visitors usually compete in about five different Challenge stations. The Great Outdoor Challenge teaches skills to a broad audience. It's family-oriented, it's fun, and it's cheap. People get a wide exposure and they like it.

Each teaching station requires its own unique set of materials and equipment. DNR staff and volunteer instructors bring their own materials, depending on which outdoor skill they are teaching.

Park visitors really enjoy the chance to learn some new outdoor skills and many visitors come back in following years to participate again. Department staff have actually seen some of the participants back at the park fishing.



Outdoor Skills Education

Oklahoma Department of Wildlife Conservation Outdoor Education Initiative

www.wildlifedepartment.com/out_ed.htm

The Oklahoma National Archery in Schools Program (OKNASP) is currently in 250 schools across the state. This popular program has opened doors for other Oklahoma Department of Wildlife Conservation education programs. In 2010, the Department unveiled its new state-specific Hunter Education curriculum, which was authored in conjunction with the University of Central Oklahoma College Of Education. A Hunter Heritage Partnership Grant made it possible for the agency to recruit 100 current OKNASP teachers to be Hunter Education instructors.

In 2010, 73 of those teachers certified 3,096 students as part of their in-school curriculum. This resulted in a record year for hunter education – 17,600 total students certified. In addition to OKNASP and Hunter Education, the Department was selected as a pilot state for the Archery Trade Association's new Explore Bowhunting program. Ten OKNASP and newly trained Hunter Education teachers were selected to pilot the program in their schools. The program was a huge success and the agency plans to train and provide Explore Bowhunting kits to an additional 40 schools in 2011.

The success of all of these programs has led the Department to developing a school-specific aquatic education supplies grant which will accompany a new curriculum being developed along with the University of Central Oklahoma. The primary group that will receive the initial supply kits and training will be the 50 schools that will be teaching OKNASP, Hunter Education and Explore Bowhunting. This four pronged approach will lead to students receiving a minimum of eight weeks of outdoor-related courses as part of their classroom instruction. Last year the following was the result of the above mentioned format:

- Students that received OKNASP Training: 16,904
- Students that received OKNASP and Hunter Education: 3,096
- Students that received OKNASP, Hunter Education and Explore Bowhunting: 1,000

OKNASP teachers were the foundation for this design. ODWC plans to continue to grow OKNASP, but funds are also being allocated for OKNASP teachers to be Hunter Education certified, Explore Bowhunting certified and Aquatic Education certified. By 2016, the Department anticipates that each year 34,000 students will be receiving eight weeks of outdoor related training (two national programs and two Oklahoma-specific). Eighty-five to eighty-eight percent of pre/post Hunter Education in the schools students said they had someone that would take them hunting if they wanted to go. ODWC's emphasis is to provide them with adequate training so they feel comfortable simply ASKING that person to take them. Repeated experiences with fun outdoor-related activities is the key to getting students to ask not just once but maybe ten or more times until that person takes them. The Department believes that repeated experiences is the key to recruiting new hunters and anglers as well as creating all around better stewards of our wildlife resources.



Outdoor Skills Education

Wisconsin Department of Natural Resources Mead Wildlife Area "Learn to Hunt Waterfowl Clinic and Hunt"

www.meadwildlife.org

Wisconsin Department of Natural Resources Conservation Wardens, local Wildlife Biologists and Wildlife Technicians at the Mead Wildlife Area have joined forces with a large group of wildlife conservation-minded volunteers to host the Mead Wildlife Area "Learn to Hunt Waterfowl Clinic and Hunt." This program is part of a larger Department initiative to introduce young teens back into the outdoors. This event is also an opportunity to educate program participants about the importance of healthy wildlife habitats, the role hunters play in wildlife management, and the benefits of developing a lifelong love for recreating in the great outdoors.

Participants between the ages of 12 and 15 who have completed the Wisconsin Hunter Education Program are paired with experienced volunteer hunting mentors with the goal of introducing these young novice hunters into one exciting form of wild world outdoor recreation: waterfowling. The program particularly targets young teens who would not otherwise have the opportunity to participate in such an outdoor recreational activity.

On the day of the clinic, participants and their mentors rotate through a series of teaching stations where they participate in a full day of activities. Parents – whether they hunt or not – are encouraged to attend both the clinic and the hunt. An "Introduction to Waterfowl and Waterfowl Identification" session focuses on wetland habitat management, waterfowl biology and waterfowl identification. The use of "Ducks on a Stick" taxidermy mounts allows students the opportunity to examine and compare different waterfowl specimens up close. A session on boating safety gives students a chance to become familiar with handling canoes and the proper use of lifevests (or PFDs); and a short course in firearm safety helps the young participants learn how to safely handle and transport a firearm while in a boat. The day includes a clay target shoot, a duck calling and decoy setting demonstration, a display of retrieving dogs and an overview of Wisconsin's Waterfowl Hunting Regulations. Students are provided with contact information for mentors interested in continuing the mentoring process throughout the waterfowl season, as well as information about other hunting and shooting organizations and opportunities in the area.

The most compelling outcome of this event is that it brings young boys and girls into direct contact with the natural world...the wild outdoors! It gives them a chance to learn a healthy, wholesome traditional outdoor recreational activity that will last them a lifetime. One of the side benefits of this event is that it allows conservation organizations an opportunity to give back directly to their community. The first year's event saw an outpouring of support from a variety of individuals and organizations throughout central Wisconsin. Support came in the form of volunteers, monetary donations, and supply donations. Participants also develop friendships with their hunting mentors and we anticipate that these friendships will lead to future activities in Wisconsin's wild outdoors.



Outdoor Skills Education

Wisconsin Outdoors Alliance Foundation and Wisconsin Department of Natural Resources Wisconsin Outdoor Education Expo

This event is aimed at capturing the outdoor spirits and minds of 9- and 10-year-old students. The "Outdoor Youth Expo," as it is often called, is conducted on a county fairgrounds within an hour or two of Wisconsin's major metro areas. The Expo takes place over a two-day period. School buses begin arriving around 8 a.m. and children leave by 3 p.m. Small groups of children (led by teacher or parent chaperones) visit a variety of "Camps" where they participate in a wide variety of traditional outdoor recreational activities including Archery, Firearm Safety, Wildlife Calling, Wildlife Habitat Management, Bird and Mammal Identification, Wolves and Raptors, Tracking, Trapping, Camping and Trail Recreation, Training Sporting Dogs, Fishing, Team Building and Native American Conservation Heritage.

Several of the Wisconsin Department of Natural Resources' Bureaus (Wildlife Management, Fisheries Management and Law Enforcement) are heavily involved with coordinating this event. Other camp coordinating groups include Wisconsin Conservation Congress, Wisconsin Wildlife Federation, Wisconsin Bowhunters Association, Green Bay Point Dog Club, Central Wisconsin Shoot-to-Retrieve Club, Gander Mountain-Madison, Wisconsin ATV Association, Association of Wisconsin Snowmobile Clubs, Ed-Venture Program of Blackhawk Technical College. The entire event is coordinated by staff of the non-profit Wisconsin Outdoors Alliance Foundation. The Wisconsin Outdoor Education Expo continues to be a success. 2011 represented the sixth year of operation. This event has reached nearly 25,000 children, teachers, parents and volunteers.

We have learned that the more "hands-on," interactive and entertaining the presenters are, the more we capture children's attention at the learning stations. It is imperative, when dealing with 9- and 10-yearolds, that presenters avoid the "lecture" format, and engage the children in meaningful and interactive ACTIVITIES! Action of hands and mind is the key to keeping students' attention. Also, volunteers and educators should spend more time developing preand post-field trip activities for the classroom, so that students can continue learning about these outdoor recreational activities and conservation education topics beyond their day at the fairgrounds.

While Wisconsin hosts a variety of sporting shows (Deer and Turkey Show, Milwaukee Sports Show, Green Bay Deer Classic, Southeastern Wisconsin Hunting and Fishing Show) these events are geared toward adults. The Youth Expo is the only statewide event where children can learn, through hands-on activities, a wide variety of traditional outdoor recreational skills, as well as fish and wildlife conservation topics. Introducing 9- and 10-year olds to a wide variety of outdoor recreational activities is the first step in arousing their interest in pursuing these activities at home and into adulthood.



Teacher and Volunteer Education

Colorado Parks and Wildlife Teaching Environmental Science Naturally (T.E.N.)

wildlife.state.co.us/Education/TeacherResources/TeachingEnvironmentalScienceNaturally/

Teaching Environmental Science Naturally (T.E.N.) is an interagency, site-based, outdoor environmental science program for teachers. Led by Colorado Parks and Wildlife, these summer institute workshops use the curriculum guides from Project WILD and local curriculum resources. T.E.N.'s activities focus on local natural resources to provide teachers with hands-on experiences. Now available in over a dozen communities across the state, workshops last from two to five days and train and enable teachers to provide proven,

effective, and fun outdoor environmental science lessons and wildlife recreation education to their students.

An important feature of the T.E.N. program is that local teachers are involved in all aspects of the planning and training processes. Each community T.E.N. program is driven by its local Core Team, composed of local educators and natural resource agency personnel. The Core Team members choose the field sites, compile the curriculum, design the workshops and lead the workshop training programs.

Connecticut Department of Environmental Protection Master Wildlife Conservationist (MWC) Program

www.ct.gov/dep/cwp/view.asp?A=2723&Q=325722#MWC

The Connecticut Department of Environmental Protection, Wildlife Division's Master Wildlife Conservationist (MWC) program is an adult volunteer, 40-hour, training program. The goal of the program is to train volunteers to provide wildlife information to school and scout groups and the general public. The volunteers also assist with the Division's research projects. As of 2008, the Division had 75 active MWCs who provided 3,700 volunteer hours in 2008. Fifty-five of the active MWCs provided about 1,400 volunteer hours teaching children and adults about the state's wildlife and wildlife management activities at schools, nature centers, libraries, nursing homes, festivals and fairs. The training is held once a year and the demand for attendance is great.

New Hampshire Fish and Game Department New Hampshire Watershed Education Program

www.wildlife.state.nh.us/Education/watershed ed.html

New Hampshire Fish and Game Department's Watershed Education Program is a statewide program for secondary schools. It provides teacher training, curriculum development and direct support, putting students where the action is: in their own watershed. Using hands-on investigative approaches to aquatic habitats, students study water quality and macroinvertebrates. They learn elements of aquatic resource management through habitat assessment, population studies, salmonid eggs and river tanks in the classroom. Students also have a chance to use the latest technology in the form of GIS maps and water quality testing equipment while getting outdoors to directly assess natural aquatic resources in their community. The program partners with more than 130 teachers in 50 schools, reaching upward of 2,200 students each year.



Teacher and Volunteer Education

New Mexico Department of Game and Fish New Mexico Teacher Training

www.wildlife.state.nm.us/education/project_wild/project_wild_workshops.htm

In New Mexico and many other states there are various types of workshops in the Project WILD "family" that are well suited to introduce Outdoor Skills training.

New Mexico conducts multi-day Advanced Project WILD workshops that take place at a nature center, wildlife area or state park. These workshops offer a unique blend of outdoor skills training in archery, wildlife viewing, angling, outdoor cooking, and tent camping. In New Mexico, there is a strong field investigation component to these workshops. Wildlife inventory and monitoring techniques are demonstrated which teachers can often readily recreate at their schools. For example, trainings at U.S. Forest Service campgrounds included teaching fly-fishing, fly-tying, bird watching, elk stalking skills, and fisheries monitoring techniques. The closing session demonstrates Project WILD activities that tie in with the outdoors skills teachers learned.

In other advanced WILD workshops, archery range practice and using dart guns on 3D bear and lion targets have been introduced.

Texas Parks and Wildlife Department Groundwater to the Gulf Teacher Institute

www.keepaustinbeautiful.org/GroundwatertoGulf

Groundwater to the Gulf is a FREE 3-day, field-trip based institute for central Texas teachers that emphasizes techniques for teaching water-based curricula to students in grades 4 through 8. Participants follow the path of water in central Texas from its origins to its final destination in the Gulf of Mexico. Topics include: hydrology, groundwater, riparian and wetland habitats, urban watersheds, water use by humans and wildlife, water quantity and quality, rain water harvesting, green gardening and composting, water quality protection, and conservation.

Participants receive print and digital resources, including curriculum materials, bibliographies, posters, CDs, DVDs and suggestions for field trips so they may return to their classrooms with a toolbox of resources that will bring our natural environment, specifically focused on water, into the classroom. Activities presented in the teacher institute are also carefully selected to correlate with the Texas Essential Knowledge and Skills (TEKS) in order for teachers to meet their academic objectives. Quality curricula presented at the Institute includes nationally field-tested and distributed Project WILD Aquatic and Project WET along with local curricula including Project Underground, Coastal Expo, and Exploring the Native Plant World.

Prompted by teacher interest, a two-day extension was added to the teacher institute in 2010 to explore, discover and learn about Matagorda Bay where the Colorado meets the Gulf of Mexico. In 2011, the coastal workshop was extended to three full days. The additional workshop was open to all current and previous Groundwater to the Gulf participants. Educators headed to the coast for hands-on exploration of the river and coastal marshes by kayak and in the classroom.

The planning for the Groundwater to Gulf Summer Institute began in October 2005 when a few organizations envisioned the institute and what all it could offer to teachers. The collaborative now includes more than 12 organizations who contribute their time, skills, and talents to plan and lead the 3-day institute.



Teacher and Volunteer Education

Texas Parks & Wildlife Department Texas Master Naturalists

txmn.org

The Texas Master Naturalist (TMN) program trains and manages chapters of certified volunteers who become stewards and advocates for natural habitats and resources in their communities. Volunteers also function as outreach specialists to build awareness about native species and natural systems. Texas Nature Trackers is a citizen-scientist monitoring program under the TMN umbrella.

TMN is a partnership between Texas Parks & Wildlife Department and Texas AgriLife (formerly Texas Cooperative Extension) and modeled after Master Gardeners. The program currently supports 2,750 TMN volunteers in 39 local chapters across the state. Each chapter trains one or two classes of volunteers each year with a minimum of 40 hours of classroom work and field trips designed to cover a broad array of natural resource topics focused on regional examples. Each volunteer must log at least 40 hours of volunteer service to become a certified TMN and to maintain certification, 40 hours of pre-approved annual service with eight hours of advanced training.

Since its establishment in 1998, TMN volunteer efforts have provided more than 450,000 hours of service valued at more than \$8 million. This service has resulted in enhancing 75,000 acres of wildlife and native plant habitats; reaching more than 1.2 million youth, adults and private landowners. The program has gained international state and local recognition with the Wildlife Management Institute's Presidents' 2000 Award, the National Audubon Society's 2001 Habitat Hero Award, the Texas Natural Resource Conservation Commission's 2001 Environmental Excellence Award, Texas A&M University's 2001 Vice Chancellor's Award of Excellence in Partnership and in 2005 the U. S. Department of Interior's "Take Pride in America" award.

Wyoming Game and Fish Department Wyoming OREO Project

http://gf.state.wy.us/web2011/education-1000253.aspx

The OREO project in Wyoming is a great example of an agency blending Project WILD training and Outdoor Skills. The agency's approach is to offer the basic Project WILD seven to eight hour training in a natural outdoor camp setting. The basic WILD training is a stand-alone training that is offered before specific on-site instruction in Outdoor Skills. Instructors show how many of the Outdoor Skills classes help with and are part of Project WILD activities. Project WILD offers many classroom activities and meets so many standards and benchmarks, so it is a valuable "carrot" for many teachers to attend OREO in Wyoming.

