



When young people connect regularly with nature, the outcomes are profound. Children are happier, healthier from the exercise, effects of attention-deficit disorder are reduced and they score higher on standardized tests when natural environments are integrated into school curricula. State fish and wildlife agencies nationwide provide educational opportunities that can help bridge the gap between formal school settings and the great outdoors and all offer outdoor skills training in non-formal settings.

Endorsed by the 50 state agencies, the award-winning *North American Conservation Education Strategy* (CE Strategy) delivers unified, research-based Core Concepts and messages about fish and wildlife conservation, translated into K-12 academic standards to shape students' environmental literacy, stewardship and outdoor skills.



Launched in 2004, the CE Strategy is our blueprint for identifying what every citizen should know, feel and do related to fish and wildlife conservation, including the sustainable enjoyment and use of those resources.

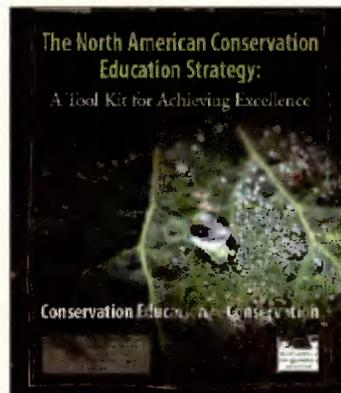
NORTH AMERICAN CONSERVATION EDUCATION STRATEGY RESOURCES

With funding provided through a Multistate Conservation Grant of the Sport Fish & Wildlife Restoration Program, state conservation education experts have developed a variety of researched-based resources to help support agencies' and even non-governmental organizations' fish and wildlife programs.

These resources are available for download from the Association of Fish & Wildlife Agencies' website at www.fishwildlife.org in the Focus Area section, Conservation Education.

The North American Conservation Education Strategy: A Toolkit for Achieving Excellence

This kit compiles all of the products produced by the CE Strategy working group. It also outlines the mission, vision, goals and underlying principles of the North American Conservation Education Strategy. A hard copy of the kit is available upon request or upon completion of a CE Strategy training.



Conservation Education Core Concepts

To be collectively effective in their efforts to connect with Americans, agencies agreed to a set of Core Concepts that clearly state what they want every American to understand about the conservation of fish and wildlife and related resources.

Top CE Core Concepts Poster

This poster highlights key messages for the top 11 fundamental, overarching concepts. It is recommended that communicators and educators read the full set of concepts before using these top 11.

Conservation Benchmarks

Conservation Benchmarks in the areas of stewardship, conservation literacy and outdoor participation identify experiences and skills at the 5th, 8th, and 12th grade levels that will guide students on their way to becoming involved, responsible, conservation-minded citizens. The Benchmarks were developed with input from professional educators in the formal and non-formal sectors and can be used in program development and as an assessment tool.





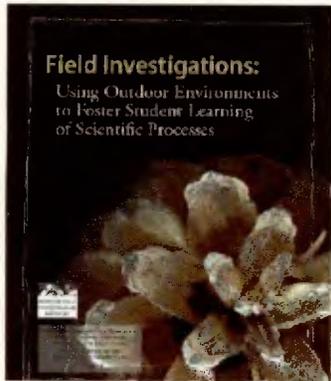
Conservation Education = Conservation

Conservation Knowledge and Literacy: What students should know and be able to do in order to sustain the health of fish and wildlife through our natural and social systems.

Civic Participation and Stewardship: Steps to prepare students for a lifetime of informed, responsible decision-making on personal behavior, community issues and stewardship opportunities.

Outdoor Participation and Skills: Steps to develop outdoor skills and encourage life-long, safe and responsible participation in the outdoors.

Field Investigations Guide: Using Outdoor Environments to Foster Student Learning of Scientific Processes



Field investigations help students become systems thinkers, learn the skills of scientific inquiry and understand that science doesn't only happen in a laboratory or classroom. Outdoor experiences in natural settings increase students' problem-solving abilities and motivation to learn in social studies, science, language arts and math.

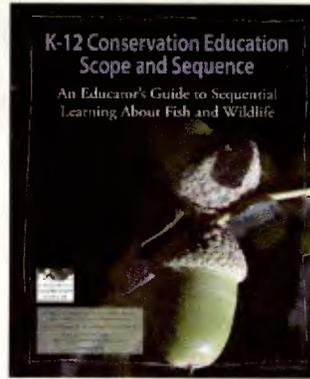
The Field Investigations Guide helps K-12 teachers introduce their students to the methodologies used for scientific field research and guide them through the process of conducting field studies. It demonstrates how to use descriptive and comparative methodologies for field studies.

A social science companion guide on Landscape Investigations and Systems will be published in 2011 as well as a guides entitled *Fostering Outdoor Observation Skills*; *Sustainable Tomorrow: A Teachers' Guidebook for Applying Systems Thinking to Environmental Education Curricula*; and *Schoolyard Biodiversity Investigation Educator Guide*.



Association of Fish and Wildlife Agencies
444 North Capitol Street, NW
Suite 725
Washington, DC 20001
202/624-7890
www.fishwildlife.org

K-12 Conservation Education Scope & Sequence: An Educator's Guide to Sequential Learning about Fish and Wildlife



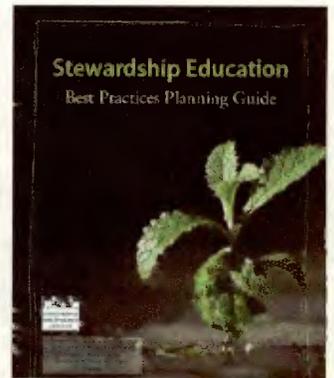
The K-12 CE Scope & Sequence is a set of expectations that describe what students should know and be able to do in three grade bands—K-5, 6-8 and 9-12—in the areas of science, social science and health and fitness.

The Scope & Sequence translates the Core Concepts into content standards and performance expectations and is organized as a collection of charts and maps depicting how students' understanding of concepts and skills

should be developed. The purpose of the Scope & Sequence is to help agencies align their CE programs with school curriculum, instruction and assessment at local and state levels.

Stewardship Education Best Practices Planning Guide

Stewardship—informed, responsible action or behavior on behalf of the environment—is an important part of fish and wildlife agency conservation education programs. Based on research and evaluation, this guide provides recommendations for strengthening and developing natural resources stewardship aspects of your programs.



CE White Papers

Indicators and Data Sources for Assessing the State of Outdoor Recreation Participation, Environmental Literacy and Civic Participation and Stewardship in America: This white paper provides baseline data on conservation education and outdoor recreation participation in the United States.

Benefits of Outdoor Skills to Health, Learning and Lifestyle: A Literature Review: This comprehensive literature review documents the extent to which positive impacts of outdoor skills education has been researched and substantiated. The white paper includes abstracts for 99 documents. Findings are grouped into themes including healthy lifestyles; fear of the woods; outdoor skills education as a tool to increase outdoor recreation participation; constraints to hunting and fishing participation; and more.

Visit www.fishwildlife.org in the Focus Area section, Conservation Education, to learn more about the CE Strategy.

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Iowa's Core Conservation Concepts

1 All living things benefit from a healthy environment. What's good for plants and animals is also good for people.

2 Maintaining healthy places for people and wildlife depends on each of us being knowledgeable about our natural world and acting responsibly.

3 We all impact natural resources and as human populations grow, resulting changes in our natural environment affect the quality of life for both people and wildlife.

4 In Iowa, many of our natural resources belong to all of us, and we rely on public agencies to manage them for the public good.

5 Natural resources-based activities -- such as hunting, fishing, trapping, camping, boating, target shooting, and wildlife-watching -- bring billions of dollars to our economy and connect people with nature.



The North American Conservation Education Strategy: Benefits of Outdoor Skills to Health, Learning and Lifestyle: A Literature Review

Cottrell and Associates Environmental Consulting

November, 2010

A few key "nuggets:

Early, sequenced and repeated experiences in the outdoors develop a kinship with nature that can evolve into an informed, proactive and lifelong stewardship of our natural environment

If children grow up interacting with nature, they are more likely to develop a conservation ethic, volunteer, recycle, participate in outdoor recreation as an adult, and work in natural resources-related professions.

Meaningful engagement with nature as a child has a direct correlation with involvement in environmental issues in the future which is of great interest as communities look for the next generation of environmental leaders and activists.

In 2008 backpacking, mountain biking and trail running hiking and camping increased significantly; fishing is still high on the list with 17% of American 6 years or older participating in 2008 representing the number one gateway activity by rate of participation and third by frequency of participation (number of outings).

The literature suggests that the **more holistic / ecologically oriented approach to outdoor skills education will enhance recruitment and retention;** although, the skills orientation (e.g., learning how to shoot, target practice, etc.) are important components of the overall educational program as noted by Zwick et al. (2006). Understanding higher appreciation, affiliation, and health motivations and the barriers (access, cost, time constraints) to participation with the associated demographics (minority versus Anglo) will lead to a better understanding of indicators of recruitment and retention.

Outdoor skills education efforts **should increase the sense of personal ownership of natural resources.** This can be done by personal and political involvement in conservation causes (McMullin et al., 2007).

Although there is some link between actual participation in outdoor activities and some stewardship effort, conservation educators and resource managers should not continue to just rely on that fallacy (McMullin et al., 2007) and that other factors play a role for recruitment and retention over a longer time frame.

Parks and Recreation programs have golden opportunities to advance healthy student lifestyles in after-school settings; complementing school efforts can engage kids in healthy lifestyle choices. These efforts highlight the importance of networking between agencies to share resources and expertise.

Wildlife agencies must interact with a broader range of society versus sportsmen only.

From Newbies to Stewards: Creating Continuity

Agency Effort	Ingredients for Creating Participants/Stewards				
	Excitement (Marketing)	Opportunity (Access)	Skills (Education)	Support (People, Culture)	Connection
Early childhood – Growing Up WILD, PLT	Just exploring the outdoors	Teachers leading outside	Learning observation, basic safety, appropriate risk-taking	Regular outdoor excursions, perhaps bringing families along; take-home ideas	If visit local sites, create “my outdoor place.”
Events (Fairs, clinics, Expos)	Marketing – re-kindling the excitement in adults; creating excitement in youngsters	Scheduled – so set aside time	Cursory – try to link to other opportunities to build skills		If hosted at a site, can serve to “introduce” participants to a place
Enhancing local sites (fishing, exploring, shooting, etc.)		Access – address time constraints, safety, etc.			Important in creating “connections”
After school programs, 4H conservation clubs, and others			Introductory through mastery – progression of skills	Social support – group to do activity with	
(Long term) Mentor programs		Someone to take the “newbie”	Introductory through mastery – progression of skills	Someone to go with – one of the most common reasons people <i>don't</i> do activities	
Marketing Efforts	Messaging that creates excitement	Links to information about where to go locally	Information about how – RBFF support of education BPs, grant programs for effective educational efforts	Angler’s Legacy, others?	Messages that emphasize individual’s connection

