

Making the Grade – What Every Student Should Know

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The purpose of the AFWA K-12 Conservation Education scope and sequence is to address the Association of Fish and Wildlife Agencies' goals to elevate the value of Conservation Education, and to advance the AFWA Strategic Plan and the North American Model of Fish and Wildlife Conservation (available on the AFWA website: www.fishwildlife.org). The development of the AFWA K-12 Conservation Education scope and sequence follows the formal education sector's practice of undertaking a rigorous review of what is reasonable to expect a student to know and be able to do at their age and stage in life.

The AFWA K-12 Conservation Education Scope and 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. The domains of science, social science, and health and fitness are especially important segments of every child's education. Science provides the key to understanding the world we live in, and the ability to ask and answer meaningful questions. Social science offers tools for critically reasoning and understanding the interplay between the natural world and society's impact. Together, a solid understanding and capability in science and social science can help today's children solve tomorrow's critical environmental, economic, and societal problems, and build a safe and secure life for themselves and their families. The use of the Scope and Sequence by conservation education professionals will also ensure that we are presenting developmentally appropriate material and that concepts are not repeated year after year with no increase in the depth of knowledge.

The task of developing a scope and sequence was an AFWA and Multistate Conservation Education grant priority in 2008. Recommendations were carried out by the K-12 Conservation Education Sub-committee. A group of 25 of our nation's most experienced conservation educators and leaders provided input on the project. Oksana Bartosh Consulting and the Pacific Education Institute provided technical support; both have extensive national experience in conservation, science, and environmental education.

Conservation Education Scope and Sequence

2009 National
Conservation Education
Conference

Core Concepts Development

- Development of the core concepts took place for over a year where participation and review was solicited from all state fish and wildlife agencies
- Core group met three times. This group had representatives from state agencies (conservation, aquatic and hunter educators, communication specialists) and several NGO's.

Why Core Concepts?

AFWA North American Conservation Education Strategy

Mission:

To unify and strengthen conservation education efforts of the Association of Fish and Wildlife Agencies (AFWA) member agencies and partners in a manner that effectively advances the AFWA Strategic Plan* and the North American Model of Fish and Wildlife Conservation.*

Vision:

Conservation Education becomes an effective, dynamic means for the Association of Fish and Wildlife Agencies (AFWA), its members and partners to achieve the AFWA Strategic Plan through an informed and involved citizenry that:

- I. Understands the value of our fish and wildlife resources as a public trust.
- II. Appreciates that conservation and management of terrestrial and water resources are essential to sustaining fish and wildlife, the outdoor landscape, and the quality of our lives.
- III. Understands and actively participates in the stewardship and support of our natural resources.
- IV. Understands and accepts and/or lawfully participates in hunting, fishing, trapping, boating, wildlife watching, shooting sports, and other types of resource-related outdoor recreation.
- V. Understands and actively supports funding for fish and wildlife conservation.

Focus on K-12

- Curriculum Integration
- Outdoor Skills Education in Schools
- Natural Areas Access
- Field Investigations
- Community Partnerships
- Conservation Literacy

Conservation Education Scope and Sequence

- What is reasonable to expect a student to know or be able to do
- Aligns conservation education core concepts with national frameworks and standards
- Shows that CE is not an add on or stand alone but rather an integral part of what students should be learning
- Tool for Conservation Educators to use when designing formal school based programs
- Consistent framework for Conservation Education

What it looks like

- **AFWA Standard**
- **AFWA Core Concepts**
- **The Key Themes**
- **Indicators for Concept Understanding**
arranged by Grade Bands

**Association of Fish and Wildlife Agencies Conservation Education
Scope and Sequence: EXAMPLE**

Standard 1

Standard 1: Appreciates that conservation and management of terrestrial and water resources are essential to sustaining fish and wildlife, the outdoor landscape, and the quality of our lives.

AFWA core concepts	Key themes	Grade K-4 Concepts & Indicators	Grades 5-8 Concepts & Indicators	Grade 9-12 Concepts & Indicators
<p>1.1 The health and well-being of fish, wildlife and humans depend on the quality of their environment.</p> <p>1.1.1 Many species are indicators of environmental health.</p>	<p>Health of humans and ecosystems</p>	<p>Concepts</p> <ul style="list-style-type: none"> Some things people take into their bodies from the environment can hurt them (AAAS1, 6E/2, p89). Certain poisons in the environment can harm humans and other living things (AAAS1, 6E/2, p. 89). <p>Sample Indicators</p> <ul style="list-style-type: none"> K-2: Describe the characteristics of a healthy environment, such as air, water, and food. Explain why a healthy environment is important for all organisms to have. Give examples of fish and wildlife and habitat species in your neighborhood that scientists watch to learn about the health of your environment. 	<p>Concepts</p> <ul style="list-style-type: none"> The environment may contain dangerous levels of substances that are harmful to human beings. Therefore, the good health of individuals requires monitoring of the soil, air, and water and taking steps to make them safe (AAAS1, 6E/5, p.98). The length and quality of human life are influenced by many factors, including... environmental conditions... (AAAS1, 6E/5, p. 89). <p>Sample Indicators</p> <ul style="list-style-type: none"> Develop a working definition of pollution and how it affects fish and wildlife. Investigate and identify local sources of pollution and how it affects your local fish and wildlife. Collect and analyze data measuring soil, air, and/or water quality, and link these indicators to fish and wildlife presence. 	<p>Concepts</p> <ul style="list-style-type: none"> Conditions now are very different from the conditions in which the species evolved. But some of the differences may not be good for human health (AAAS1, 6E/3, p. 89). In-depth field investigations are essential to scientific understanding of the environment (AFWA CE). Human health and well being depends on access to the outdoors and an environment with sustainable and renewable resources (AFWA CE – Children & Nature Network Research Summary). <p>Sample Indicators</p> <ul style="list-style-type: none"> Analyze the requirements for sustaining healthy ecosystems and how health of humans and other living (e.g. fish, wildlife, and habitats) organisms is affected by changes in environmental conditions. Design and implement an investigation to determine the environmental health of a local resource and analyze its potential value to fish, wildlife, and humans, including recreational use.

Map 1.1. The health and well-being of fish, wildlife, and humans depend on the quality of their environment

