



## Recommendation to the Colorado Department of Education for the Inclusion of Environmental Literacy Standards

Colorado has been and continues to be a leader in standards-centered reform. With the re-visioning of the Model Content Standards, Colorado has the opportunity to be leader in natural resource and environmental education at a time when states around the country are recognizing the importance of this kind of education. Environmental education has proven to be an effective way to incorporate the 21<sup>st</sup> century skills, college readiness and career/workforce skills that the people of Colorado expect from public education. We present these recommendations for the inclusion of environmental literacy standards to dramatically impact students' preparation for future education, civic responsibility, and meaningful employment.

### **Environmental Education: Advancing Education**

Environmental education is essential in creating responsible, engaged citizens who are prepared to address the challenges and opportunities that will be present in life and the workforce of the 21<sup>st</sup> century. While quality environmental education is designed to achieve a public that is environmentally literate, can understand the implications of its actions, and has the skills to critically think about and make responsible choices, these skills are transferable to every facet of life and meet the goals of public education. When we achieve the goals of environmental education we build learners who are skilled in critical thinking and problem-solving.

Environmental education is developed in accordance with best practices in education, is scientifically accurate, presents a range of perspectives in a balanced way, and encourages learners to form their own opinions. Environmental education is teaching people **how** to think not **what** to think.

Environmental education:

- Improves overall academic performance, self-esteem, personal responsibility, community involvement, and personal health
- Enhances student engagement and motivation
- Provides authentic, real world learning opportunities relevant to learners
- Ensures excellence in education
- Prepares students for the challenges they will face after they finish school
- Provides critical hands-on learning and direct outdoor experiences for the intellectual and physical health of learners
- Creates opportunities for the development of personal connections with the natural and cultural landscape of communities
- Promotes responsible citizenship and decision making
- Broadens career development opportunities especially related to Colorado's new energy economy
- Develops a workforce capable of meeting challenges and improving the quality of life in Colorado

Not only is environmental education effective education, but it is, by far, the most effective means that Colorado has for planning and reaching a sustainable future. It is the most potent force for shaping vibrant communities, strong economies, and a healthy environment.

### **Environmental Education Integration**

Critical thinking and interdisciplinary learning are widely acknowledged in quality education and are a key component of environmental education. However, standards in environmental literacy that reflect these goals are absent from the existing model content standards. The standards build content knowledge and awareness of issues but fail to address the process skills needed to investigate issues and the tools needed to be effective decision makers. Environmental education integrates an understanding of both scientific concepts and society's needs. "Instruction must go beyond an 'awareness' or 'knowledge' of issues. Students must be given the opportunity to develop the sense of 'ownership' and 'empowerment' so that they are fully invested in an environmental sense and prompted to become responsible active citizens." (Hungerford and Volk, 1990, p. 17). This need has been recognized in research for over 30 years, yet it has failed to come across in our state educational policy.

In 1999, the Project for Excellence in Environmental Education through the North American Association for Environmental Education (NAAEE) published a set of Learner Guidelines to bridge this gap and provide an interdisciplinary model for effective education. The *Guidelines for Learning* were developed through a process of critique and consensus where thousands of professionals - teachers, school administrators, environmental educators, scientists, corporate officials, parents, and a variety of professional organizations and government agencies – participated in the development of the guidelines. They draw on the best thinking in the field to outline the core ingredients for environmental education. The following recommendation identifies the strengths of the current Colorado Model Content Standards and gaps that need to be addressed in order to realize the full educational benefits of environmental education.

### **Making the Right Decision for Colorado Learners: A Recommendation**

The Colorado Alliance for Environmental Education (CAEE) along with partners in the fields of natural resources, health, and education put forth the following recommendations to the Colorado Department of Education for the standards revision process in order to impact students' preparation for future education, development of civic responsibility, and opportunities for meaningful employment:

- 1. Infuse strong process skills into each of the content standards emphasizing: questioning and analysis skills, skills for understanding and investigating environmental and other issues, and personal and civic responsibility skills. (See summary of gaps analysis for additional information.)**

2. Maintain the strong quality of content related concepts in the existing model content standards.
3. Use the *Excellence in Environmental Education: Guidelines for Learning (PreK-12)* national standards for environmental education as a model in developing or revising standards.
4. Review standards from Wisconsin, Kansas, and Vermont for examples of effective environmental education standards adopted on a state-wide level.

CAEE and other members of the environmental education community are committed to working with the Department of Education and the standards revision committees to ensure the effective infusion of environmental education standards by:

5. Serving as a representative on the geography, civics, economics, and science content committees.
6. Contributing expertise and input in the re-visioning of each of the content disciplines (including reading and writing, arts, and physical education) to ensure that the interdisciplinary nature of environmental education is reflected in the standards.
7. Suggesting a representative from a "Green" business on the Business Experts Subcommittee.
8. Serving as a representative or soliciting input from the environmental education community on the K12 Education Leaders Experts Subcommittee.

The Colorado Alliance for Environmental Education (CAEE) is the professional association for the environmental education field in Colorado, representing more than 300 organizations including non-profits, government agencies, businesses, and schools that reach hundreds of thousands of learners each year. CAEE is committed to improving and enhancing public education in Colorado. We offer this recommendation on behalf of the environmental education community.

Please contact the Colorado Alliance for Environmental Education as a resource for expertise in environmental education and practical application of "21<sup>st</sup> Century" or "essential" skills.

For more information please contact:

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# Environmental Education in the Colorado Model Content Standards Gaps Analysis

## Summary Findings

- Questioning and analysis skills and Knowledge of Environmental Processes and Systems are well covered in either Science and Social Studies (History, Geography, Economics, and Civics) standards and sometimes both.
- There is a significant lack of Colorado Model Content Standards that address Skills for Understanding and Investigating Environmental Issues and Personal and Civic Responsibility.

*Gray Boxes Indicate lack of coverage in the Colorado Model Content Standards.*

NAAEE Excellence in Environmental Education: Learner Guidelines PreK-12	Science				Social Studies		
	K-2	3-5	6-8	9-12	K-4	5-8	9-12
<b>Strand 1- Questioning, Analysis, and Interpretation Skills</b>							
1.A Questioning							
1.B Designing investigations							
1.C Collecting information							
1.D Evaluating accuracy and reliability							
Strand 1.E Organizing information							
1.F Working with models and simulations							
1.G Drawing conclusions and developing explanations							
<b>Strand 2- Knowledge of Environmental Processes and Systems</b>							
<b>Strand 2.1- The Earth as a Physical System</b>							
2.1.A Processes that shape the Earth					NA	NA	NA
2.1.B Changes in matter					NA	NA	NA
2.1.C Energy					NA	NA	NA
<b>STRAND 2.2— The Living Environment</b>							
2.2.A Organisms, populations, and communities					NA	NA	NA
2.2.B Heredity and evolution					NA	NA	NA
2.2.C Systems and connections							
2.2.D Flow of matter and energy					NA	NA	NA
<b>STRAND 2.3— Humans and Their Societies</b>							
2.3.A Individuals and groups							
2.3.B Culture							
2.3.C Political and economic systems							
2.3.D Global connections							
2.3.E Change and conflict							
<b>STRAND 2.4— Environment and Society</b>							
2.4A- Human and Environment Interactions							
2.4.B Places							
2.4.C Resources							
2.4.D Technology							
2.4.E Environmental issues							



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	K-2	3-5	6-8	9-12	K-4	5-8	9-12
<b>STRAND 3-Skills for Understanding and Addressing Environmental Issues</b>							
<b>STRAND 3.1 Skills for Analyzing and Investigating Environmental Issues</b>							
3.1.A Identifying and investigating issues							
3.1.B Sorting out the consequences of issues							
3.1.C Identifying and evaluating alternative solutions and courses of action							
3.1.D Working with flexibility, creativity, and openness							
<b>STRAND 3.2-Decision Making and Citizenship Skills</b>							
3.2.A Forming and evaluating personal view							
3.2.B Evaluating the need for citizen action							
3.2.C Planning and taking action							
3.2.D Evaluating the results of action							
<b>STRAND 4- Personal and Civic Responsibility</b>							
4.A Understanding societal values and principles							
4.B Recognizing citizens' rights and responsibilities							
4.C Recognizing efficacy							
4.D Accepting personal responsibility							