

Colorado Environmental Education Master Plan

2005



A Statewide Cooperative Project of the
Colorado Alliance for Environmental Education
15260 S. Golden Road
Golden, CO 80401
303-273-9527
www.caee.org

Table of Contents

Executive Summary	ii
Section I: Introduction to the Colorado Environmental Education Master Plan	1
Who is the CEEMP for?.....	1
What’s in the CEEMP?	1
Who Will Accomplish the Tasks in the CEEMP?	2
How Should We Use the CEEMP?	2
What is CAEE’s Role in the CEEMP?	2
How Will We Know When We Have Reached Our Goals?	3
What is a Living Document?.....	3
Where Did this CEEMP Come from?.....	3
Section II: Fundamentals of Environmental Education	4
What is Environmental Education?.....	4
More Reasons to Support EE	5
Environmental Education in Colorado.....	6
Formal Education	6
Non-Formal Education.....	7
EE and You	8
Section III: Tomorrow’s EE.....	9
Goal Summary	9
Goal I: Collaboration.....	10
Goal II: Professional Development.....	11
Goal III: Promotion.....	12
Goal IV: Formal Education.....	13
Goal V: Diversity	14
Goal VI: Quality and Relevance	15
Goal VII: Systemic EE.....	16
Section IV. Conclusion	17
References.....	18
Appendix A: Role of CAEE in CEEMP Management	19
Appendix B: Revision of Colorado Environmental Education Master Plan	20
Appendix C: Tbilisi Declaration	22
Appendix D: Guidelines for Environmental Education	25
Appendix E: Colorado Alliance for Environmental Education	26
Appendix F: List of Terms.....	27

Executive Summary

The goals and strategies in the Colorado Environmental Education Master Plan (CEEMP) are a crucial new re-visioning for the Colorado environmental education (EE) community. The re-vision is of a time when EE is fully embraced, supported, and integrated into everyday experiences for all people in Colorado. Broad support and visibility are needed to raise EE's value and fulfill this vision. This plan is designed to establish a framework for this collective effort, and foster long-term initiatives to be carried out by the whole EE community.

As a living document, this master plan is more than the words in this document; it is about what happens to these words when you become part of the plan. Locating ourselves within this plan, whether as educators, supporters, or participants, allows us to strengthen our foundation and reach for our goals for environmental literacy. As you participate in the Master Plan, connect to CAEE's website at <http://www.cae.org> and report what you plan to do or are already doing. Through an integrated, systemic approach to EE, together we can realize the vision of the master plan. This plan is the beginning, not the end of a creative process, and this work will continue to be updated and revised as needed.

Environmental Education

Several definitions for EE have evolved over the last 30 years. But, for many in the field, the best summary statement of EE is captured in this definition from the Tbilisi Declaration (UNESCO, 1978), a product of the world's first intergovernmental conference on EE:

Environmental education is a process aimed at developing a world population that is aware of and concerned about the total environment and its associated problems, and which has the knowledge, attitudes, motivations, commitments, and skills to work individually and collectively toward solutions of current problems and the prevention of new ones. (UNESCO, 1978)

Ultimately, EE aims to establish an environmentally literate and active citizenry and a sustainable society.

The wide variety of EE providers and many different ways EE is provided creates opportunities for the citizens of Colorado to explore their connection to the natural world in many settings and ways. From short EE excerpts to full-on EE immersion experiences, the Master Plan is intended to guide the collective product of hundreds or thousands of EE programs offered by different sectors. The overall face of EE is that there is something for everyone of all ages. For a listing of Colorado EE providers, as well as program information, visit the EE Database/Directory at <http://www.cae.org>.

Goal Summary

The Master Plan identifies broad, statewide goals and indicates several important tasks in meeting each goal. The CEEMP sets forth the following interrelated goals to challenge and unite the EE community in realizing the vision of environmental literacy.

Goal I. Collaboration

Optimize efficiency and effectiveness through collaborative efforts and partnerships among EE providers.

Goal II. Professional Development

Provide and participate in opportunities to develop and enhance the knowledge, skills, and abilities of all EE providers. Commit to the conscious, pro-active pursuit of quality as EE providers.

Goal III. Promotion

Increase understanding of and support for EE by improving the skills and ability of EE providers to strategically communicate the value and effectiveness of EE.

Goal IV. Formal Education

Integrate EE into the formal education system (pre-K through post-secondary schools). Facilitate traditional education as a natural conduit for EE.

Goal V. Diversity

Increase and broaden the diversity of EE audiences, providers, and in EE programs.

Goal VI. Quality and Relevance

Improve the effectiveness, relevance, and integrity of EE opportunities, experiences, and products.

Goal VII. Systemic EE

Strive for a paradigm shift toward sophisticated, fully-systemic approach to EE.

Section I: Introduction to the Colorado Environmental Education Master Plan

Welcome to a re-visioning of the Colorado Environmental Education Master Plan (CEEMP) for Colorado’s environmental education (EE) community.

The re-vision is of a time when EE is fully embraced, supported, and *integrated* into every-day experiences; when citizens of Colorado are involved in learning about our environment and our relationship to it in from the time they are young, and continuing throughout life – in our experiences at home, at school, in our work, and in our play. When developing environmental literacy is just...natural. *After all, the environment is where we live.*

Broad support and visibility are needed to raise EE’s value and fulfill this vision. This plan is designed to help us do that by establishing a framework for this collective effort, and fostering long-term initiatives to be carried out by the whole EE community. The idea is that in addition to the goals we aim for individually – within our professional or volunteer work, and for our respective organizations etc. – that we might also aim for accomplishments as a community. Through an integrated, systemic approach to EE, together we can realize the vision of environmental literacy.

The CEEMP is structured to serve EE in Colorado by providing:

- ☑ a comprehensive set of goals to guide the EE community;
- ☑ a common framework supporting discussion within the EE community;
- ☑ a vehicle to unify the voices of diverse elements of EE;
- ☑ a guiding context for growing and strengthening EE;
- ☑ an entry point for individuals and organizations seeking to learn more about EE or participate in EE endeavors;
- ☑ a map of EE in Colorado that allows interested persons people or organizations to see how their efforts fit with others, and to discover underserved niches; and
- ☑ a mechanism to assist in identifying and accessing funding.

Join us! There is place for everyone to contribute.

The **WHO** is **YOU!**

Who is the CEEMP for?

Achieving the goals and strategies proposed in this plan will require the collective contributions of a diverse community. Our intent is to reach out to anyone who shares an interest in EE. It is our hope that the community working to accomplish these goals will include, but not be limited to:

- teachers and others who provide EE learning experiences through schools and formal education;
- educators, guides, naturalists and docents who provide EE in nature centers, outdoor schools, parks, forests, museums etc.;
- agencies and non-profit organizations whose missions include natural resource and environmental health; and
- businesses, artists, government and community leaders who share an interest in increasing environmental literacy.

If you are reading this plan, there is a place for you in helping the community to accomplish it.

Section II is a description of the EE community in Colorado.

What’s in the CEEMP?

1. A **general introduction to EE in Colorado** is provided in Sections I and II. These sections include an introduction the CEEMP process, a discussion about the definition and scope of EE, as well as, an introduction to the many ways that the EE community provides environmental learning opportunities for a variety of audiences.

2. **“Tomorrow’s EE” outlines the 2005 CEEMP Goals for the EE community.** Section III includes a summary of the broad, statewide goals provided to challenge and unite the EE community to realize a grander vision for “Tomorrow’s EE”. Following the summary, each goal is described individually. These goals are mutually supportive and not listed in any specific order. For each goal, there are sub-goals that further define the direction of the goal. Each sub-goal is accompanied by several strategies that are suggested actions. The strategies vary in the amount of effort required. Some of these strategies are already being accomplished (the intent of their mention is to highlight them as models and to encourage expanded participation). Other strategies require innovation. Some require more research and others will need a committee to initiate the work. The listed strategies represent suggestions, however the list is far from exhaustive. There are many other ways to contribute to accomplishing a goal, and your creativity is welcomed. (See “Who will accomplish the tasks in the CEEMP...” and “How should we use the plan?”

3. **References and appendices** provide additional information on sources for developing the CEEMP, CAEE, on the Tbilisi Declaration, on resources for enhancing EE, and on terms commonly used.

The **WHO**
is **YOU!**

Who Will Accomplish the Tasks in the CEEMP?

The accomplishment of the goals, sub-goals, and strategies outlined in the plan will be the result of the **collective effort** by our state's EE stakeholders. Readers are invited to consider which goals and tasks best suit their needs or aspirations, to reach out to others who share their perspective – and to dive right in (please report these accomplishments through the Master Plan website at <http://www.cae.org>).

How Should We Use the CEEMP?



Think of the CEEMP as a tool, a “multi-purpose” utensil, that you keep within arms reach and use often. You may reach for this tool to help:

- Increase awareness and understanding of EE in Colorado;
- Encourage those new to the field to identify a contributing role and persuade new providers to participate in EE efforts;
- Guide the creation of partnerships and development of programs to increase efficiency and effectiveness as a community;
- Illustrate community support for particular aims such as incorporating EE more fully into curriculum design;
- Provide basis and rationale for efforts to encourage funders to embrace EE programs and projects as part of their business plan.

Here’s how you can help:
Read through the plan. **Talk** about it with others. Keep it nearby.
Find ideas that match your interests, needs, beliefs, etc.
Decide that you will help our community accomplish this task.
Do something – and let everyone know about it. (CAEE has created an interactive website to track CEEMP accomplishments).
Build momentum by using the online system to find others to help you and to tell us what you are already doing or want to do.
Inspire others to follow your lead.
Celebrate!

There is no “right” way to use the plan because there is no “typical” user. It is designed to serve anyone interested in any aspect of EE.

What is CAEE’s Role in the CEEMP?

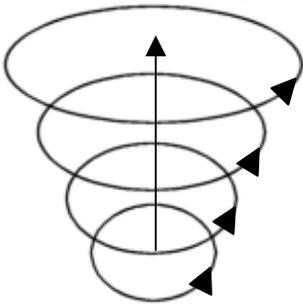
The Colorado Alliance for Environmental Education (CAEE), as the name implies, is an *alliance* of individuals and organizations who share interest in communication, cooperation, and collaboration to

enhance the reach and effectiveness of EE in Colorado. CAEE facilitated the development of this plan, and is committed to leading the accomplishment of the plan Goals. The staff and Board of Directors of CAEE is committed to drafting and implementing an organizational strategic plan, based on this Master Plan, that will outline the best strategies for facilitating and supporting the community in accomplishing the Goals. For more information about CAEE's role as steward for the CEEMP, see Appendix A.

How Will We Know When We Have Reached Our Goals?

The first year of the CEEMP's implementation will involve creating a baseline understanding of the numerous activities and programs already underway in Colorado on local, regional, and statewide scales and that contribute to the CEEMP goals. As you participate in the Master Plan, connect to CAEE's website at <http://www.cae.org> and report what you plan to do or are already doing, and read what others are doing. By assessing the strengths and weaknesses in the EE community, this baseline will be used to prioritize strategies within the Master Plan. After this baseline is established, the plan will be updated with measurements to motivate action in the areas of greatest need. We need to know where we are to help us shape where we are going. This flow of information will keep this plan a "living document."

What is a Living Document?



To be effective, any plan must be at once visionary enough to provide a strong and long lasting foundation, but also flexible enough to change over time as circumstances change and opportunities arise. As a living document, this master plan is more than the words in this document; it is about what happens to these words when you become part of the plan. As you participate in the ideas of this plan, and share your accomplishments, the tasks and strategies will grow and change. The ideas in this plan are not set in stone, they are ever-changing and alive because of the energy you give them. Picture an ascending spiral where as we work to accomplish one task, we rise to the level of another. This is what

makes the document a process, as one task is accomplished or other needs are identified, the plan will be updated and renewed so that we as a community can reach for the next greatest vision for EE. The web design will make the Master Plan easy to change, adapt, and access. This current plan is the beginning, not the end of the creative process, and this work will continue to be updated and revised as needed.

Where Did this CEEMP Come from?

This plan represents a "re-vision" of the 1995 *Colorado Environmental Education Master Plan*. This update came about both in response to, and in anticipation of, change. Many of the goals and objectives of the 1995 plan had been accomplished. New priorities and new ideas were ready to be expressed. In crafting this plan revision, the aim was to produce a document that would:

- provide utility, support, and inspiration for anyone interested in any aspect of EE;
- support expanding the reach and impact of EE endeavors; and
- remain a living document, responding to accomplishments as well as important developments in the field, and adapting to serve the diverse needs of members of the EE community.

For more information about the revision of the Master Plan, see Appendix B.

Section II: Fundamentals of Environmental Education

What is Environmental Education?

The specific meaning and scope of EE has been the topic of discussion

“Environmental education is education in, about and for the environment.”

A.Lucas

“First, all education is environmental education. By what is included or excluded, students are taught that they are part of or apart from the natural world.” David Orr

and debate since the early 1970’s, when the field was relatively new. A spectrum of viewpoints has been expressed - ranging from advocating that “*all education is environmental education*” to a more conservative perspective emphasizing nature study or conservation education. However, throughout the years, discussions yielded agreement about the general philosophy that both content and method help to define EE; that the field should address both the cognitive and affective domains; and that the approach is multidisciplinary. EE is distinguished by its aim and focus.

For many in the field, and for the purposes of this plan, the best summary statement about EE is the Tbilisi Declaration (UNESCO, 1978), a product of the world’s first intergovernmental conference on EE:

Environmental education is a process aimed at developing a world population that is aware of and concerned about the total environment and its associated problems, and which has the knowledge, attitudes, motivations, commitments, and skills to work individually and collectively toward solutions of current problems and the prevention of new ones. (UNESCO, 1978)

The Tbilisi conference also endorsed the following three primary goals for EE:

- To foster clear awareness of, and concern about, economic, social, political, and ecological interdependence in urban and rural areas.
- To provide every person with opportunities to acquire the knowledge, values, attitudes, commitment, and skills needed to protect and improve the environment.
- To create new patterns of behavior of individuals, groups, and society as a whole towards the environment. (UNESCO, 1978)

Characteristics of EE:

- concerns environment as a whole
- interdisciplinary
- life-long
- learner centered
- thought provoking
- seeks long-term solutions
- concerns growth in awareness, knowledge, attitudes, skills and participation
- fair and accurate
- integrated environmental ethic

An excerpt from the Tbilisi Declaration is included in Appendix C.

EE is not:

- scare tactics
- environmental activism
- environmental-ism
- just outdoor education
- propaganda
- just fun and games

One EE leader wrote, EE is the “...maintenance, for present and future generations, of a healthy, varied, and pleasant life-support system on the good Spaceship Earth.” More contemporary language would describe this same goal as follows:

Ultimately, EE aims to establish an environmentally literate citizenry and a sustainable society.

“Environmental literacy is an individual’s capacity to UNDERSTAND broadly how people and societies RELATE to each other and to natural systems, and how they might do so SUSTAINABLY; to SEE connections and interrelatedness, and to ACT successfully on those insights in daily life.”

-James Elder

EE emphasizes “the inescapable embeddedness of human beings in natural systems.”
-Smith and Williams

Discussions about the meaning, scope, principles, and philosophies of EE continue – as do discussions about “environment” and “education.” There may be a lingering reluctance to restrict a field so broad and rich with possibility. Learning about our environment – learning about the world we live in and our relationship to it - can take many shapes and forms, and encompass many different disciplines and settings.

“The ecologically literate person has the knowledge necessary to comprehend interrelatedness, and an attitude of care or stewardship. Such a person would also have the practical competence required to act on the basis of knowledge and feeling....Ecological literacy presumes that we understand our place in the story of evolution. It is to know that our health, well-being, and ultimately our survival depend on working with, not against, natural forces.” - David Orr

More Reasons to Support EE

EE may be founded on the belief in the necessity for and the possibility of an ecologically, economically, and culturally sustainable society. But most would agree that these are long-term goals that require some time and certainly are not achievable overnight. But many forms of EE offer immediate rewards - immediate value. Communities that embrace and support EE opportunities are providing benefits to individuals and communities (as well as the environment).

🌍 **EE is valuable to individuals because** it can provide opportunities for life-long learning; enhance a personal sense of meaning as one realizes and understands their own connection to community and inter-relationship with land, other living things and processes. It can enhance a “sense of place” and connection to one’s neighborhood, communities, and watersheds. It can nurture the spirit by expanding one’s awareness and appreciation of aesthetics, beauty and the complexity in the world around them. It can provide opportunities for creative self expression and instill a sense of personal integrity and power as one develops the skills and abilities to make a difference.

“Ecological identity refers to all the different ways people construe themselves in relationship to the earth as manifested in personality, values, actions, and sense of self.” - Mitchell Thomashow

🌍 **EE can help schools and students because** it can provide a framework that assists teachers in crafting relevant and meaningful experiences that help students meet learning standards for across various disciplines. When integrated into the curricula, it can provide a valuable context for *all* learning and enhance student interest and participation. It can engage students by involving them in learning about their own place and community and help make learning fun. It can develop a sense of pride and accomplishment by offering real-life opportunities to practice inquiry, and to apply knowledge and skills to make a difference.

🌍 **EE is valuable to communities because** it can foster a concern for other forms of life. It can increase interest in and skills for meaningful participation in public planning and decision making. It can contribute to economic health through the various recreational learning and life-long learning opportunities provided by governments, non-profits and businesses. Ultimately, it can lead people to choices and actions consistent with a sustainable future.

Environmental education is for all people, all places, and all times.

These thoughts are provided as a resource and do not represent an all-inclusive encyclopedia of perspectives.

Guidelines for Environmental Education

To ensure quality in such a large field, the North American Association for Environmental Education (NAAEE) has developed the National Project for Excellence in Environmental Education (NPEEE).

NPEEE includes several documents outlining guidelines for quality resources and educators (for more information see Appendix D). For more information about CAEE and the role of this organization in the EE community, see Appendix E.



Butterfly Hope



Barr Lake State Park



Bluff Lake Nature Center



Cal-Wood Education Center



City of Boulder Open Space and Mountain Parks



Colorado State Parks - Cherry Creek

Environmental Education in Colorado

Environmental education in Colorado is experienced through a variety of providers, in a variety of settings, through a variety of methods. One of the goals of EE is to ensure that *all* people have the opportunity to participate in relevant EE experiences. From short EE excerpts to full-on EE immersion experiences, the CEEMP is intended to guide the collective product of thousands of EE programs offered by different sectors. The overall face of EE is that there is something for everyone of all ages.

For a complete listing of Colorado EE providers, as well as program information, visit the EE Database/Directory at:

<http://www.cae.org>

The following describes the life-long learning opportunities available through EE and is intended to indicate the broad scope of existing EE. Its purpose is to visualize the maze of opportunities for involvement with EE activities. This listing does not specify the hundreds of existing local, regional, or statewide EE efforts, but simply indicates the diversity of kinds of EE. This framework is meant to help identify potential pathways for partnerships and opportunities for collaboration, highlighting unfilled niches, and suggesting funding strategies.

Many references refer to categories of EE experiences as “formal” and “non-formal.” The following is information about both of these kinds of opportunities.

Formal Education

Formal Settings

Formal settings are those situations where EE takes place as part of an ongoing class or program that is often guided by a curriculum framework and may be based on education standards. Formal EE is sometimes described as education experiences that are required for the learner, in which participation is not optional. Examples of formal settings include:

- Early Childhood Education (Pre-Kindergarten)
- Public and Private K-12 Schools
- Homeschool education and co-ops
- Post Secondary Education, including public and private technical schools, colleges, universities, and certification programs.
- Courses and seminars for credit, certification, or licensure

Forms of Formal Education

Within these formal settings, EE can be experienced through a variety of methods. The following quote from the U.S. Office of Environmental Education - *Environmental Education Handbook* – describes some of those methods:

There are many...ways to impart and acquire the kinds of information, perspectives, and techniques that are essential in developing the environmental awareness and skills that our society needs. Many of these ways involve an emphasis on learner-directed and discovery-guided inquiry; some involve innovative and integrative learning outside the classroom. But in certain cases, environmental education must operate through more traditional approaches, such as lectures, classroom activities, and other non-experience oriented educational methods if the learner is to attain some of the essential skills, concepts, and facts he needs.

(Public Law -91-516 p.6)

Educators in EE - Formal Education

Environmental education in formal settings is often the product of classroom teachers who may be trained in EE as a secondary subject or as their primary focus. Educators may receive EE resources from a variety of sources, including:

- Pre-service teacher programs
- Established EE Curriculum guides and lesson plans
- Lab schools and district field programs
- In-service teacher trainings
- Professional development groups
- Cooperative programs between schools and non-formal EE providers

Non-Formal Education

Non-Formal Settings

Environmental education in non-formal settings can occur anywhere there are people interested in learning. Non-formal EE is sometimes described as education in which participation is voluntary. The spot could be a city sidewalk where an ant may be walking by, or the top of the highest peak in the state. Providers of EE often take advantage of “teachable moments” in any setting, however, non-formal sites that are designed for EE include:

- Public lands (i.e., parks, forests, open-space properties, or nature preserves)
- Residential Camps or Centers
- Nature Centers
- Camps
- Museums
- Aquariums/Zoos
- Visitor Centers/Parks
- Public buildings such as libraries, recreation and community centers
- Businesses
- Churches/spiritual centers



Colorado Division of Wildlife



Colorado Rocky Mountain School



CU Science Discovery



Denver Botanic Gardens ©Scott Dressel-Martin



Douglas County Division of Open Space and Natural Resources



Denver Museum of Nature and Science

Non-Formal Providers

Providers of EE in Colorado work for a variety of organizations.

Examples include:

- Private, non-profit organizations and education centers
- Governmental agencies: Federal, State, County, Local/Municipalities, Special Districts
- Private/Government Partnerships
- Higher Education Outreach
- Private organizations
- Businesses
- Foundations
- Private Contractors
- Service Learning Organizations
- Religious or spiritual organizations



Denver Natural Areas Program



Eldorado Canyon State Park



ELK~Environmental Learning for Kids



City of Fort Collins



Great Sand Dunes National Park and Preserve



Highlands Ranch Metro Districts

Forms of Non-Formal Education

Non-Formal EE is often referred to by providers as a “program.” These programs vary from a few minutes with visitors to long-term residential experiences. Some forms of these programs include:

- Visitor sessions
- Guided field trips (indoor or outdoor settings)
- Interactive exhibits
- Guided tours, walks, programs
- Overnight camps
- Continuing education classes
- Special events and festivals
- Interpretive programs
- Family learning

EE and You

The wide variety of EE providers and many different ways EE is provided creates opportunities for the citizens of Colorado to explore their connection to the natural world in many settings and ways. Yet it is not necessary to be part of an organization or formal program to participate in or support EE. In addition, it is not necessary to be part of any organization or formal program to help advance environmental literacy in Colorado. Individuals who share information and ideas about what they have learned can make a real difference. Those who help fund projects and programs make critical contributions. Those who model environmentally responsible choices and actions are especially influential in moving our community toward environmental literacy.

A salient measure of EE’s success is the extent to which people of all walks and persuasions incorporate environmentally-based considerations into their daily decisions as a matter of course, without special consideration. Attaining this level of combined awareness and action is achievable only by the combined efforts of all, from global organizations to unaffiliated individuals. The CEEMP recognizes, encourages, and values the contributions of these partners in EE.

Section III: Tomorrow's EE

Environmental Literacy

Tomorrow's EE is a time when EE is fully embraced, supported, and integrated into everyday experiences; when citizens of Colorado are involved in learning about our environment and our relationship to it in from the time they are young, and continuing throughout life – in our experiences at home, at school, in our work, and in our play. A vision of environmental literacy throughout Colorado. This section identifies broad, statewide goals and indicates several important tasks in meeting each goal. These goals are mutually supportive and not listed in any specific order. The CEEMP sets forth the following seven interrelated goals to challenge and unite EE in realizing this vision.

Goal Summary

Goal I.

Collaboration

Optimize efficiency and effectiveness through collaborative efforts and partnerships among EE providers.

“If you want to build a ship, don't drum up people to collect wood and don't assign them tasks and work, but rather teach them to long for the endless immensity of the sea.”

-Antoine de Saint-Exupery

Goal II.

Professional Development

Provide and participate in opportunities to develop and enhance the knowledge, skills, and abilities of all EE providers. Commit to the conscious, pro-active pursuit of quality as EE providers.

Goal III.

Promotion

Increase understanding of and support for EE by improving the skills and ability of EE providers to strategically communicate the value and effectiveness of EE.

Goal IV.

Formal Education

Integrate EE into the formal education system (pre-K through post-secondary schools). Facilitate traditional education as a natural conduit for EE.

Goal V.

Diversity

Increase and broaden the diversity of EE audiences, providers, and in EE programs.

Goal VI.

Quality and Relevance

Improve the effectiveness, relevance, and integrity of environmental education opportunities, experiences, and products.

Goal VII.

Systemic EE

Strive for a paradigm shift toward sophisticated, fully-systemic approach to EE.

Goal I: Collaboration

Optimize efficiency and effectiveness through collaborative efforts and partnerships among EE providers in formal and non-formal settings.

- A) Locate and successfully collaborate with individuals and organizations.
- 1) Collaborate and partner with other individuals or organizations in non-profit, for profit and government sectors.
 - 2) Identify/promote events that are sponsored and organized by the collaborations of organizations.
 - 3) Identify and publicize organizations that are collaborating.
 - 4) Recognize and award successful partnerships.
 - 5) Support and participate in CAEE as a vehicle for collaboration (e.g., membership, events, EE Database/Directory).
- B) Strengthen EE community relationship with underutilized EE stakeholders.
- Academic research/higher education*
- 1) Host designated networking events or meetings with faculty from interpretation, pre-service education, natural resources, and other programs to stimulate dialogue (e.g., to collaboratively develop standards for the skills needed when students graduate, fieldtrip opportunities, current classroom topics). Make contacts with pre-service education students and professors.
 - 2) Develop and implement an internship matching program that mutually benefits both students and EE providers.
 - 3) Make contacts within appropriate student organizations, e.g. NAI student chapter; environmental clubs, etc. Maintain current listing of contacts.
 - 4) Develop working relationship with NAI national office to stimulate awareness of CAEE and strengthen communications with Colorado's NAI members.
- Business, media, government*
- 1) Identify and target designated EE providers in business, media, and government.
 - 2) Invite business, media, and government providers to attend, learn more about, collaborate on, or sponsor EE events, and to join EE professional organizations.
- C) Re-invigorate local/regional EE groups by providing opportunities to promote and strengthen partnerships.
- 1) Host and participate in meetings to re-energize local/regional EE networks.
 - 2) Support series of local/regional networking or training opportunities.
 - 3) EE program managers identify themselves as local leaders by maintaining a current roster of local network participation.
 - 4) Maintain and expand year-round professional development and networking activities throughout the state.
 - 5) Connect local networks to state network by maintaining a designated liaison person.
- D) Strengthen support of collaborations and partnerships by leaders or EE provider organizations.
- 1) Increase communications with designated organization leadership (e.g., supervisors, upper management, executive directors, administrators) regarding EE community and value of EE collaboration and partnership (e.g., distribute CEEMP to leadership and notify leadership of employee professional and association membership, awards and nominations, and volunteer recognition).
 - 2) Select and invite executives to attend annual awards events from throughout Colorado.
 - 3) Increase efforts to involve and inform support staff personnel and resource management decision-makers who are not on front lines of EE, but indirectly impact EE programming in some way.

Goal II: Professional Development

Provide and participate in opportunities to develop and enhance the knowledge, skills, and abilities of all EE providers. Commit to the conscious, pro-active pursuit of quality as EE providers in formal and non-formal settings.

- A) Provide and participate in professional development and training opportunities for the EE community.
 - 1) Periodically assess professional development needs of the EE community.
 - 2) Provide professional development, mentoring, and training opportunities for the EE community.
 - 3) Be actively involved in local, state, or national EE professional associations.
 - 4) Explore feasibility of periodically offering the Teaching OUTSIDE the Box conference in different regional locations (i.e., southern, western, etc).
 - 5) Explore alternatives to provide more professional development opportunities aimed at classroom teachers at more “teacher friendly” times, e.g. after school, weekends. Reach out to pre-service education students and professors.
 - 6) Increase opportunities for “professional exchange” and/or joint collaborative efforts (e.g., cooperative grants) between classroom teachers and non-formal EE providers.

- B) Improve communication of EE-related research findings, including EE evaluation techniques.
 - 1) Find, update, and distribute via electronic communications an EE literature review and list sources of EE research.
 - 2) Communicate about research findings and the suggested applications to EE community.
 - 3) Identify and publicize (e.g., InfoLink articles) case studies in which providers successfully use current research findings.
 - 4) Conduct new research to demonstrate the value of EE.

- C) Explore the potential for an EE certification process.
 - 1) Develop Colorado EE provider guidelines or competencies.
 - 2) Commit to using *Guidelines for Environmental Educators in Colorado*.
 - 3) Assess the need for a formal EE provider certification process to include an assessment of the relationship/coordination potential and downsides to existing, related certification efforts (e.g., NAI and ANCA).

- D) Increase provider awareness, understanding, and use of evaluation techniques in order to improve programming and/or substantiate effectiveness.
 - 1) Train teachers and EE providers in NAAEE's National Project for Excellence in EE (Appendix D).
 - 2) Submit programs to the EE Resource Review System and become a reviewer for the system.
 - 3) Survey EE providers to identify how many, which, and to what extent programs are evaluated.
 - 4) Provide training for EE providers about using diverse approaches for evaluating success.

Goal III: Promotion

Increase understanding of and support for EE by improving the skills and ability of EE providers to strategically communicate the value and effectiveness of EE.

- A) Increase communication effectiveness by employing a common EE explanation.
 - 1) Collaborate to establish a supported short, efficient, effective and persuasive explanation of EE.
 - 2) Establish a one-paragraph description of the breadth and diversity of EE.
 - 3) Establish a short, efficient and persuasive explanation of EE's benefits and relevance.
 - 4) Use this CEEMP and the online EE Database/Directory to illustrate the breadth and diversity of the EE community.

- B) Use a common EE language.
 - 1) Increase EE providers' awareness and use of the "list of terms" provided in Appendix F.
 - a) Distribute CEEMP; promote in organization newsletters.
 - 2) Plan, prepare, and provide training or workshop opportunities to improve effective communication about EE, both internally and externally. Topics should include, but not be limited to:
 - a) Use of EE related jargon and how to more effectively communicate about the value of EE.
 - b) Explaining common EE language and the importance of speaking with one voice for the EE community.

- C) Increase effective use of media to convey EE successes to the general public (may specifically target audiences including policy makers, school boards, principals, parents, funders, etc.).
 - 1) Prepare and provide training(s) or workshop(s) to improve providers' knowledge and skills regarding the effective use of media.
 - 2) Publish stories each month about EE (e.g., programs/approaches/successes) in Colorado media (e.g., newspapers, magazines, or television).
 - 3) Identify and maintain list of media contacts throughout the state.
 - 4) Develop a training manual or guide for EE providers about effective communication with media.

- D) Develop and implement an EE Strategic Communications Plan designed to advocate to people who can make a difference.
 - 1) Consider the following recommendations:
 - establish working group; identify key audiences; identify best approach or media for reaching specified audiences; identify three main messages and talking points that include benefits of, relevance of, and effectiveness of EE; conduct a literature review and/or summary consolidating research, results, facts, figures, philosophies, etc. to back up the above key talking points; identify time-line and responsibility; and provide training opportunities about the strategic communication plan, key messages, and ideas on how to use.
 - 2) Implement the EE Strategic Communications Plan.

- E) Improve communication with Colorado's EE community about evaluation and accountability.
 - 1) Plan, prepare and provide training or workshop opportunity for members of the EE community to improve effective communication about the success and effectiveness of programs; results of evaluations; demonstrated accountability; and reporting on statistics.

Goal IV: Formal Education

Integrate EE into the formal education system (pre-K through post-secondary schools). Facilitate traditional education as a natural conduit for EE.

- A) Involve and attract more formal teachers and administrators to EE. Help teachers understand that EE improves student learning and is easily incorporated into general education.
- 1) Create campaign (print media, e.g., brochure) targeted at current classroom teachers for improved awareness and public relations using all relevant research, which supports idea that EE really does improve student learning. Coordinate a major EE program evaluation project that gathers more supporting evidence for Colorado-based programs.
 - 2) Increase membership of public school educators (teachers and administrators) in EE focused organizations based upon an increased involvement in programs and workshops (e.g., Project Learning Tree).
 - 3) Identify working groups of select and willing formal educators (e.g., teacher liaisons) to design and implement relevant projects. Such projects should at least include the following:
 - a) Examining the Colorado Model Content Standards for opportunities to inject EE based examples, stories, articles, concepts, etc. Campaign should also address how EE can effectively support CSAP performance. Strengthen effort to add many more EE correlations to State academic standards on the electronic information clearinghouse.
 - b) Engaging educational niche communities (e.g., gifted and talented programs frequently need to develop challenging alternative/parallel assignments for their learners).
 - c) Partnering with professional teacher organizations that do staff development (e.g., CAST, CBTA, social studies, CCIRA, COGA), and hosting a conference or workshop for curriculum specialists.
 - d) Developing and providing interdisciplinary units and other resources/curriculum samples using environment as the primary example.
 - e) Promoting curriculum that uses the environment as a primary example.
 - f) Identifying, creating, and informing about bibliographies of children's and young adult's literature which has an EE focus (at various ability and grade levels).
- B) Integrate EE elements into pre-service and in-service teacher training programs in Colorado.
- 1) Develop a working group of formal educators to design and implement the following (including setting time frames):
 - a) Establish contacts in pre-service teacher training programs at Colorado higher education institutions to explore possibilities in this area.
 - b) Establish a liaison or other formal point of contact at Colorado Department of Education (CDE) to identify opportunities of introducing EE elements into CDE and higher education requirements for teacher preparation and licensing.
 - c) Explore college-level course development or enhancement that would provide parallel or replacement hours in required course work for pre-service teachers.
 - d) Explore possibility of an EE endorsement to State-issued professional teaching license that teachers could earn through completion of specific course work. (This would also have possibilities for the continuing education course work that teachers take to maintain their license.)
 - 2) Get endorsements from parent-teacher organizations and/or school boards that they support the use of EE in the classroom and subsequently seek affirmation from school districts that they are using EE.

Continued Next Page

- C) Develop a working group of post-secondary educators to explore how to integrate EE elements into graduation requirements in Colorado higher education institutions.
 - 1) Identify existing models.
 - 2) Establish contacts at Colorado higher education institutions to explore possibilities in this area.
 - 3) Consider requirements in degree programs that are not typically associated with EE (e.g., business, construction, engineering, etc.)

Goal V: Diversity

Increase and broaden the diversity of EE audiences, providers, and programs.

- A) Reach, connect with, and attain a greater diversity of learners.
 - 1) Establish baseline demographics of learners reached by EE and determine priority-underserved audiences (e.g., demographics may include age, income, race, socio-economic, gender, geography, etc.).
 - 2) Conduct needs assessment with underserved communities (e.g., collaborate with local environmental justice or culturally-focused groups).
 - 3) Provide training opportunities to address different needs of targeted audiences.
- B) Increase provider diversity to better represent Colorado demographics.
 - 1) Establish baseline demographics of EE providers (e.g., demographics may include age, income, race, socio-economic, gender, geography, languages spoken, etc.).
 - 2) Design and support more programs to recruit diverse audiences to EE career options (e.g., Colorado Youth Naturally, career fairs, recruiting bi-lingual EE trainers, etc.).
 - 3) Develop partnerships with existing community-building organizations to introduce EE into their current programming.
 - 4) Develop a new partnership.
- C) Increase the diversity of EE learning experiences by exploring new venues and delivery opportunities.
 - 1) Provide training in interdisciplinary approaches to EE.
 - 2) Identify opportunities and engage in partnerships to infuse EE into other public programming (e.g., creative arts, health, recreation, cultural/heritage, etc.).
 - 3) Chronicle and highlight effective use of “nature play” in EE programming.
- D) Help close the information gap and access to programs between providers and users.
 - 1) Market EE Database/Directory to users.
 - 2) Add program and organization entries, that include a focus on diversity, to the online EE Database/Directory.

Goal VI: Quality and Relevance

Improve the effectiveness, relevance, and integrity of environmental education opportunities, experiences, and products.

NOTE: For a listing of publications about quality and relevance for EE, refer to NAAEE's *National Project for Excellence in Environmental Education* (Appendix D).

- A) Inspire personal responsibility and empowerment by effectively communicating the importance and impacts of individual actions.
 - 1) Evaluate participants' sense of empowerment after taking EE program.
 - 2) Increase the number of programs that include an action component.
 - 3) Identify organizations tracking individual actions.
 - 4) Provide professional development opportunities for EE providers that address empowerment (e.g., discussions about motivation and support for behavior change).

- B) Increase resource relevance by targeting select educational efforts on urgent issues and/or current events.
 - 1) Identify and focus on an urgent issue in common for as many as possible within the EE community (e.g., fire/fire ecology in a high fire season that is used by USFS, PLT, PWILD, PWET, Boulder Parks and Open Space – but not necessarily Butterfly Pavilion).
 - 2) Commit to using a local issue as an example when exploring complex concepts.

- C) Increase program and product relevance by selecting themes and topics with local connections, or linking themes to local experiences.
 - 1) Annually select, support, and communicate common themes.
 - 2) Develop annual, collaborative EE theme at Teaching OUTSIDE the Box Conference.

- D) Enhance effectiveness of EE efforts by supporting lifelong learning experiences.
 - 1) Continue conversations within the EE community about lifelong learning.
 - 2) Learn more about needs/desires/and education of older learners.
 - 3) Incorporate findings to target and reach a greater variety of age groups with meaningful education.
 - 4) Explore opportunities to infuse EE into other appropriate learning or recreation experiences (e.g., creative arts, spiritual centers, cultural heritage events, recreation, etc.).

- E) Demonstrate belief in the importance of sustainable practices by continuing to learn and modify the EE community's own practices.
 - 1) Report to event participants about practices designed to minimize waste.
 - 2) Offer professional development opportunities (including training workshops, newsletter articles, etc.) to address practical "sustainable" practices that the EE community can adopt.
 - 3) Analyze and consider current practices; report improvements.
 - 4) Commit to being on a list of "sustainable" programs.

- F) Craft learning opportunities to affect the 'whole' person (e.g., physical, mental, spiritual, and emotional).
 - 1) In professional development events, emphasize how motivations can influence choices or behaviors, as they relate to EE efforts (e.g., ecopsychology; constructivist learning theory, sense of place, reverence for nature, theological teachings, etc.). (Note: this strategy is both about learning and about how to incorporate what is learned; supporting people meeting basic needs; and relationship between environmental issues and meeting needs.)

Goal VII: Systemic EE

Strive for a paradigm shift toward sophisticated, fully systemic approach to EE.

Having so many different programs offered by so many different sources can result in some fragmentation or diffusion of the systemic view of the environment, and, therefore, some confusion or breakdowns in understanding about environmental conservation and associated issues. Among EE programs there is typically only limited coordination or leveraging of resources, and limited communication and cooperation. This creates inefficiencies and some amount of ineffectiveness for the public seeking quality EE programming. The problem with fragmentation and diffusion is that the public generally lacks an understanding of the whole system to provide perspective about the “context” of any given environmental problem or issue. This is not to say that EE projects which deal with only one specific segment or component of the environment (e.g. water, air, hazardous waste) are not valid. Rather, it is a realization that those narrow subject areas are not as effective as they might be if supported and “leveraged” along with an understanding of the “bigger picture” that provides context and perspective. From an educational standpoint, both strategies are needed.

This goal is offered as a vision to minimize fragmentation and episodic education and to maximize the potential for learners to better grasp the environmental system as a whole.

- A) Create a team responsible for researching current models of systemic EE, developing suggestions for best practices, and sharing them with the EE community in Colorado.
 - 1) Develop framework/systems to support true cooperation.

- B) Actively support on-going conversation about systemic EE.
 - 1) Start one conversation this year about creating opportunities to build a systemic approach for EE.
 - 2) Create activities to increase awareness of systemic EE options at EE community gatherings.

- C) Collectively cooperate to build on one another's EE programs.
 - 1) Create “scaffolding” effect for lifelong learners in Colorado (comprehensive scope and sequencing action plan).
 - 2) Create and support a template for work on EE (foundation, map, guidelines, conceptual framework).

- D) Demonstrate how EE addresses environmental literacy.
 - 1) Create and conduct a baseline environmental literacy assessment.
 - 2) Track and evaluate learners' questioning and analysis skills; knowledge of environmental processes and systems; skills for understanding and addressing environmental issues; and personal/civic responsibility.

“We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect.”

Aldo Leopold (1886–1948), U.S. forester. *A Sand Country Almanac*, foreword (1949).

Section IV. Conclusion

The CEEMP is intended to serve as a source of information and inspiration. Locating ourselves within this plan, allows us to strengthen our foundation and reach for our goals for environmental literacy.

The committee has done the work of creating a guidance document that is relevant and useful. Yet, the Master Plan is more than just *this* document; it is these words in action. It is about what we, individually and collectively choose to do with the plan.

What projects do you feel called to work on?
What goals caused your passion for EE to be ignited?
What goals are you already involved in making a reality?
Where can you stretch yourself professionally?
In what ways will you work on some of the long-term goals?

Being a part of the Master Plan is as simple as committing to exploring one of the questions above within your personal and organizational work. Even if you start small, your impact will create positive change for EE in Colorado.

Be a part of it.

References

- Brundtland, G. H. *Our Common Future: The World Commission on Environment and Development*. New York: Oxford University Press, 1989.
- Colorado Environmental Education Master Plan, CO. Colorado Alliance for Environmental Education (CAEE). 1995.
- Colorado Interim Master Plan, Denver, CO. Master Advisory Council. 1972.
- Elder, J. *A Field Guide to Environmental Literacy: Making Strategic Investments in Environmental Education*. Manchester, MA: Environmental Education Coalition, 2003.
- Environmental Education Materials: Guidelines for Excellence*. Washington, D.C.: North American Association for Environmental Education, 2nd edition 2004.
- Excellence in Environmental Education—Guidelines for Learning (Pre K–12)*. Washington, D.C.: North American Association for Environmental Education, 2nd edition 2004.
- Guidelines for Environmental Educators in Colorado*, Golden, CO: Colorado Alliance for Environmental Education (CAEE), 2005 Draft
- Guidelines for the Preparation and Professional Development of Environmental Educators*, Washington, D.C.: North American Association for Environmental Education, 2004.
- Lucas, A. M. *Environment and environmental education: Conceptual issues and curriculum implications*. Unpublished doctoral dissertation, The Ohio State University, Columbus, OH. 1972.
- Nonformal Environmental Education Programs: Guidelines for Excellence*. Washington, D.C.: North American Association for Environmental Education, 2004.
- Orr, D.W. *Ecological literacy: Education and the Transition to a Postmodern World*. Albany, NY: State University of New York Press, 1992.
- Smith, G.A., Williams, D. R. *Ecological Education in Action: On Weaving Education, Culture, and the Environment*. State University of New York Press, New York. 1999.
- Thomashow, M. *Ecological Identity: Becoming a Reflective Environmentalist*. MIT Press, Cambridge, MA. 1995.
- UNESCO. "The Tbilisi Declaration: Final Report Intergovernmental Conference on Environmental Education Organized by UNESCO in cooperation with UNEP, Tbilisi, USSR, 14-26 October 1977." *Connect* 3, no. 1 1978.

Appendix A: Role of CAEE in CEEMP Management

The Colorado Alliance for Environmental Education (CAEE) exists to facilitate communication, cooperation, and collaboration among the various EE programs in the state. CAEE was incorporated in 1989 as a 501(c)(3) non-profit organization to serve the shared interests in EE of public agencies, business, teachers, community organizations, and individuals. The CEEMP is one of several ways that CAEE fulfills its mission. For more information see <http://www.cae.org>.

CAEE has facilitated the development of the CEEMP by (1) preparing an initial draft, (2) coordinating statewide input and review, (3) fundraising, and (4) providing oversight and management of the plan's long-term development and implementation.

CAEE's function regarding the Master Plan is to provide a focal point for leadership; to establish a state level clearinghouse for information and shared resources; to encourage and support local and state networking; to facilitate opportunities for collaboration; and to provide continuity. However, the actual accomplishment of the CEEMP's goals and objectives will be the result of the collective effort of the state's EE stakeholders.

Contact CAEE with questions or comments by calling 303-273-9527 or emailing info@cae.org.

Appendix B: Revision of Colorado Environmental Education Master Plan

In 1972, under a planning grant from the United States Office of Education, more than 650 Colorado citizens were involved in developing an Environmental Education Master Plan (EEMP) intended to promote, assist, and coordinate state environmental education (EE) efforts. The participants identified local, regional, and statewide environmental problems, the roles of both formal and informal education in helping to solve these problems, and local and statewide resources that could be made available for environmental education purposes. These people made their views known primarily through participation in one of ten Interest Committees:

Business/Industry	Minorities	Student/Youth	Community Service/Urban
Labor	Media	Professional	
Education	Government	Environment	

Committees were established in the Denver metropolitan area and through regional meetings organized in Hugo, Craig, Rifle, Eagle, Cortez, Lamar, Durango, Alamosa, Colorado Springs, Meeker, Sterling, Pueblo, Hot Sulphur Springs, Fort Collins, and Montrose. From this information and analysis, an interim Environmental Education Master Plan for Colorado was drafted, but the document was shelved when the planning grant money was exhausted.

Early in 1993, a review of this nearly forgotten master plan revealed a surprising number of needs, goals, and implementation strategies that remained valid. A new committee formed to update the 1972 plan in the spirit of reinvigorating Colorado's cumulative environmental education effort. This effort provided better continuity and formed a basis for improved collaboration, communication, and cooperation among the many organizations and individuals who were involved in EE in the state.

The following timeline describes the evolution of the 1995 Colorado Environmental Education Master Plan.

TIMELINE OF MASTER PLAN DEVELOPMENT PROCESS

- 1972* Original Colorado Environmental Education Master Plan published.
- 1986* Denver EE luncheon group establishes task force to explore idea of an allied EE organization.
- 1987* "Dreams and Directions" conference held in Colorado Springs.
- 1988* Interim Colorado Alliance for Environmental Education (CAEE) Board appointed by task force.
- 1989* First elected CAEE Board seated. CAEE officially becomes 501(c)(3) non-profit organization
Statewide conference held in Denver.
- 1990* *Colorado Environment 2000* published, calling for several statewide EE initiatives and actions.
Database of Environmental Education Resources (DEER) goes on-line through cooperative effort
of CAEE and Colorado Department of Education; more than 350 listings are included.
- 1992* Regional Office of Environmental Protection Agency (EPA) holds major EE conferences;
establishes several working groups to study various topics including: definition of EE, review of
1972 EE Master Plan, statewide EE "infrastructure"; exploration of state legislation of
"mandatory" EE instruction; moving citizens from awareness to action; and Western Slope issues.
- 1993* CAEE assumes responsibility for EPA "working groups"; updates 1972 EE Master Plan; develops
draft and process for statewide review.
- 1994* Statewide CEEMP draft review. Synthesis/Accountability Teams formed. Regional Meetings
held.
- 1995* Statewide EE Convention held. Official public unveiling of CEEMP.

In May, 1995, the Colorado Alliance for Environmental Education (CAEE) released the first *Colorado Environmental Education Master Plan* (1995 CEEMP) on behalf of the environmental education (EE) community. The 1995 CEEMP was an effort to articulate the common goals and directions of the diverse EE community. From its inception, the 1995 CEEMP was intended as a living document, to be updated as needed.

In April 2004, the Colorado EE Advisory Council focused on revitalizing the 1995 CEEMP. Council members engaged in several exercises designed to springboard a comprehensive review and revision of the plan, in keeping with the spirit of the original document. These efforts culminated with the creation of a committee tasked with updating the plan, with the specific intention of developing a dynamic, useful document that would serve as a guide and resource for EE providers, and simultaneously avoid a fate common to grand notions - gathering dust on a shelf.

The CEEMP working group developed draft goal statements and published them on the CAEE website in October 2004. This marked the beginning of the public comment period, which ended on October 15, 2004. The draft was also presented for comment to members of the Advisory Council at a meeting on November 5, 2004. The CEEMP working group incorporated those comments into a second draft and again published this version through the CAEE website. Comments were received on the second draft in February and March 2005. The committee continued to meet through the spring to address these comments and create the final 2005 version of the plan.

The final 2005 version of the CEEMP is the result of very hard work by a committee of Colorado's EE Advisory Council trying to establish a positive and valuable tool for Colorado's EE community. Obviously, revising a master plan is no easy task. However, the committee has never blinked despite their daunting challenge, and has come up with solutions full of creativity, innovation, and wisdom. Their work, like the work of the research and assessment, conference, and awards committees, is yet another powerful example of the tremendous reservoir of leadership that is to be found within CAEE's membership.

Members of the Communications and EE Advocacy Committee

Stephen Garretson	Aurora Academy
Francesca Giongo	South Suburban Parks and Recreation
Karen Hardesty	Colorado Division of Wildlife
Tabbi Kinion	Lookout Mountain Nature Center
Debbie Matlock	Wild Rhythms
Mary McCormac	Colorado State Parks - Eldorado Canyon
Christy Moroye	University of Denver

CAEE Staff

Mike Way Ali Goulstone Sweeney Amanda Peterson

Appendix C: Tbilisi Declaration

Excerpt from *Final Report Intergovernmental Conference on Environmental Education*:

The world's first intergovernmental conference on environmental education was organized by the United Nations Education, Scientific, and Cultural Organization (UNESCO) in cooperation with the U.N. Environment Programme (UNEP) and was convened in Tbilisi, Georgia (USSR) from October 14-26, 1977.

Delegates from 66 member states and observers from two nonmember states participated. Representatives and observers from eight U.N. agencies and programs also participated. Three other intergovernmental organizations and 20 international nongovernmental organizations also were represented. In all, 265 delegates and 65 representatives and observers took part in the conference.

The Tbilisi Declaration was adopted by acclamation at the close of the intergovernmental conference. The declaration noted the unanimous accord in the important role of environmental education in the preservation and improvement of the world's environment, as well as in the sound and balanced development of the world's communities.

The Role, Objectives, and Characteristics of Environmental Education

The Tbilisi Declaration, together with two of the recommendations of the Conference, constitutes the framework, principles, and guidelines for environmental education at all levels—local, national, regional, and international—and for all age groups both inside and outside the formal school system.

I. The Conference *recommends* the adoption of certain criteria which will help to guide efforts to develop environmental education at the national, regional, and global levels:

1. Whereas it is a fact that biological and physical features constitute the natural basis of the human environment, its ethical, social, cultural, and economic dimensions also play their part in determining the lines of approach and the instruments whereby people may understand and make better use of natural resources in satisfying their needs.
2. Environmental education is the result of the reorientation and dovetailing of different disciplines and educational experiences which facilitate an integrated perception of the problems of the environment, enabling more rational actions capable of meeting social needs to be taken.
3. A basic aim of environmental education is to succeed in making individuals and communities understand the complex nature of the natural and the built environments resulting from the interaction of their biological, physical, social, economic, and cultural aspects, and acquire the knowledge, values, attitudes, and practical skills to participate in a responsible and effective way in anticipating and solving environmental problems, and in the management of the quality of the environment.
4. A further basic aim of environmental education is clearly to show the economic, political, and ecological interdependence of the modern world, in which decisions and actions by different countries can have international repercussions. Environmental education should, in this regard, help to develop a sense of responsibility and solidarity among countries and regions as the foundation for a new international order which will guarantee the conservation and improvement of the environment.

5. Special attention should be paid to understanding the complex relations between socio-economic development and the improvement of the environment.
6. For this purpose, environmental education should provide the necessary knowledge for interpretation of the complex phenomena that shape the environment, encourage those ethical, economic, and esthetic values which, constituting the basis of self-discipline, will further the development of conduct compatible with the preservation and improvement of the environment. It should also provide a wide range of practical skills required in the devising and application of effective solutions to environmental problems.
7. To carry out these tasks, environmental education should bring about a closer link between educational processes and real life, building its activities around the environmental problems that are faced by particular communities and focusing analysis on these by means of an interdisciplinary, comprehensive approach which will permit a proper understanding of environmental problems.
8. Environmental education should cater to all ages and socio-professional groups in the population. It should be addressed to (a) the general nonspecialist public of young people and adults whose daily conduct has a decisive influence on the preservation and improvement of the environment; (b) to particular social groups whose professional activities affect the quality of the environment; and (c) to scientists and technicians whose specialized research and work will lay the foundations of knowledge on which education, training, and efficient management of the environment should be based.
9. To achieve the effective development of environmental education, full advantage must be taken of all public and private facilities available to society for the education of the population: the formal education system, different forms of nonformal education, and the mass media.
10. To make an effective contribution towards improving the environment, educational action must be linked with legislation, policies, measures of control, and the decisions that governments may adopt in relation to the human environment.

II. The Conference *endorses* the following goals, objectives, and guiding principles for environmental education:

The *goals* of environmental education are:

1. to foster clear awareness of, and concern about, economic, social, political, and ecological interdependence in urban and rural areas;
2. to provide every person with opportunities to acquire the knowledge, values, attitudes, commitment, and skills needed to protect and improve the environment;
3. to create new patterns of behavior of individuals, groups, and society as a whole towards the environment.

The categories of environmental education *objectives* are:

Awareness—to help social groups and individuals acquire an awareness and sensitivity to the total environment and its allied problems.

Knowledge—to help social groups and individuals gain a variety of experience in, and acquire a basic understanding of, the environment and its associated problems.

Attitudes—to help social groups and individuals acquire a set of values and feelings of concern for the environment and the motivation for actively participating in environmental improvement and protection.

Skills—to help social groups and individuals acquire the skills for identifying and solving environmental problems.

Participation—to provide social groups and individuals with an opportunity to be actively involved at all levels in working toward resolution of environmental problems.

Guiding principles—environmental education should:

1. consider the environment in its totality—natural and built, technological and social (economic, political, cultural-historical, ethical, esthetic);
2. be a continuous lifelong process, beginning at the preschool level and continuing through all formal and nonformal stages;
3. be interdisciplinary in its approach, drawing on the specific content of each discipline in making possible a holistic and balanced perspective;
4. examine major environmental issues from local, national, regional, and international points of view so that students receive insights into environmental conditions in other geographical areas;
5. focus on current and potential environmental situations while taking into account the historical perspective;
6. promote the value and necessity of local, national, and international cooperation in the prevention and solution of environmental problems;
7. explicitly consider environmental aspects in plans for development and growth;
8. enable learners to have a role in planning their learning experiences, and provide an opportunity for making decisions and accepting their consequences;
9. relate environmental sensitivity, knowledge, problem-solving skills, and values clarification to every age, but with special emphasis on environmental sensitivity to the learner's own community in early years;
10. help learners discover the symptoms and real causes of environmental problems;
11. emphasize the complexity of environmental problems and, thus, the need to develop critical thinking and problem-solving skills;
12. utilize diverse learning environments and a broad array of educational approaches to teaching, learning about and from the environment with due stress on practical activities and first-hand experience.

Appendix D: Guidelines for Environmental Education

The North American Association for Environmental Education (NAAEE) initiated the National Project for Excellence in Environmental Education (NPEEE) in 1993. The NPEEE is a multi-year program designed to establish guidelines for the development and implementation of balanced, scientifically accurate, and comprehensive environmental education programs that integrate across subjects and build upon high standards.

The following NPEEE materials can be found on the NAAEE website: <http://www.naaee.org/npeee/>.

1. *Environmental Education Materials: Guidelines for Excellence*; and its companion publication: *Environmental Education Materials: Guidelines for Excellence - The Workbook*. These documents set key characteristics and guidelines for high quality environmental education materials.
2. *The Environmental Education Collection - A Review of Resources for Educators, Volumes 1-3 and The Biodiversity Collection* (produced by the World Wildlife Fund). These are a series of resource guides to quality environmental education materials.
3. *Excellence in EE – Guidelines for Learning (Pre K-12)*, and its companion piece, *Guidelines for Learning (Pre K-12) – Executive Summary & Self Assessment Tool*. These documents mark the development of environmental education learner guidelines.
4. *Guidelines for the Preparation and Professional Development of Environmental Educators*. This document is a set of recommendations guiding best practices for environmental educators.
5. *Nonformal Environmental Education Programs: Guidelines for Excellence*. Recommendations for the design and implementation of comprehensive nonformal environmental education programs.

CAEE's Resource Review System is based on *Environmental Education Materials: Guidelines for Excellence* to prove and improve the quality of Colorado's environmental education resources. The six key characteristics defined in this document and the Resource Review System are:

- 1) **Fairness and Accuracy** - resources should be fair and accurate in describing environmental problems, issues, and conditions, and in reflecting the diversity of perspectives on them.
- 2) **Depth** - resources should foster awareness of the natural and built environment, and understanding of environmental concepts, conditions, and issues, and an awareness of the feelings, values, attitudes, and perceptions at the heart of environmental issues, as appropriate for different developmental levels.
- 3) **Emphasis on skills building** - resources should build lifelong skills that enable learners to prevent and address environmental issues.
- 4) **Action Orientation** - resources should promote civic responsibility, encourage learners to use their knowledge, personal skills, and assessments of environmental issues as a basis for environmental problem solving and action.
- 5) **Instructional Soundness** - resources should rely on instructional techniques that create an effective learning environment.
- 6) **Usability** - resources should be well designed and easy to use.

Appendix E: Colorado Alliance for Environmental Education

CAEE is an **alliance** of diverse community members, organizations, and agencies throughout the state who seek to support quality in environmental learning experiences. There is an enormous array of environmental education (EE) programming, and the effectiveness of that collective effort is as important as are the separate results of any individual program or project. CAEE facilitates communication, cooperation, collaboration, and coordination among the varied environmental education programs in the state.

CAEE was incorporated as a 501(c)(3) non-profit in 1989 to serve the shared interests of public agencies, businesses, teachers, community organizations and individuals distributing and using EE materials and programs. It is a neutral and objective source of information related to EE in Colorado, and a voice for EE's important role in the balance between societal needs and environmental quality.

Who is CAEE?

CAEE is growing thanks to the more than 600 members from across Colorado. Our members include teachers, students, informal educators, public agency employees, retirees, and many more. Please join us - all are welcome! Members may also participate on the advisory council and committees. The CAEE Board of Directors oversees the official management and supervision of CAEE and implements the annual workplan. See <http://www.cae.org> and click on "Database/Directory" for an online listing of over 800 EE programs provided by CAEE members.

Membership

You are invited to join the largest professional organization of environmental educators in the state. We are offering significantly more membership benefits than ever before and are excited about CAEE's future programs and membership opportunities. By supporting CAEE as a member, you will receive the following benefits:

- Monthly newsletter
- Announcements of upcoming EE events and EE Job openings
- Discounts to CAEE functions
- Invitations to networking functions
- Professional development workshops
- **Free placement on the Colorado Environmental Education Database/Directory** (if you are a CAEE Organizational Member)

CAEE Membership Rates	
Student	\$15/yr
Teacher	\$15/yr
Individual	\$35/yr
Organization*	\$65/yr
*Includes up to 4 contacts	

Through CAEE, you will have many opportunities to become involved in EE throughout the state. Some of CAEE's current projects include:

- ✓ Electronic Information Clearinghouse – the state's on-line "yellow pages" of EE resources
- ✓ Quality assurance review process for EE resources
- ✓ The statewide, annual conference on EE – "Teaching Outside the Box"
- ✓ A statewide, annual EE awards and recognition program
- ✓ Stewardship of Colorado's Environmental Education Master Plan project
- ✓ A monthly newsletter – EE InfoLink
- ✓ Managing centralized correlations between EE programs and the state academic standards
- ✓ Establishing a state training center for EE
- ✓ Hosting the state's EE Advisory Council
- ✓ Maintaining close working relationships with community-based EE networks

Contact CAEE

Office Hours: Monday through Friday, 8am to 5pm

15260 S. Golden Road • Golden, CO 80401 • 303-273-9527 • fax: 303-273-5780 • e-mail: info@cae.org

Appendix F: List of Terms

Advocacy – Full and active support for and representation of an individual group, cause or idea.¹

Assessment – the process of collecting, synthesizing and interpreting information to determine program effectiveness and aid evaluation.

Awareness – the process of becoming aware of objects, qualities or relations via the senses – involves the reception, processing, and interpretation of impressions.¹

Colorado Model Content Standards - Available from the Colorado Department of Education at www.cde.state.co.us.

Ecology – study of the interrelationships between organisms and their environment.¹

Ecological Identity –refers to all the different ways people construe themselves in relationship to the earth as manifested in personality, values, actions, and sense of self.²

Environment – surrounding conditions, forces or factors potentially capable of influencing, modifying or interacting with an organism, material or other entity.³

Environmental Education: see Section I of Colorado Environmental Education Master Plan

Environmental Educator - Any individual, program, or organization that provides environmental education.

Environmental Issue – related to, but distinguished from an environmental problem. An environmental issue reflects the presence of differing perspectives on possible solutions to an environmental problem.³

Environmental Literacy – requires a fundamental understanding of the systems of the natural world, the relationships and interactions between the living and the non-living environment and the ability to deal sensibly with problems that involve scientific evidence, uncertainty, and economic, aesthetic, and ethical considerations.¹

Environmental Problem – related to, but distinguished from, an environmental issue. An environmental problem results from an interaction between human activity and the environment.³

Formal Learning - the hierarchically structured, chronologically graded 'education system', running from primary school through the university and including, in addition to general academic studies, a variety of specialized programs and institutions for full-time technical and professional training.⁴

Goal – a desired outcome from an activity.³

1 Environmental Literacy Council

2 Thomashow, p.3

3 EETAP Thesaurus of Environmental Education Terms

4 <http://www.infed.org/biblio/b-nonfor.htm>

Informal Learning – situations in which learning can occur without formal or traditional direction from an instructor.³ The truly lifelong process whereby every individual acquires attitudes, values, skills and knowledge from daily experience and the educative influences and resources in his or her environment - from family and neighbors, from work and play, from the market place, the library and the mass media.⁵

Interdisciplinary – a knowledge view and curriculum approach that applies methodology and language from more than one discipline to examine a central theme, issue, or experience.³

Learner centered instruction – instructional methods that are driven by the individual needs of the student rather than externally imposed goals or objectives.³

Non-formal Education - any organized educational activity outside the established formal system - whether operating separately or as an important feature of some broader activity - that is intended to serve identifiable learning clientèles and learning objectives.⁵

Objective – a statement of a specific measurable or observable result desired form an activity.³

Research - Investigation into a subject in order to discover facts, to establish or revise a theory, or to develop a plan of action based on the facts discovered.

Self-efficacy – one's ability, or attitude about that ability, to be a catalyst or agent of change in one's own life and in situations involving others.³

Service Learning – learning in which the student takes part in a project or activity that is beneficial to some segment of the community.³

Stakeholders - those who have an interest in a particular decision, either as individuals or representatives of a group. This includes people who influence a decision, or can influence it, as well as those affected by it.⁶

Systemic - a global conception of the problem and an understanding of the interrelationships and interconnections. Using a systemic view, we develop ways of finding out about the mass of inter-relationships which exist between the different components of systems as well as finding out about the components themselves and we have to find out about the relationships which exist between the whole system and the environment in which it exists. When one change is made in a system, it impacts other related parts of a system (subsystems) and causes other sometimes unpredictable changes. This is because of interconnectedness.⁵

Sustainability – meeting the needs of the present generation without compromising the ability of future generations to meet their own needs.⁷

Wilderness – an environmental condition that is characterized by a naturally developed life community undisturbed by human activity.¹

5 Carr, Alison A. (Jan-Feb.1996). Distinguishing Systemic from Systematic. TechTrends Vol 41, No. 1. Page 16-20.

6 <http://www.earthsummit2002.org/ic/process/stakeholders.htm>

7 Brundtland Commission, 1987