Excellence in Environmental Education

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What is Environmental Education?
Environmental education (EE) equips people with knowledge, skills and motivation to be stewards of the environment where we live.

Outcomes of Environmental Education

Advancing 21st Century Skills, Community Wellness & More

EE Providers are working across Colorado

EE Providers are working in Every Sector

1 CAEE Member reaches 400 learners on average

700+ CAEE members reach 300,000 learners
Education: the 21st Century

EE Providers are Building Knowledge and Skills in:

- Environmental Literacy: 58.1%
- Foundations of EE: 54.1%
- Planning and Implementing EE: 70.3%
- Assessment and Evaluation: 33.8%
- Cultural Competency and Inclusiveness: 28.3%

- There are 53 Certified environmental educators in Colorado.
- EE providers, on average attended at least 3 EE professional development opportunities in 2013.

Increasing Access to EE Resources
- Lesson Plans • Field Trips • Programs
- Professional Development • Grants • and More

www.coloradoee.org
over 550 resources posted

Together, we can do more

Over 90% of CAEE members reported at least one significant partnership or collaboration to advance EE.

- Environmental education incorporated into Colorado Academic Standards in 2009.
- Passage of the Colorado Kids Outdoor Grant Program legislation Act 2010
- Adoption of the Colorado Environment Education Plan in 2012 by the state Board of Education

The Colorado Alliance for Environmental Education
Since 1989, the Colorado Alliance for Environmental Education (CAEE) has been a statewide leader in promoting EE in Colorado. Our members represent over 250 organizations and 700 individuals in classrooms, non-profits, nature centers, government agencies, higher education, businesses, and more. CAEE offers resources and support to EE service providers and advocates for increased access to environmental learning opportunities for all Colorado residents. We value inclusion and welcome everyone to the field of EE.

Excellence in Environmental Education
Environmental education and environmental education providers are making a difference across Colorado. The following profiles showcase the exemplary work and efforts of EE programs and providers that have received a 2013 CAEE Award for Excellence in Environmental Education. Find out more about the Awards for Excellence at www.cae.org.

**Data gathered from Colorado Alliance for Environmental Education Members.**
Congressman Jared Polis has been an important advocate for environmental education locally and nationally. Congressman Polis was first elected to represent Colorado’s Second Congressional District in 2008, and currently serves on the powerful Committee on Rules, the Committee on the Education and the Workforce, and the House Democratic Steering and Policy Committee.

Focus on Education
Polis believes that education is the single most meaningful investment America can make in its economic future and in its people. His efforts in this area focus on getting accountability right at all levels, expanding educational models that work, and improving persistently failing schools with data-driven models to reduce achievement gaps.

Working towards Stronger Environmental Education Policy
Congressman Polis believes environmental literacy is a critical part of ensuring that students receive a well-rounded education. Each year, Congressman Polis leads a congressional effort to secure funding for the National Environmental Education Act (NEEA), an act that has advanced environmental literacy in the United States for the last 20 years. In addition, he is a original co-sponsor of the No Child Left Inside Act (H.R. 2702), which would promote environmental stewardship by creating a new grant program to provide teacher training for environmental education, and ensure that environmental education is an authorized activity under other education grant programs.

Building Capacity for Environmental Education Locally
Not only has Jared Polis been active in supporting environmental education through policy, his philanthropy has helped build capacity for the field. The Jared Polis Foundation was founded in 2000 to improve and expand access to education. Its annual Teacher Recognition Awards celebrate the enormous commitment and importance of teachers, and hundreds of teachers and their schools have received micro-grants. Polis was named Outstanding Philanthropist for the 2006 National Philanthropy Day in Colorado. The Jared Polis Gift Fund at the Community Foundation of Boulder County names environmental protection and awareness as a key focus area for grant making. Countless environmental education providers have built capacity and provided high quality environmental education as a result of the foundation.

Jared Polis has been a true champion for environmental education in Colorado.
http://polis.house.gov/
Boulder County Parks and Open Space manages approximately 98,000 acres of open space and provides environmental education programs throughout the community. Noting that teens were a historically underserved population in the department’s educational programming, Left Hand Outdoor Challenge was developed as a way to mentor, engage and develop an outdoor leadership ethic in Boulder County teens. The program strives to mold the next generation of open space stewards through hands on skill building and career-based learning challenges in the outdoors.

Teens are selected to participate in the Left Hand Outdoor Challenge through a rigorous application process and a job interview with park ranger staff. Participants agree to eight hours per month of learning activities, challenges and volunteer service. Outdoor challenges include wild land firefighting and forest restoration; winter survival skills; orienteering; local food production; Project WILD training; trail crew leadership; and citizen education and outreach. In the inaugural year, 28 teen participants and five program mentors provided 2,000 hours of volunteer service towards facilitating career exploration and local land stewardship.

Additionally, the program takes a bold approach to technology by discouraging the use of cell phones and technological devices, and instead encourages a focus on traditional outdoor skills.

“It’s amazing how Left Hand Outdoor Challenge programs have made me more conscious toward the environment.” - Participant Alex Santilli

www.bouldercounty.org

Guidestone, located in rural Salida, Colorado, is dedicated to strengthening the local food economy through the preservation of agricultural resources and educating for ecological literacy. The Salida School Gardens: Healthy Food, Healthy Growing: Garden to Cafeteria Program supports the growing and eating of local, healthy foods in district cafeterias and fosters educational opportunities correlated to state educational standards.

To date, over 1,800 pounds of produce have been harvested and incorporated into the district lunch program or sold in local markets. This comprehensive program involves and directly impacts all 1,085 Salida School District students, 180 staff, and indirectly impacts hundreds of families. In addition, Guidestone offers a variety of unique education experiences including Farmhands and Friday Enrichment programs, school field trips, youth corps programs through Southwest Conservation Corps, and professional development opportunities for teachers.

Guidestone has been working with the Salida School District and LiveWell Chaffee County to develop a model for food production and education integration in schools that can be replicated throughout the valley and shared with other organizations throughout the state. With garden expansion plans underway for 2014 and additional education opportunities for students, teachers and community members, Guidestone is thrilled to be working on such a dynamic district wide project that improves the health and vibrancy of our rural community.

http://www.guidestonecolorado.org/
Investigating Real World Environmental Challenges
Public Education Program

Waste Management is working to triple the amount of recyclables managed from 8 million tons annually to over 20 million tons by 2020 as part of its national commitment to sustainability and increased waste diversion. By working with educators to develop and provide learning experiences for youth, Waste Management is growing the next generation of recyclers and supporting education of critical environmental challenges. In the last three years, the education program has grown to reach over 30,000 people annually.

The Waste Management environmental education program offers experiential-based learning opportunities for both youth and adults. Through the Waste Management Education Center in Denver, local waste and recycling facility tours, classroom based opportunities, and community and special events, Waste Management is:
• Supporting teachers and meeting state standards,
• Giving learners direct access to scientists, and
• Providing audiences with ways to help the environment at home, school and work.

These hands-on, real world learning opportunities allow exploration of pressing issues regarding waste and recycling management, landfill engineering, water quality, and energy use/consumption, which encourages positive behavior and attitudes about waste reduction and the impact of recycling.
http://www.wm.com/enterprise/k-12-education

Connecting Families & Celebrating Nature through Music
Meadow Music

The City of Boulder Open Space and Mountain Parks’ Meadow Music program will celebrate its 10th year in 2014. This program was developed as a way to build environmental ethics in children by awakening their sense of wonder in nature. Over the past decade, Meadow Music has provided music, nature, and environmental education to hundreds of people every week. Meadow Music began small with Jeff Kagan, Mark Wesson, and their guitars in Chautauqua Meadow. In 2008, Paige Doughty joined the duo bringing dance, female vocals, and story-telling to the equation. Since its beginning, Meadow Music has become a Boulder summertime family favorite. Families are invited on a short hike, where many kids take their first ever hiking steps. Participants develop a sense of place through learning natural history and encountering intimate moments with nature through guided activities.

After the hike, Jeff, Paige, and Mark take the stage for an hour of nature and science-based music and story-telling. The songs are a wonderful way to teach children and parents about local wildlife, ecological systems, geology and other natural history topics. Families join along in doing the honeybee dance, exploring like slugs, hopping as frogs, and shaking like rattlesnakes. This homegrown, love-filled event delights all who attend and encourages making community and nature connections.
http://jeffandpaige.org/
The City of Fort Collins Natural Areas Department conserves over 40 natural areas and 100 miles of trail that the community values and supports with citizen-initiated sales tax ballot measures. In 2012, the Natural Areas Department’s environmental education programs directly reached 14,735 people through:

- **Community Programs:** Over 200 yearly free activities, classes and special events for families and community members.

- **School Programs:** Free field trips for elementary school students to natural area sites. Teachers choose from an astounding 43 unique standards-based lessons.

- **Programs by Request:** Customized free presentations for groups.

- **Special Events:** Booths at community festivals with hands-on, interactive activities, including “Picnic on the Poudre,” a free event that features Mexican food and family-friendly activities to enhance residents’ feeling of ownership and connection to their nearby natural areas.

- **Service Learning:** One day stewardship volunteer and educational projects such as planting trees, cleaning up litter or building trails.

Highly-trained Master Naturalist volunteers provide the majority of programming. They become natural area ambassadors by sharing their experience, knowledge and enthusiasm with a broad audience.

“I love having community programs as an addition to the homeschooling I do. The naturalists know much more than I do, and it is not just book knowledge. Makes it very interesting!” -Maxine Holler, 2013 participant in Fireside Tails: Wildlife by the River community program.

http://www.fcgov.com/naturalareas/

Wildfire is as much a part of Colorado ecosystems as snow, yet most people do not understand it or prepare for it. The Fire Ecology Institute (FEI) for Educators through Project Learning Tree closes that knowledge gap with an intensive class that provides information, experience and materials that educators can deliver to their students.

The FEI uses foresters, firefighters, biologists, ecologists, hydrologists, educators and other experts to share information about Colorado fires and other current forest issues. Teachers visit local burned, eroded, rehabilitated, mitigated, thinned, and flooded areas. Teachers then practice student activities, conduct field studies and experiments, as well as participate in demonstrations and research.

FEI was first offered in 2001 and each year 20-30 teachers, primarily 4th to 12th grade, attend the week-long institute in different communities across the state. The Fire Ecology Institute has potentially impacted more than 9,000 Colorado students since it began, not to mention countless parents, neighbors, and family members. There is no other program like FEI in Colorado in terms of content, length and depth. Recent devastating fire seasons across the nation have increased need for education and Fire Ecology Institute is a model program for other states and regions.

“I left FEI with a solid understanding of our roles as citizens and educators living in fire-adapted communities. FEI is essential in preparing educators to reform the public’s perception of fire, which sorts with our most impressionable citizens... youth in public schools.” Meghann Loseke, 2013 FEI Participant

http://coloradoplt.org/our-programs/
The Greenway Foundation's South Platte River Environmental Education (SPREE) Adventures Outside: Day Camps provide in-depth environmental education focused summer camps in Denver for kindergarten through fifth grade students, reaching 630 campers from 70 different elementary schools and three different school districts. The main goal of the camp is to provide more than a one-time field trip interaction for children over the summer to engage with nature, develop stewardship skills, and provide curriculum to foster environmentally responsible decision makers.

Adventures Outside has many unique features. SPREE staff receive training on how to teach with an inclusive mindset. High school students are employed and provided with environmental educator training to empower them to teach and become role models for the young campers. Students learn the basics of camping and teach their parents what they learned at an urban campout in the city. SPREE also works with partners around the city such as an art museum, library, mural artist, and yoga studio among many other environmentally focused organizations to offer unique experiences for campers. In addition to the day camp, Adventures Outside also provides affordable before and after child care with an environmental education focus.

The funds raised through the summer camps enhance SPREE’s ability to be a self-sustaining non-profit since the fees from summer camps allow for school year field trips to remain at a low cost for other students.

“My kids have LOVED coming to camp! They have learned so much and come home with such great stories and information. Thank you for giving them such a great summer and educating them in the process!” – Yael Nyholm, Parent

www.thegreenwayfoundation.org.

To inspire environmental stewardship through education, Yampatika’s main goal is to develop environmental learning opportunities that serve the children, adults and teachers of northwest Colorado, particularly in rural Routt County where there has been limited access to environmental education in the past. Yampatika’s environmental literacy program, now in its fourth year, is a sequential, place-based, K-5 curriculum that goes beyond field trips and one-time classroom experiences to integrate environmental literacy into elementary school curriculum. The program utilizes a multi-experience model consisting of an in-class session, a field session on public lands, and a unique service learning project where students translate their knowledge into action.

The program is designed to advance the Colorado Environmental Education Plan, enhance student understanding of the Colorado Academic Standards, and develop 21st century skills. Knowledge gains, changes in attitudes, and behaviors are rigorously evaluated. For the past three years, almost all grade levels have shown an increase in environmental knowledge and students indicated that they are having fun and learning something new. In only three years the program has grown from six classrooms to forty-two and from one school district to three.

“During the outdoor field trips, students combined their knowledge and could apply, synthesize, and analyze their learning process.” – Participating Teacher

http://www.yampatika.org/
Energy education is a crucial part of environmental education. Solar in the Schools is the K-12 outreach arm of Solar Energy International, a longstanding Colorado-based renewable energy education non-profit. Solar Rollers is their new energy education program centered on a competition for high school teams to design, build and race solar-powered remote-control model cars. These ultralight cars carry solar arrays custom built by the students. The car with the most energy-efficient system - from sunlight to storage to motion - wins in the end.

In its first year, teams succeeded in building the first four sophisticated high-speed solar remote control cars in the U.S. With no existing kits available, teams were forced to research, design and build all aspects of their car’s electrical and mechanical systems. The program is expanding to include approximately 10 schools in western Colorado for 2014 and there is clear potential for this to become a national program. A lifetime of energy usage represents the largest environmental impact for the average person, making relevant energy education vital for today’s high school students, tomorrow’s leaders.

"It's a different sort of a project. It involves bigger ideas and STEM education, which is science, technology, engineering and math education together with a little bit of an environmental spin, which is one of the newer directions environmental education is heading." - Susy Ellison, Bartlett Award for Environmental Education and Science Teacher, Yampah Mountain High School

www.solarenergy.org

Douglas County Water Resource Authority’s Water Ambassador Program is an innovative program that serves as a much-needed bridge between water education and community water conservation. The program engages motivated high school students to become Water Ambassadors and lead fourth grade students in a series of activities, including assemblies, classroom presentations, and hands-on water-specific exercises.

Since it started in 2009, the program has reached over 20,000 students and now reaches over 5,000 students per year in 11 high schools and over 45 elementary schools. In 2012, the program was expanded to an at-risk student population at Eagle Academy, and this new group of ambassadors taught home school students in their community.

The Water Ambassador Program’s reach goes beyond the classroom. In 2011, Water Ambassadors and other high school students became employees in a community sprinkler retrofit program in which 1,000 homeowner’s yards were converted to rotary sprinkler nozzles. This created summer jobs for students, measured the water efficiency gains achieved through such retrofits, and pleased numerous homeowners. Not only are students thinking and learning about conservation, they are gaining valuable leadership and public speaking skills that they will carry with them throughout their lives.

www.dcwater.org/pages/ambassador/education.html

www.solarenergy.org
Mark's innate understanding of the importance in engaging all people in environmental education (EE) goes beyond a simple program or interaction. He has a cultural sensitivity and manner of interacting with others that is unparalleled. Mark and his staff, ‘get it,’ they understand the importance of engaging communities of color in the outdoors and they do their jobs in a respectful, empowering way that shows that they are true allies to diversifying the field of EE and natural resources.”

Stacie Gilmore, Environmental Learning for Kids

One word, extraordinary, describes Mark De Gregorio’s countless contributions and steadfast leadership to the field of environmental education (EE). Mark’s diverse and complementary career choices, including employment in natural resources, education, and program management have shaped his deep understanding and unique perspectives of EE. Mark is the consummate environmental educator having participated in and helping to envision every major EE initiative in Colorado for over 30 years.

Mark always knew he wanted to work in the outdoors, so he headed to Colorado State University to earn a Forestry degree. While working for the U.S. Forest Service he began to understand the importance and potential for education. On a lark, Mark had an opportunity to do some teaching, loved it, and earned a teacher’s license. While teaching, he quickly discovered effective methods to connect science to the environment and became Poudre School District’s EE Specialist. Mark directed the sixth-grade residential Eco-week Program at Pingree Park and developed its curriculum, which served 23 elementary schools. During this time, Mark collaborated with Lisa Evans of the Colorado Division of Wildlife (DOW) to facilitate Project WILD workshops for countless educators in Northern Colorado. He was awarded the City of Fort Collin’s Environmental Stewardship Award in 1991 for his service and mentorship to the school district.

In 1992, Mark was hired by Rocky Mountain National Park (RMNP) as the first education specialist in the region. In this position, Mark combined his early fieldwork and classroom experiences to fully understand and meet the needs of learners, educators, and natural resource managers. Mark’s program, Heart of the Rockies, employing ranger-led experiences for diverse audiences provided many youth and some adults with their first contact with nature, and perhaps their first opportunity in a national park. With grants Mark secured in 1993, a pilot program also began targeting under-served inner city students in Denver. In 1996, Heart of the Rockies merged efforts with the WIN-WIN program provided by the Denver Zoo and DOW. When WIN-WIN ended in 2009, Mark made a bold program decision to continue providing transportation funding to its partnering schools. To date, Heart of the Rockies has served over 150,000 children. Presently, staff conduct field studies for nearly 10,000 students, from 70 schools annually, and over 2,000 youth and adults from 60 organizations visit and experience the incredible resources of RMNP.

Perhaps Mark’s greatest contribution to EE is his tremendous success in demonstrating inclusivity by reaching out and serving diverse audiences. He is uniquely empathic and able to design programs for all audiences, fulfill the ever-changing state education standards, and employ the best and evolving practices. Mark is a master at involving all the potential stakeholders and partners. Mark is passionate that participants feel they belong, understand the natural world is for everyone, and that we are all responsible for taking care of it. He ensures visitors of all ages, races, and physical abilities have a great EE experience. In 2010, Mark partnered with Alpino Mountain Sports Foundation to design a family camping experience with a ranger for Latino and African-American families. Winning accolades in a variety of environmental circles for its innovative nature, this program is now implemented in five national parks and monuments in the Intermountain Region.

http://www.heartoftherockies.net
**Kinard Core Knowledge Middle School, Fort Collins**

School designed to earn “ENERGY STAR” cultivates designers of the future

Kinard Core Knowledge Middle School, a 6-8th grade school in the Poudre School District, is the only school in Colorado that has earned an ENERGY STAR 100 and the first school in the nation Designed to Earn ENERGY STAR status and ENERGY STAR Labels. In 2012, the school achieved its lowest energy usage and a 57 percent reduction in GHG from 2006 to 2012. Through Kinard CARES (Community Action Results Environment Service) students have designed, built and implemented one of the most successful resource management systems in the state. The four stream recycling and composting center which diverts over 20,000 pounds of food waste from landfills each year at a rate of 84 percent. The curriculum connects state standards to important community sustainability issues regarding air quality, alternative energy, and erosion through project based inquiry. Kinard uses the school as a learning tool, covering science behind a geo-thermal HVAC system, computer automated energy features, and architectural features that maximize natural daylight. The curriculum connects these building technologies to energy, physics, and optics and has students conducting data analysis on building performance and usage.

**Douglas County School District, CO**

Over $14 million saved in six years

From 1990-2010 Douglas County School District (DCSD) was the fastest growing school district in the top 100 largest in the U.S. Sustainability provides a solid platform from which to enact the changes needed to transform the district into a 21st century learning system. DCSD has blended the 10 pathways of Eco Schools USA with the three Pillars of ED-Green Ribbon Schools to develop a district sustainability plan, based on student-led programs. Students regularly study the effects of their buildings, develop educational campaigns to teach occupants what they need to do, then implement and lead those programs. In a real-world sense, they run the sustainability program for the district. The sustainability program has grown from 11 students to over 3,000 students running the energy program across 60+ schools! As a district, DCSD saved over $14,000,000 in six years. DCSD support schools with initiatives and grants for school gardens, outdoor classrooms, composting, bird monitoring, and an outdoor education center.

For more information on becoming a Green Ribbon School: http://www.cde.state.co.us/cdeawards/greenribbonschools

Are you a Green School?
Post a brief profile of your school, class or club on the Colorado Green Schools Map. Contact eeplan@caee.org for more information.

**U.S. Department of Education**

Green Ribbon School Awards

Now in its second year, recognizing schools and districts for their work to ensure sustainable, healthy school environments and effective environmental education.

Past Colorado Green Ribbon Schools Award Recipients include:

Flagstone Elementary, Denver Green School and Wellington Middle School
Thank you to our Sponsors

CAEE is an affiliate member of the North American Association for Environmental Education (NAAEE).

CAEE adopted the National Guidelines for Excellence in Environmental Education, established by NAAEE, to guide the development of balanced, scientifically accurate, and comprehensive environmental education programs.

COLORADO ALLIANCE for ENVIRONMENTAL EDUCATION

15260 S. Golden Road
Golden, CO 80401
303-273-9527
www.caee.org