



EE CONNECTIONS

Vol. 14, No. 1: Spring 2006

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Environmental Education Conference held in Albuquerque

From October 24-29, 2005, the North American Association for Environmental Education (NAAEE) held its 34th annual conference in Albuquerque. Approximately 900 people from around the world were in attendance.

People explored the links between sustainability and environmental education through many avenues. Internationally lauded business leader Peter Senge, founder of the Society of Organizational Learning and a senior lecturer at the Massachusetts Institute of Technology, talked about the possibilities for partnership between businesses and environmental educators through a mutual interest in systems thinking, which involves looking at how things evolve over time. He provided several concrete examples of how even small children can be taught the basic principles of systems thinking.

Equally inspirational were the examples that writer Janine Benyus provided to illustrate the concept of biomimicry, when one thing in nature takes on the characteristics of another for survival, such as when a nonpoisonous butterfly looks like a poisonous one to avoid being eaten. A self-described "nature nerd," Benyus showed colorful photographs of many wonders of nature, describing the lessons that each organism can teach us about how to make modern products in new, less toxic ways, and identifying companies that are implementing those lessons.

In addition, participants chose learning experiences in a variety of presentation formats, all of which explored the implications and impacts that environmental education can have for our society, environment, economy, and global responsibilities. Topics ranged from natural resource issues and sustainable design to education research and pedagogy. In consideration for the large Spanish-speaking contingent, primarily from Mexico and Puerto Rico, translators were on hand for many sessions.

The conference was not all work as participants combined local cultural

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Message from the President

Greetings to EEANM!

We are in for a great year! With our successful hosting of last year's national conference behind us, we are able to return to a focus closer to home. This year we will be asking for your help in assessing perceived needs within the New Mexico environmental education community. We want to know how EEANM can help make your job better, help you find access to classroom and field resources, and increase your personal impact upon environmental education in the state.

We hope to strengthen ties across the state so that EEANM is truly a sharing community. Toward this end, you can become part of an interactive, mutually supporting community through the Ecoed listserv (see page 4 to sign up). Also, in the planning stages is our annual meeting to be held at Sevilleta National Wildlife Refuge in the fall. Annual meetings have been a great place to make friendships, share ideas, and form partnerships. Our last meeting at Sevilleta was outstanding!

Welcome aboard for what promises to be an exciting voyage. Throughout the year we will all work to make the world better, one teacher and one student at a time.

Best wishes,

William A. Hayes II, Ph.D.

President, EEANM

Save the date!

The Fall EEANM Conference will be held on **October 26-28, 2006**. It will be at the Sevilleta Field Research Station and the Sevilleta National Wildlife Refuge, near Socorro, New Mexico. Watch for more information to come!

EEANM^{BOARD OF DIRECTORS}

OFFICERS

Dr. William Hayes
President
whayes@swca.com

Kevin Holladay
Past President
kevin.holladay@state.nm.us

Dana Vackar Strang
President Elect
dvackar@slo.state.nm.us

Dr. Deb Thrall
Treasurer
dthrall@nmsu.edu

Jessica Supunar-Jursich
Secretary
jessica.sapunar-jursich@state.nm.us

Stephanie Dobbie
Newsletter Editor
stephaniestansbury@earthlink.net

MEMBERS AT-LARGE

Vince Case
Albuquerque
case@aps.edu

Donna Thatcher
Farmington
dthatcher@fmrn.org

Cyndie Abeyta
Albuquerque
cyndie_abeyta@fws.gov

Mark Everson
Farmington
meverson@boep.org

Kim-King Wrenn
Socorro
kimberly_king-wrenn@fws.gov

Catherine Conran
Albuquerque
cconran@pnm.com

Welcome Aboard!

We would like to extend a warm welcome to our new board members!

Jessica Sapunar-Jursich, Secretary

I have lived in New Mexico since 1996 and am absolutely in love with the incredible biological and geological diversity of our state. I currently work for New Mexico State Parks as the Interpretive Park Ranger at the Rio Grande Nature Center in Albuquerque. One of my passions is hiking New Mexico's beautiful landscape with my spunky dog Dito. I earned my MA in Environmental Education in 2001 and a NM K-8 teaching license in 2004. My professional interest lies in strengthening the connection between environmental education and student success.

Catherine Conran, Member at Large

Catherine Conran has a master's degree in environmental studies from Baylor University and has 7 years of experience in the management of non-profit programs. Currently, she oversees the PNM Foundation's operations and is responsible for reviewing hundreds of grant applications every year. Catherine also conducts grant-writing workshops throughout the state for a variety of non-profit organizations.

Cyndie Abeyta, Member at Large

Cyndie Abeyta is a hydrologist and the Middle Rio Grande Coordinator for the U.S. Fish & Wildlife Service. She has been employed with the Service since July 2000 and coordinates the Middle Rio Grande Bosque Initiative. Since 1980, Cyndie has developed and provided educational materials and has made numerous presentations to K-12 educational institutions, college/university level students, and professional audiences.

Kimberly King-Wrenn, Member at Large

Kim has 8 years of experience as park ranger and outdoor recreation planner with the U.S. Fish & Wildlife Service, and 10 years of experience as an interpretive park ranger with the National Park Service, specializing in environmental education. She has served as the Outdoor Recreation Planner for the Sevilleta National Wildlife Refuge from 2002 until the present. In 2004, she was awarded the FWS Region 2 (TX, OK, NM, AZ) nominee for the Sense of Wonder Award for Excellence in Environmental Education, and received the National Park Foundation award for excellence in EE in 1996. She also received the North Carolina Environmental Educator certification in 2002.

Other Board members who are serving in new positions this year include:

Dr. William Hayes, President

Kevin Holladay, Past President

Dana Vackar Strang, President Elect

Welcome back to these Board members who continue to serve the organization:

Dr. Deb Thrall, Treasurer

Vince Case, Member at Large

Donna Thatcher, Member at Large

Mark Everson, Member at Large

Stephanie Dobbie, Newsletter Editor

SPECIAL THANKS go out to our stellar volunteer who helps with membership and newsletter—

Angie Scherbarth!

9th Annual Youth Conference on the Environment

April 12, 2006

EEANM is a sponsor of this one-day conference for high school students. The theme for this year's conference is "Ecological Footprint: How Big is Your Footprint?" Students will learn about how humans, collectively and individually, impact the earth. In addition to learning about environmental issues such as global warming, the conference will address strategies for reducing our impact such as recycling and pollution prevention.

This event is a joint partnership between Sandia National Labs, South Broadway Cultural Center, and EEANM. EEANM will be providing funding for substitutes and transportation.

To register for the conference, contact Orianna Saiz from Sandia National Labs at 284-8046. To arrange for reimbursement for transportation and/or substitutes, contact Stephanie Dobbie from EEANM at stephaniestansbury@earthlink.net.

Service Learning Grant Winners

EEANM has awarded four \$500 service learning grants for the 2005-2006 school year. Each fall, school and community groups are invited to propose a service learning project. An EEANM committee reviews the applications and chooses those projects that best support students in providing a service to their community while learning important environmental concepts.

The winners for this year include:

- Cornstalk Institute (Albuquerque)—Community Garden Project
- University of New Mexico Gallup-Zuni Campus — Teachers Guide to Native Plants
- Aldo Leopold High School (Silver City)—Gila River Monitoring Project
- Pueblo of Jemez—Safe Drinking Water Campaign

Congratulations to these students and their leaders!

To apply for the 2006-2007 Service Learning Grants, check our website in September for more information and applications.

www.eeanm.org

ECO-ED *The Listserv for New Mexico Environmental Educators*

If you haven't signed on to the eco-ed listserv, you are missing out on a great form of communication regarding environmental education in New Mexico. Signing up is easy; just follow the directions below.

The following is an example of how you would subscribe if your email address was leo@aldo.org

1. Convert your email address as follows:
leo@aldo.org becomes **leo=aldo.org**
2. Add your converted email address to this phrase: **ecoed-subscribe-leo=aldo.org@lists.nm.org**
3. To subscribe, send an email message to:
ecoed-subscribe-leo=aldo.org@lists.nm.org
4. Don't put anything in the subject line or in the

body of the message.

5. To send a message to the listserv, address it to:
ecoed@lists.nm.org
6. To unsubscribe from the listserv, send an email to: **ecoed-unsubscribe-leo=aldo.org@lists.nm.org**
7. To reply to an individual's message on the listserv, please create a new email message with their email address in the "To" field. Do not press "Reply" or your message will go to the entire listserv.

A Student's Perspective...

About her NAAEE Community Service Project

By: Liz Ellison, an 11th grader at School on Wheels

Have you been to the South Valley lately? If you've visited the area of Bridge and Isleta you may have noted that it looks different. No, we don't mean the construction. If you have looked at the campus of School on Wheels Alternative High School you may have noticed that it looks a lot nicer. That is because on October 27th – 29th, 2005, a group of eleven students from Vince Case's team constructed a beautiful landscaping project. Ten young women and one young man planned, designed, and constructed the project in about two months.

A senior, Sally Ortega commented, "I knew this project would be hard, but I always knew it would be possible."

Six different organizations donated time, money or supplies to make this project possible. The Dunn Foundation and PNM funded the project. When asked about the volunteers, Sally replied, "There were so many of them! Some of them came from other states for the North American Association for Environmental Education conference, while others came from a class at UNM. There were even students and teachers from our own school!"

This project took a total of three months with planning and all. Landscape designer, Penny Genter, helped make the project possible by offering her expertise on the project. Penny advised in the choosing of a design and many Southwestern plants. Also, students want to give a big "Thank You" to Principal, Felipe Perea, for supporting the students throughout this project.

The students are very proud of their accomplishments. They now plan to go out into the community and teach about the importance of a project like this. In March, the students will be at the New Mexico Xeriscape Conference. They are also planning a trip to Minnesota in October of 2006, where the next North American Association for Environmental Education Conference will take place.

The students involved received certificates, T-shirts, a pizza party, and a plaque for their achievements. Student leaders were: Sally Ortega, Liz Ellison, Adrianna Sedillo, Daniel Garcia, Heather Cook, Adrianna Villanueva, Vanessa Chiquito, Vanna Chiquito, Valeri Herrera, Victoria Crenshaw, and Reve Chewiwi.



Students from School on Wheels organize plant installation at their new xeriscape garden. The students received help from a variety of volunteers.



BIOREGIONAL QUIZ....

A BLUEPRINT FOR MANY LEARNING OPPORTUNITIES

Getting to know the place where we live is important for our own well-being as well as the well being of our place. By becoming aware of our "sense of place" we see it as a unique part of the living earth deserving respect and careful stewardship. We as humans can then begin to learn how to live in balance and harmony with the wider life community. Answer these questions to have a blueprint for many lessons that can be taught about our place on earth.

PART 1: MAKING CONNECTIONS

1. Trace the water you drink from rainfall to tap. Where did the cloud gather its moisture? Trace the route of water flow from your home to the ocean.
2. Choose a favorite meal and trace the ingredients back through the store...the processing plant...all the way to the soil. How many states (or countries?) helped produce this meal? How many of the ingredients could you (did you?) grow?
3. Trace the path of energy that powers your home from its source to you.
4. When your garbage is thrown away, where is "away"?
5. List three critical environmental issues in your area. What can you do to help?

PART 2: ECO-FACTS

6. What are the primary geological events that shaped this land? (Extra Points: What is the evidence?)
7. What is the elevation above sea level where you live?
8. What is the average annual rainfall for your area?
9. How long is the growing season (last frost of the Spring through first Fall frost)?
10. What Spring wildflower is consistently among the first to bloom where you live?
11. Name seven common trees in your area.
12. Name five edible wild plants native to your area.
13. Name seven mammals common to your area. Which animals are extinct from your area? (They may still live elsewhere.)
14. Name ten birds common to your area. (Extra Points: Which are year-round residents? Which are Summer residents?) (For the EXPERT: Where do they winter over?)
15. Sitting in your living room, point North.

Once these questions are answered, much of this information can easily be woven into adventurous tales that can teach others about their relationships with the natural world.

The Backyard Birdhouse Book: Building Nestboxes and Creating Natural Habitats

by Rene and Christyna M. Laubach

For anyone interested in enticing cavity-nesting birds onto their school grounds or property, or in trying to improve these areas for the benefit of nesting birds, this is an amazing book! It is also one of the books included in the Flying WILD trunks offered by the Department of Game and Fish for loan to educators. See page 16 of this newsletter for more information about the Flying WILD trunks.

Human-caused changes like clearing of forests and removal of dead trees from wooded areas have negatively impacted many species of cavity-nesting birds. Compounding these large-scale habitat changes is the necessity for nest sites safe from alien invaders like European Starlings and House Sparrows as well as house cats.

Wood Ducks and Western Bluebirds, who depend on holes in trees for their nests, have been able to avoid sharp decreases in population by individuals putting up nest boxes. Time will tell if these efforts can help dwindling American Kestrel and Red-headed Woodpecker populations in areas of the country where these species appear to be declining.

The authors lay out a broad variety of nest box construction options and techniques. They explain why birds use cavities and the difference between primary and secondary cavity nesters. They cover box design and location as well as when to make the box available to birds and how and when to monitor nesting success.

They profile 27 cavity nesting birds with beautiful illustrations and photographs and valuable information on their life history. The book also includes step-by-step directions and illustrations for building eight different nest boxes. Lists of materials and tools, and detailed cutting and assembly instructions are included. Unique to many books on building nest boxes is a chapter on mounting options and tried-and-true predator guards to safeguard the birds you are attracting. Putting nest boxes in the larger picture, they offer many landscaping options for creating bird-friendly habitat. By implementing some of their recommendations, I have been able to attract over 50 species of birds to my small, downtown Santa Fe backyard.

Perhaps most valuable to educators is information on how to integrate putting up and monitoring nest boxes with a larger conservation project. This includes a list of 18 organizations ready to help educators, along with email and website addresses and field guides. In the broad field of bird-related literature this book stands out as a highly useful and pleasing blend of bird natural history and solid ecological information on helping cavity nesting birds.

Congratulations to the following students who will be representing Lincoln Middle School in the Regional Science Fair held on March 17, 2006:

♦ Taylor Clifford	♦ Alexander Mayer	♦ Ethan Campbell	♦ Kyle Fenner
♦ Cody Kirk	♦ David Sample	♦ Taylor Cross	♦ Andy Eidsmoe
♦ Laura Norero	♦ Cassandra Ulrich	♦ Scotty Buchler	♦ Megan Sehr
♦ Isabel Hromas	♦ Maya Distasio	♦ John Waid	♦ Jennifer Doherty
♦ Alexandra Lovato	♦ Stephonae Shoats	♦ Kristen Spencer	
♦ John Valdez	♦ Gabrielle Shipley	♦ Taylor Martinez	

Public Can Help Fund Environmental Education Programs for Kids

New Mexico taxpayers will notice a new option on their 2005 tax forms. They can now voluntarily contribute a portion of their state tax refund to support the State Parks “Kids N Parks” education program. The new option on the 2005 PIT-D Refund Donation Form is the result of a law enacted in 2005 that was sponsored by Senator Phil Griego (D-San Jose).

“New Mexican taxpayers who enjoy their State Parks throughout the year will have an opportunity to give back,” said Senator Griego. Programs for kids and families will attract more visitors and increase State Parks’ positive impact on rural economic development. I truly hope New Mexicans will support this program.”

“Our State Parks are fabulous outdoor classrooms,” said Dave Simon, Director of New Mexico State Parks. “Hands on outdoor-educational programs can inspire children for the rest of their lives, and most importantly, help improve academic achievement.”

State Parks will use all donated funds towards the “Kids N Parks” educational program in order to partner with schools, create learning materials for students and teachers, train teachers, develop park education programs and underwrite costs of transporting students to State Parks.

Funds donated through the PIT option will increase educational programs without raising taxes or visitor fees, or affecting the state General Fund.

For more information on the PIT tax option for State Parks, contact State Parks at (888) NMPARKS.

(Continued from page 1)

exploration with their learning. Field trips were offered to Bandelier National Monument, Bosque del Apache, Sandia Mountain Natural History Center, and the Earth Works Institute, among others. Participants were able to get behind the scenes tours and first hand accounts of the management and outreach efforts from their colleagues on the front lines of these unique efforts.

Local conference partners included the Environmental Education Association of New Mexico (EEANM), the NM Office of the State Engineer, WERC, Los Alamos National Lab, Albuquerque Bernalillo County Water Utility Authority, and others.

Albuquerque was fortunate to host this annual professional event, which allowed the city to enhance its reputation as an environmentally friendly location to live and do business.

NAAEE provides a supportive community of people who care passionately about improving both education and the environment. A special ‘thank you’ goes out to all the local sponsors, committee members, and volunteers that assisted in this huge undertaking. We hope that those who attended got as much out of it as we did.

IDEAS *for the classroom*

Beyond Trash pickup: Environmental Service Projects for Elementary Age Students by Donna Thatcher, Farmington Museum

If you find it difficult to develop meaningful service projects for young children, and all anyone can suggest is that you take your group out to clean up trash on public lands, then this idea is for you. Look for more service project ideas in upcoming issues of EE Connections.

Spider Web Frames

A spider web frame is a simple wooden frame, like an open picture frame, attached to a stake set in the ground along a trail, in a garden, or anywhere spiders might be. The open frame provides a place for an orb-web spider to make a web, and a place for people to look for it. Frames are a simple beginning woodworking project, as they can be made of scrap wood, and do not need to be constructed with great precision. Students enjoy thinking of shapes and styles to make, learn to use simple tools, and may paint the frames decoratively.

Once a frame is in place, students enjoy looking every day to see if a spider is using it. All sorts of studies and research about spiders can be inspired by planning and observing the frames and the spiders which use them.

Frames work best if they are no more than 12 inches across. A square, mounted on one corner to make a diamond shape, or any regular or irregular geometrical figure will work. We have several at our nature center, such as a yellow triangle painted with the slogan "Yield for spiders," a red octagon saying, of course, "Bugs stop here," a house-shaped pentagon marked "Won't you come into my parlor said the spider to the fly," while still others simply say "Spiders Welcome," or similar greetings. The children thought of the shapes and wording themselves.

Some adult help is needed in using a hand saw, drill, and screw driver to construct a frame, but the students can design, measure, mark, paint, and mount their own creations.



Laguna Elementary Plants an Energy Garden



Laguna Elementary School students recently planted their energy garden, a product of a PNM Earth Study Grant.

The students planted the garden, below two trees at the school, before a crowd of fellow students, teachers, parents and Laguna Pueblo leaders. About 50 students in grades 1-5 created and designed garden stepping stones based on forms of energy they've studied in class.

"The stepping stones reflected designs of solar, wind, hydro and human energy," said teacher Sherrie Tepper. "Students mixed their own concrete and created their own stepping stone designs that reflected their artistic vision of their form of energy."

Students also presented oral and written reports about renewable energy and the environment.

"It is amazing what you can accomplish when you have full resources behind your teaching project, because you can really concentrate on what you are trying to teach and accomplish," Tepper said.





Council Tree and Journal

An EE activity provided by Mark Everson

Bioregional Outdoor Education Project

Goal: To learn about how one tree around school changes over time and through the seasons.

Objectives: Students have the potential to:

- Become aware and build understanding of the changing seasons, through the changes in local living things
- Practice observation skills, including description, metaphor, sketching, and identifying
- To identify and relate to one non-human living thing, on a cognitive and emotional level
- To incorporate reading, writing, math, social studies, and art, with science
- To begin to build a sense of place by building a relationship with one local tree

Grade Level: 3rd to 8th grade; 1st- 2nd grades with adaptation

Time: First lesson: 25 - 40 minutes; follow-up activities range from 10 – 50 minutes.

Materials: *Sky Tree*, by Thomas Locker; journals, hand lens, ruler, pencil, and colored pencils; a variety of other resources (insect, bird, and tree field guide) and measuring/exploration tools (thermometer, compass, small spade, etc.)

Activity Procedures:

- Gather students and prepare them for going outside. Be sure to cover appropriate clothing, safety concerns, agenda, and behavior expectations. At a minimum, bring journal and a writing utensil.
- Find a large deciduous tree near the school. Ideally, it would be in a secluded spot, but not so far away from the buildings that it would require lots of extra time to get to it.
- Introduce the activity by asking students, “How have you changed since last year?” (or since the beginning of last grade)? Discuss. “This book I’m going to read is about how the world around us changes.”
- Gather students and read aloud- or have them take turns reading *Sky Tree* aloud, to the group.
- Generate a discussion with students about how the tree changed through the seasons- use questions such as: Which picture was your favorite? Why? What was going on around the tree during winter? Was the tree dead? What happened to all the leaves the tree makes each year? How do animals around the tree cope with the changing seasons? How do we, as people, cope with the changing seasons?
- Direct students’ attention to the tree you are sitting near. Ask them to find a partner and investigate this tree- its leaves, bark, wood, branches, soil it grows in, the animals that live on it and depend on it. Find 3 things about the tree that you think no one else will notice. Give them 5 minutes to investigate the tree.
- Bring group back together and share what people discovered. Be sure to emphasize a sense of wonder with every discovery- no matter how mundane.
- Have each student find their own place to sit where they can see the tree in a way that they like. Ask the students to sketch the tree or part of the tree, from that place.
- Bring group back together and let them know that they will be visiting the tree several times throughout the year to see how it and the world around it changes with the seasons.
- Say good bye to the tree- wishing it well- and maybe offering it something to help it live as a way of saying thanks for being there. (water, a handful of soil, a hug, a compliment, protection)

(cont’d on page 11)

Classroom Assessment

- Observe during activity- Are they engaged? What are they focusing on?
- Note what students contribute to group discussions. Ask students who haven't contributed to share at least one thing. Encourage no repeats.
- Ask students to label 5 specific things every time they draw the tree.
- Have students write essays on the tree, focusing on the specific objective you are interested in assessing.

Future trips to the tree

While the first section of this activity is a great stand alone activity, it really doesn't begin to tap into the potential of these ideas. To get the most out of this, your students need to visit the tree many times throughout the year. Below are some ideas for future visits and lessons:

- Focus on animals living on/with the tree- like insects, birds, squirrels.
- Investigate the health of the tree- is it sick or healthy? If sick- how is it sick?
- Investigate how people use the tree today? How have people used trees (and wood in general) in the past? How might future people use the tree?
- Focus on textures, smells, and sounds from the tree. Make a collection.
- Focus on weather and associated measurements by the tree (high/low temperature, wind speed, wind direction, precipitation, air pressure)
- Take measurements of the tree's height, branch width, and trunk circumference. Compare with same measurements at the end of the year.
- Look at the world through the eyes of the tree. How does the tree see students, cars, wind, sun, rain, the school, birds, squirrels?
- Estimate how old the tree is (or take a core if possible) and determine when the tree was born and the history that took place immediately around that tree.
- Revisit the book, *Sky Tree*, and discuss the questions at the bottom of each page.
- Measure the shadow of the tree several times throughout the year (at the same time of day), and use the differences to discuss how the Earth's tilt causes the seasons.
- Explore the different parts of a tree, and use it to highlight the different parts of most plants (roots, trunk, leaves, flower, fruit, seed).
- Do something significant to help the tree survive and thrive in the coming years. Consider laying mulch under the tree to protect the tree's roots from foot traffic and thinning soil.
- Count the leaves on one small branch of the tree. Estimate how many leaves are on the tree by counting (or estimating) how many branches of similar size are on the tree.
- In the spring, place a small plastic bag around one leaf of the tree when it is growing, for 10 minutes. Weigh the amount of water collected and estimate how much water the tree is using each day that it has leaves. (1 gallon of water = 8 lbs.)

Correlated Standards (for initial activity only)

NM: Sci- StI,Std1; StII, StdII; StII, StdI **La-** Std2A,B; Std3A,C; Std4A,C,D; Std8A; Std9A

Ma- Std4D; Std5E; Std9A,B,C **SS-** Std11C; Std12C,D,E



Project WILD New Mexico

New Publications and Professional Development Opportunities

The Endangered Gila Trout

Gila Trout Poster

This spring we will have a new educational poster available on the federally endangered Gila trout. Our new poster is graced with the wonderful artwork of Pat Oldham. On the front Pat has painted a lively scene of a Gila trout stream. The backside of the poster is filled with information for educators and the general public, including:

- A brief description of the Gila ecosystem
- An explanation of how the *Sport Fish Restoration Act* increases sport fishing opportunities
- The Gila Trout Recovery Team's efforts and a timeline
- Complete *Project WILD Aquatic* activity

Advanced Project WILD Natural History Workshop-Gila Ecosystem Investigation

April 28-April 30, 2006

Join us for an educational camping weekend in the beautiful Gila National Forest. Our campground is in the heart of Mexican Wolf country at the edge of the Blue Range Wilderness. This is a professional development opportunity for teachers, naturalists, docents and park rangers.

- Be the first to preview our Fish Hatchery Project-Educator's Guide and receive a copy of the new Gila Trout poster.
- Hike the famous Catwalk National Recreation Trail.
- Tour the Glenwood Fish Hatchery and have the opportunity to fish for some of the large rainbow trout in the adjacent Glenwood Pond.
- Leave with a large packet of information and activities that demonstrate practical methods for integrating science, math and language arts, and meet NM Academic Content Standards and Benchmarks.

Other ecosystem topics and presentations will include:

- Mexican Wolf reintroduction program
- Jaguars of northern Mexico
- Springtime birds and reptiles of the Southwest
- Fire ecology
- Wilderness management

Several guest presenters will assist Game and Fish and U.S. Forest Service staff in offering this unique opportunity to generate 'real world' learning ideas for you to take back to your students or public. Register by sending your refundable deposit of \$15.00 to Colleen Welch at Project WILD, NM Dept. of Game and Fish, POB 25112, Santa Fe, NM 87504. Checks or money orders need to be made out to NM Wildlife Foundation. For more information, please call Colleen Welch at (505) 476-8119, colleen.welch@state.nm.us or Kevin Holladay at 476-8095, kevin.holladay@state.nm.us.



HawkWatch International Educational Program

Spring of 2006

As biological indicators, raptors play a very important part in our environment and we need to inform more people of this to help protect these birds. For example, raptor migration studies in the United States warned that the usage of certain pesticides were poisoning wildlife and in turn, were hazardous to humans. These studies illustrated the seriousness of the problem and were instrumental in enacting the law banning the use of DDT and other harmful pesticides in the United States.

In the western United States, HawkWatch International's migration counts, along with the trap & band programs, document increases and decreases in raptor populations. If a disturbing trend is revealed, further research is recommended to determine the cause so corrective action can be taken *before* a crisis level is reached.

Our educational programs play a large part in helping reach these goals. Our non-releasable educational birds, in conjunction with our presentations, have helped to spread our message to thousands of children and adults. The money that comes from donations and presentations insures that research and education about raptors will continue.

This spring the HawkWatch site in the Sandias will give teachers the opportunity to take their students on a free field trip, from the end of February through April. There will be an educator out there to explain what we do at the HawkWatch site and to help people identify birds. The hike is about a mile and a half each way and somewhat steep so it would be best suited for children eight years or older.

We will also continue offering our program in which a live hawk is brought to the schools. These programs are adapted to the New Mexico Science Standards to fit in with the teachers' curriculum. We are anticipating a

very busy spring, so if you are interested in scheduling a program, call soon to ensure you can reserve the date and time you desire. A donation of \$60 is required for the first program and \$25 for any additional programs the same day. For programs outside of Albuquerque, there is also a travel fee based on mileage.

Key points of the program will include:

HawkWatch International

Who is HawkWatch International and what is a HawkWatch site?

Why do we count migrating birds of prey?

Why are they migrating? Where to / from?

Slide presentation: *Raptors*

What is a raptor?

How are they different from other birds?

Why are raptors important to ecosystems?

Introduction to raptors in our area.

Diversity and adaptations of various species.

The role of raptors in their respective ecosystems.

Raptor Conservation

Threats to raptor populations.

The importance of preserving habitats.

What to do to protect birds of prey.

Live Raptor Presentation:

Life history of the bird and its species

If you would like to schedule a program or a field trip, call (505) 255-7622 or email to hwabq_edu@yahoo.com

Jennifer Good, Classroom Educator

HawkWatch International

MATERIALS & OPPORTUNITIES

The Bosque Education Guide Teacher Training Workshop 2006 Spring Schedule



When: Friday, March 31, 9:00am – 4:30 pm – OR – Saturday, April 29, 9:00 am – 4:30 pm

Where: Rio Grande Nature Center State Park
2901 Candelaria NW, Albuquerque, NM 87107

The *Bosque Education Guide* is a regionally recognized curriculum to teach about the Rio Grande Valley ecosystem. The 2nd edition is 621 pages and has activities for elementary through high school. One integrated activity has students set up a paper and cloth model of the river valley, placing plants and animals in the appropriate environments to show the bosque ecosystem as it was before human settlement in the valley. Then students incorporate human history into the model, changing the pieces around to reflect human alterations to the ecosystem. Finally, students conduct restoration projects on the model to see how land managers can maintain as much of the biodiversity and natural processes of the ecosystem without compromising the safety of our communities.

The Bosque Education Guide has many activities to be done with students on field trips as well as in the classroom or schoolyard. New topics in the 2nd edition include geology of the valley, surface and groundwater, the demands on the river's water budget, natural and cultural history information, several mapping activities, and two web quests. The final chapter helps teachers plan service-learning projects with their students. Also included are a substantial background section and appendices that include correlations to New Mexico Content Standards, Benchmarks and Performance Standards for Science and Social Studies.

Workshop participants will receive the curriculum and additional teaching kit materials. A set of Spanish Bosque Model and Bosque Animal Cards are also included. These workshops are offered at no cost to educators through funding from the US Fish & Wildlife Service's Bosque Initiative Grant and are co-sponsored by the New Mexico Museum of Natural History & Science and the Rio Grande Nature Center.

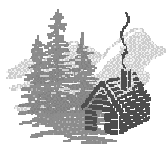
NEW MEXICO FORESTRY CAMP

The New Mexico Forestry Camp is a great opportunity for teens who want to spend a week exploring outdoor and forest-related sciences with professionals in many fields.

The camp will be held from June 4 through 9, at a beautiful site in the Jemez Mountains. Girls and boys, ages 13 to 17 may apply. Cost to campers is \$170, with some financial aid available.

Adult counselors are also needed - people who will enjoy a full schedule of activities with campers as part of the very active staff.

For more information, or to get an application for a camper or counselor, contact the Cuba Soil and Water Conservation District, P.O. Box 250, Cuba, NM 87013, or call (505) 289-3950.



SUMMER RESIDENTIAL INSTITUTE

Learn GIS, GPS, and Geographic Field Studies
in the Beautiful Colorado Front Range
July 29 - August 3, 2006



Instructors: Dr. Joseph Kerski, Mr. Roger Palmer, Mrs. Anita Palmer.

Location: Cal-Wood Education Center, 20 miles NW of Boulder, Colorado (www.calwood.org)

Target Audience: Grade 6 through College-level pre-service and in-service environmental-social studies, technology, science education.

Class Meeting Times: 1pm Sunday through noon Friday.

Registration: \$995 includes room, board, and accommodations in the majestic Colorado Front Range.

Materials Provided:

- * *Mapping Our World—GIS lessons for Educators v.9.0*; includes a one year school wide site license and curriculum ready to go when you return.
- * *Essentials of the Environment* book to provide a basis for our work
- * ArcGIS Tutorial
- * Over 40 hours of hands on exercises and exploration to ensure your success at bringing this technology back into your classroom!

History/Social Science/Geography Content Standards:

- * Chronological and spatial thinking (mapping historical changes to local settings of interest)
- * Research, evidence and point of view (using maps/images to model inquiry, comparing multiple interests)
- * Historical interpretation (human and physical characteristic of place, cause and effect, land use change)
- * Determine new boundaries based on cultural and physical data
- * Show historical movements of people in USA and worldwide
- * Field-based, hands-on, problem-solving inquiry

Science Content Standards:

- * Physical Science (light properties, color, energy, motion, salinity, density)
- * Life Science (plant, animal and nutrient cycles, ecology, land use, coastal wetlands restoration)
- * Earth Science (land, water, atmosphere, watersheds, geology, Mars)
- * Investigation and Experimentation (active inquiry-based approach to the environment we are studying)

Mathematics Academic Content Standards:

- * Measurement and Geometry (calculating distances, areas, and volumes, proportional reasoning)
- * Mathematical Reasoning (creating algebraic expressions, observing patterns, calculation estimations)
- * Graphical representation of statistical concepts

**For more information, please go to: www.gisetc.com,
or contact Joseph Kerski at 303-202-4315, or jjkerski@usgs.gov**

MATERIALS & OPPORTUNITIES

Flying WILD Bird Education Trunks Available



Flying WILD, a new program of the Council for Environmental Education, introduces students to bird conservation through standards-based classroom activities and environmental stewardship projects. **Flying WILD** encourages schools to work closely with conservation organizations, community groups, and businesses involved with birds to implement school bird festivals and bird conservation projects.

Project WILD-New Mexico Department of Game and Fish and Randall Davey Audubon Center (RDAC) of Santa Fe recently created 3 Educational Trunks to lend to schools and groups interested in implementing various aspects of Flying WILD. Equipment in the trunks includes binoculars, bird song CDs, bird watching and nest box books, field guides, videos, bird calls and replica eggs. It also includes the *Flying WILD Guide* and several laminated activities.

The target audience is middle school teachers and urban after school youth programs in Albuquerque and Santa Fe. The trunks will be promoted through many avenues including: Project WILD workshops and those that participate in New Mexico Audubon's "World of Birds" and "Birds for a Purpose" programs.

Trunks can be borrowed from:

Randall Davey Audubon Center, Eileen Everett, Environmental Education, (505) 983-4609

New Mexico Department of Game and Fish, Kevin Holladay, Project WILD Coordinator, (505) 476-8095

Rio Grande Nature Center State Park, Beth Dillingham, Director, (505) 344-7240

Bosque Ecosystem Monitoring Program Field Experiences

BEMP offers field trips to Albuquerque's stretch of the bosque where students can participate in a long term monitoring project and learn about the health and ecology of our cottonwood forest. These projects can include groundwater chemistry, arthropod trapping, porcupine tracking, and many other ecology activities. All data collected by the students becomes part of UNM research projects. There is limited funding for transportation and substitutes.

For more information or to schedule a trip contact Adam Gebauer at Bosque School; phone 505-898-6388 or email ageba@bosqueschool.org.

Children's Environmental Literature

The updated Children's Environmental Literature Bibliography is now available on the web. It provides a reading list for early childhood providers and helps teachers meet the requirements of the No Child Left Behind legislation.

<http://www.dnr.state.wi.us/org/caer/ce/eeek/teacher/childlit.htm>



MATERIALS & OPPORTUNITIES

Summer Job Opportunities at Cottonwood Gulch

This will be Cottonwood Gulch's 80th summer of expeditions that focus on personal growth and adventure as well as place-based learning in ecology, archaeology, and art of the Southwest. The expeditions travel the Four Corners Region and also stay at our residential base camp in northwestern New Mexico. There are all sorts of jobs available, for budding educators to seasoned instructors.

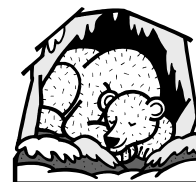
This summer will also be our second year running a special field school for high school students, called the Trek Institutes. We are offering Institutes in archaeology and restoration ecology this summer. These expeditions will place students in the field working on archaeological research and forest and riparian restoration projects in the Zuni Mountains near Gallup. There are currently openings for lead instructors for these courses. Go to <http://www.cottonwoodgulch.org/jobs> to download job descriptions.

WILD About Bears: An Educator's Guide to New Mexico's Black Bears



This guide introduces K-12 teachers to these magnificent animals. NM Dept. of Game & Fish - Project WILD staff are available to present this activity guide to other educators in a three hour workshop. During these workshops the activities are conducted so teachers can experience how to integrate black bears with a variety of subject areas.

Educators can also order a Bear Education Trunk from the Department of Game & Fish containing supplemental material and supplies such as children's literature on bears, posters, videos, bear hides, skulls, claw replicas, etc. To schedule a workshop, pre-order a free copy of the Guide or to borrow the Bear Education Trunk contact Kevin Holladay, kevin.holladay@state.nm.us, (505) 476-8095.



CLASSROOM ENHANCEMENT GRANTS

Need funding support to build or improve an outdoor classroom at your school? Then you may find assistance through a partnership formed by Lowe's Charitable and Educational Foundation, International Paper and *National Geographic Explorer!* classroom magazine. Their goal is to provide schools with additional resources to improve their science curriculum by engaging students in hands-on experiences outside the traditional classroom. All K-12 public schools in the United States are welcome to apply.

This school year, the program will award grants up to \$2,000 to at least 100 schools. In some cases, grants for up to \$20,000 may be awarded to schools or school districts with major outdoor classroom projects. The grants can be used to build a new outdoor classroom or to enhance a current outdoor classroom at the school.

To submit a grant proposal, go to the Lowe's Charitable and Educational Foundation at www.lowes.com/community and click on the link for "Outdoor Classroom Grant Program."

MATERIALS & OPPORTUNITIES

Free Professional Development for Environmental Science Teachers

Northwestern University and University of Michigan are currently studying how different professional development environments help teachers learn.

They are also offering teachers who adopt *Investigations in Environmental Science* free professional development. Teachers who participate in this study will receive 48 hours of varying types of free professional development along with a \$1500.00 stipend upon completion of the study.

If you are interested in learning more about *Investigations in Environmental Science* or applying for the study, see www.geode.northwestern.edu/ies.

Any further questions can be directed to Meridith Bruozas at m-bruozas@northwestern.edu.



If Trees Could Talk—A Lesson in Environmental History

If trees could talk and we could listen, would we be any wiser? The Forest History Society believes that we must understand the history of forests and their people in order to shape the future of people and their forests.

This 8-module, middle school curriculum gives teachers the opportunity to download social studies activities that are based upon archival materials. The centerpiece of each module is a compilation of primary resources—documents, maps, newspaper articles, oral histories or photographs—from which students will be asked to gather, examine, and analyze information, and synthesize insights.

Upon completion of all 8 modules, students will have a comprehensive understanding of American forest history. They will have studied all ten eras of American history as defined by the National Center for History in Schools and all ten Social Studies Standards as defined by the National Council for Social Studies.

To download the curriculum, go to: www.lib.duke.edu/forest/Education/Curriculum

JOB OPPORTUNITY

Two Student Interns needed at Rio Grande Nature Center State Park

Two full-time seasonal Student Intern positions at the Rio Grande Nature Center State Park begin mid-May and last through the summer. The pay is \$8.75 per hour with two paid holidays. General work hours are Monday through Friday, 8am- 5pm.

Job Description: The main responsibility is teaching our summer middle-school Junior Ranger Program with the other Student Intern. Other duties may include greeting and assisting park visitors, maintaining park facilities, and aiding in administrative tasks. There is formal training at the beginning of the internship.

Qualifications: You must be currently enrolled in an accredited college with a 2.5–4.0 GPA; Accumulated 24 credit hours of college coursework; Enjoy working with teens aged 12– 15; Have an interest in environmental education, environmental sciences, or parks and recreation; Have a basic understanding of Rio Grande natural history or environmental science concepts; Have a valid New Mexico driver's license.

For more information, please contact: Rio Grande Nature Center State Park, Junior Ranger Program, 2901 Candelaria NW, Albuquerque, NM 87107, 505-344-7240.

Free Environmental Education Posters

www.epa.gov/epaoswer/education/teach_curric.htm#madms

The US EPA's *Make A Difference Campaign* teaches students to understand the environmental impacts of everyday products. The free kit includes a series of posters showing the life cycle of a soccer ball, cell phone or DVD. It is designed to help teens (grades 6-12) make informed decisions to protect the environment in their day-to-day lives. Also available in Spanish.

Professional Development Guidelines for Environmental Education

www.naaee.org/npeee

"Guidelines for the Preparation and Professional Development of Environmental Educators" was developed and recently updated by the National Project for Excellence in Environmental Education. It is a resource to help you design and implement effective, high quality EE professional development programs.

Nova – Wave That Shook the World

www.pbs.org/wgbh/nova/tsunami/

This Nova web site is based on the PBS television program that tells the story of the 2004 tsunami that spread for 3,000 miles around the Indian Ocean basin. The site offers video footage, detailed animation, scientific analysis and a teacher's guide.

Water Science Experiments and Projects

Need a science fair project? How about one on water? Check the following websites:

- 2006 Science Fair Project Ideas and Topics:
<http://www.sciencefaircenter.com/>
- Water Center.net: <http://www.watercenter.net/>
- Water Center.org: <http://www.watercenter.org/>
- Science Fair Projects and Experiments:
<http://www.juliantrubin.com/fairprojects/chemistry/waterchemistry.html>
- Cyber-Fair: <http://www.isd77.k12.mn.us/resources/cf/welcome.html>



Environmental Education Association of New Mexico

www.eeanm.org

Visit our website for information about upcoming conferences, grant opportunities, job announcements, calendar of events, back issues of our newsletter, and more!



MEMBERSHIP APPLICATION

Name:

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State:

Zip Code:

Phones: W. ()

H. ()

Fax ()

Email Address:

Web Address:

CHECK ONE OF THE FOLLOWING MEMBERSHIP TYPES

☐ Limited Income/Student Membership.....\$10.00

☐ Individual Membership.....\$25.00

☐ Organizational Membership.....\$50.00

(Allows for 1 voting member and 2 general members)

Name of voting member

Names of 2 additional newsletter recipients

Occasionally, other EE organizations ask for the EEANM mailing list. The EEANM Board is selective in giving out the list to organizations with similar interests or missions.

☐ Check here if you object to your name being given to other organizations.

Notes for EEANM Membership Directory: Briefly include, in ten words or less, how you are involved in EE

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Please support EEANM. Join Today!

Editor: STEPHANIE DOBBIE

All submissions and changes of address to:

stephaniestansbury@earthlink.net

Layout by ANGIE SCHERBARTH