Asombro Insights

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Teachers Soak Up Knowledge at Workshops

Imagine that you have spent the week tending to somewhere between 20 and 150 children's and young adults' schoolyard squabbles, raging hormones, home crises, and (oh, we almost forgot!) educational needs. So you certainly deserve to look forward to Saturday to sleep in, relax, and spend some time with your family, right? Not if you are

among the more than 100 teachers who have taken part in an Asombro Institute teacher workshop in the past year.

These dedicated. talented individuals willingly sign themselves up to wake up early and spend the day learning and being active. They do this simply to make sure they can bring the most up-to-date, locally relevant science to their students. You can probably imagine why Asombro Institute for Science Education staff members look forward to working with these incredible teachers!

Our latest workshop on February 2 allowed us to meet and host 23 amazing teachers from Las Cruces, Chaparral, Deming, and El Paso. These teachers took part in the Asombro Institute's <u>Rio Grande /</u> <u>Rio Bravo Water Workshop</u>. The purpose of the workshop was to introduce teachers to two curriculum guides full of hands-on, locally relevant activities to help their students learn about science, math, social studies, and more. The first half of the workshop focused on the Asombro Institute's own <u>Schoolyard Desert Discovery</u> <u>Water Module</u>, with seven hands-on science activities to complete in the classroom and/or schoolyard. After a delicious lunch, we focused on the Project WET <u>Discover a Watershed:</u> <u>Rio Grande / Rio Bravo Reference</u> and Activity Guide.



Sonoma Elementary 5th grade teacher Sara Thomas has fun using craft materials to create a hands-on display relating to water at the Asombro Institute's <u>Rio Grande/Rio Bravo Water Workshop</u>.

Funding to support the workshop came from donors to the Asombro Institute for Science Education as well as the Doña Ana County External Agency grant program. We are also grateful to Project WET for providing free curriculum guides for the teachers.

All 23 participants said on anonymous evaluations that they would recommend the workshop to fellow teachers. One teacher said,

"The inquiry-based activities offered through the Asombro Institute are really relevant for empowering students' learning process. Thank you!"



Notes from the Director Spring Success!

By Stephanie Bestelmeyer, Ph.D.

As I write, we are still anxiously awaiting a burst of wildflowers that the dry winter and spring seem to have prevented or at least delayed. Nonetheless, our staff and volunteers have been struck by the excitement of "spring fever," and the results of our

accelerated efforts are showing both in our education programs and at the Chihuahuan Desert Nature Park.

We were honored at the end of last year to be selected to align a well-known national environmental education curriculum, the Project Learning Tree Environmental Education Activity Guide, with New Mexico's education standards (in disciplines including science, math, language arts, social studies, and career readiness). This process involves evaluating each of PLT's activities and determining which of New Mexico's education standards are met or addressed (standards can be accessed through the New Mexico Public Education Department's Math and Science Bureau web site: http://www.ped.state.nm.us/ MathScience/).

Because there are 96 activities in the guide, nine grade levels covered (kindergarten through 8th grade), and hundreds of performance standards per grade, this was a <u>big</u> project! The result, however, is well worth the work. Now New Mexico teachers can see which PLT activities will help them teach the required curriculum, benefitting all of New Mexico students.

New programs for the general public were already launched this year too. Board member Donna Yargosz has developed a Spanish-language program on desert safety that she presented to community members in Anthony and



Volunteer "Patrón de Maíz" Michael Yargosz helps one of the youngest Archaeology Day participants grind corn with a mano and metate at the Chihuahuan Desert Nature Park.

Doña Ana. Fellow Board member Mark Sechrist helped Asombro Institute staff develop and host Archaeology Day at the Nature Park on February 16. Participants of all ages got to make a coil pot, use a pump drill to make shell jewelry, dig in a simulated archaeological site, throw an atlatl, grind corn, and much more. Jennifer Atchley Montoya wrote to compliment staff on the hands-on stations. She said, *"The Archaeology day was really great. [My son] is still talking about* it. And yesterday he tried to make his own coil pot with his playdough, completely unprompted by me. All the hands-on stations built on one another and truly reinforced the overall messages. It was a very meaningful learning experience and I am so appreciative of the effort you all made _______ to pull it off. Thank you!!"

The flurry of activity has also extended to the Asombro Institute's Chihuahuan Desert Nature Park. On page 4 of this newsletter, you can read more about the latest projects, including new restrooms, new shade structures, and paved trails in the Desert Experience Mini-Trail.

All of these exciting achievements were capped off in late March when we found out that the Asombro Institute for Science Education had won the **Excellence in Student Achievement Award** from the New Mexico School Boards Association. You'll read more about this prestigious award in

the next newsletter following the official award presentation in May.

Finally, we are ever-mindful that <u>you</u>, our dedicated donors, help us make all of this success possible. We are so grateful for your continued support and invite you to share this newsletter with a friend or relative and ask them to become a donor too. We may be missing the wildflowers this spring, but we are still grateful and excited about the otherwise excellent start to 2008.



In-Kind Support

Have you ever wondered how the Asombro Institute for Science Education keeps overhead costs so low that at least 90% of every dollar goes directly to programs? One reason is that our Executive Director is, shall we say, "frugal" One Board member jokingly accused her of squeezing every penny until it bleeds!



Stephanie, however, is quick to point to the other piece of the puzzle - in-kind contributions, most notably from the World Wildlife Fund and the USDA-ARS Jornada Experimental Range. The World Wildlife Fund donates office space on the Las Cruces Downtown Mall to the Asombro Institute, saving the organization thousands of dollars annually. The Jornada Experimental Range provides considerable support with a wide range of services, including technical expertise, assistance with site projects, and a location for many of our field trips.

Both organizations help us do what we do best - educate people of all ages about science and the desert. We are extremely grateful for their long-term, generous support and partnership in this mission.

Archaeology and the Archaeological Sites at the Nature Park

By Mark Sechrist

Full Circle Heritage Services, Vado, NM and Board Member, Asombro Institute for Science Education

Recently, I went to an archaeology conference where the focus was humanity's role in shaping the environment. Several presenters used a term that was new to me -Anthropocene. I am more familiar with the term Holocene, used by earth scientists to refer to the past 10-15,000 years when ice ages ceased and a spell of more moderate climate ensued. During this period, human populations expanded all over the globe, and with them came advents of agriculture in the eastern and western hemispheres, and monumental building projects the rise of "civilizations."

The term *Anthropocene* (anthropo = human) relates to archaeologists' and earth scientists' increasing recognition that over the past 10,000 years, humanity has been an integral force in shaping the environment. An excellent recent book on this subject for the Americas is 1491 by Charles Mann. He portrays an America (north and south) once teeming with peoples of rich, diverse cultures, who were decimated upon contact by Old World diseases and left behind the vast wildernesses that explorers and settlers later found. The Americas were populated - starting at least 14,000 years ago - not by GEICO cavemen, but by fully modern people every bit as intelligent and complex as people of today. Even small groups of hunter-gatherers managed nature by setting fires to grasslands to deter the invasion of woody plants and to maintain habitats for preferred game animals. People altered plant communities by the very benign act of selecting certain ones for food and fiber, probably realizing that they could encourage those that were important, and even altering landscapes to do so.

In the Chihuahuan Desert, one of the more intriguing articles to come out of the range science field for archaeologists was one by John York and William "Sandy" Dick-Peddie in

1969. They examined early land surveyors' records to approximate how grasslands that were widespread in southern New Mexico in the late 1800s had been replaced by shrub species. Some of the early surveyors commented about seeing "Indian camps" in patches of mesquite among the grasslands. This begs the question of whether native people created mesquite patches by consuming (and passing) the beans in their camps or whether they merely camped at spots where mesquite already grew. Such chicken-egg questions really miss the point, because the answer is, undoubtedly, both. People were highly fluent in the ways of their



A 5700-year-old, buried fire pit at the Chihuahuan Desert Nature Park. Note the rocks marking the bottom and sides of the pit.

world and immediately aware of the effects of their practices. Mesquite is one of the mother plants for desert foragers, and it has been around for thousands of years. The beans are highly nutritious; the branches and roots are excellent for wooden implements, tools, and fuel wood; the leaves can make a medicinal tea; and the gum was used as an adhesive.

Over the past five years, I have been slowly conducting an archaeological survey of the western half of the Chihuahuan Desert Nature Park. The eastern half had been surveyed by other archaeologists who found little evidence of human activity on the eroded, creosote-dominated slope between the mountains and Jornada Road. However, our own Justin Van Zee later spotted a buried fire pit in an arroyo bank in this area, and we excised a small amount of charcoal from it for analysis. Tom O'Laughlin at the Albuquerque Museum identified the wood as, you guessed it, mesquite. We then sent some off to a laboratory for radiocarbon dating. <u>This little</u> <u>prehistoric hearth is 5,700 years old</u>!

In the western half of the park I have found, so far, 12 archaeological sites on remnant (uneroded) surfaces and around some of the large boulders. Most are small scatters of chipped- and ground-stone artifacts, occasionally with a few ceramic sherds, that represent hunter-gatherer camps or processing stations. One site consists of only three

items. One of the bigger sites is nestled among some boulders where a variety of important plants grow in an area that seems to be better watered. It has large colonies of prickly pear and numerous sotols and also banana yucca, barrel cactus, ocotillo, and acacia, while the surrounding area is dominated by stunted creosote bushes. There are indications of living spaces among the rocks and boulders, with charcoal-stained soils and artifact concentrations. The distribution of cultural material closely follows the distinct boundary in the plant communities, suggesting another example of synergy between people, plant communities, and the landscape.

The sites of the Nature Park are not the pueblo ruins or cliff dwellings we are accustomed to when we think of the Southwest's cultural legacy. Some of those sites are nearby in the San Andres and Black Range Mountains, on restricted lands. They reflect that relatively short but critical period when people developed larger, more structured, agriculture-based societies

(Continued on page 6)

About the Author

Mark Sechrist has been doing archaeology in southern New Mexico and neighboring states for the past 20 years. He is currently a graduate student in anthropology at New Mexico State University.

Site Development Corner

By Justin Van Zee

President of the Board of Directors and Chair of the Site Development Committee

The next time you decide to get out of town for an afternoon of fun in the desert at the Asombro Institute's Chihuahuan Desert Nature Park site, you'll notice that a few spots around the parking area received facelifts.

Most visible of these facelifts is a new restroom facility, situated just north of the former restrooms. Operational since February, they are from the same manufacturer (Romtec) and function on the same principles – waterless, composting, and self-ventilated. The new restrooms were built just north of the old ones so the overall footprint would be reduced. The architect's plan is to



New composting restrooms were constructed in January and February 2008.

eventually link the two structures with a wall and gate so it will appear as one building. The former restroom building will remain as a much-needed storage facility.

Other structures missing for the last several months were also rebuilt and have already been extensively used. The two shade ramadas burned last year were rebuilt, this time with metal frames. Construction took longer and required more specialized labor than the original wood ramadas, but the result is something much more durable and vandal-resistant. The roofs are still reed screen, which gives them a natural look and also allows strong wind to flow through without damaging the structure.

Just behind the restrooms, you'll notice a major

improvement to the Desert Experience Mini-trail. Thanks to a grant from the Wolslager Foundation, the entire trail is paved and fully wheelchair accessible. Contractor Dean Neff of The Builder, Inc. and his workers had to wheelbarrow in all of the cement because of limited accessibility, and the result looks fantastic. Now anybody who doesn't have the time or ability to walk the full 1.2-mile Desert Discovery Trail can still take home a well-rounded experience from their Park visit.

The last many months have been dry in our desert, and this spring has been less colorful than last year, but the weather remains perfect for a hike. During this time of year, there are many great days to pack a lunch, have a picnic, and take a hike around the mountain at the Chihuahuan Desert Nature Park. The Park is open from Tuesday through Saturday, 7:00 AM - 5:00 PM.

Site Security Meeting

On March 13, Senator Bingaman's staff in Las Cruces invited law enforcement agencies and landholders from near the Chihuahuan Desert Nature Park to a meeting to discuss security issues and potential solutions. Doña Ana County Sheriff Garrison was joined by representatives from the Las Cruces Police Department, NMSU Police, Border Patrol, and Las Cruces Security Service, Inc. at the meeting held at the Chihuahuan Desert Nature Park. Landholders and managers included representatives from the Chihuahuan Desert Nature Park, USDA-ARS Jornada Experimental Range, NMSU's Chihuahuan Desert Rangeland Research Center, the Phillipou Group, and the Bureau of Land Management.

Following an update on vandalism in 2007 at the Chihuahuan Desert Nature Park by Executive Director Stephanie Bestelmeyer, other land managers shared their concerns and recent incidents on nearby land.

Outcomes of the meeting included a new awareness by everyone of security and vandalism issues in the region around the Chihuahuan Desert Nature Park. The meeting will result in added enforcement and more people watching for suspicious activity nearby.

The staff and Board of Directors of the Chihuahuan Desert Nature Park would like to thank Senator Bingaman's staff, especially Dara Parker and Greg Bloom, as well as the many agencies, organizations, and businesses who took time out of their busy schedules to attend the meeting.

Become a Science Education Sponsor

The 1st graders at Conlee Elementary School eagerly filed into the cafeteria on Monday morning, April 7. For the next hour, they worked with Asombro Institute for Science Education staff members on demonstrations, role playing, active games, and (most importantly) real observation skills and data collection as they learned about arthropods (insects, spiders, millipedes, and more).

"This was the best lesson ever!" said one six-year-old boy at the end of the lesson. "When can you come back?"

All of this was made possible by a donor to the Asombro Institute who heeded the call to donate funds for deserving classes to get these special opportunities. In fact, 15 classroom programs have already been sponsored.

Want to join in the fun? For a donation of just \$120, you can bring the excitement of an Asombro Institute hands-on science program to up to 90 deserving students (3 classes) in our community. You will receive a report on which classrooms you sponsored.

Send a donation to Asombro Institute for Science Education, PO Box 891, Las Cruces, NM 88004 and write "sponsored classroom visit" on your check. The kids thank you in advance for your support!

Calendar of Events

- May 10 Critters in Your Garden. The Asombro Institute is teaming up once again with Enchanted Gardens (270 Avenida de Mesilla in Las Cruces). There will be arts and crafts, face painting, and live, friendly creatures you can find in your yard. 10:00 AM - 1:00 PM at Enchanted Gardens. Free.
- May 17 GPS Scavenger Hunt. Have you always been curious about Global Positioning Systems (GPS)? Join the Asombro Institute staff and volunteers for a fun, crash course in the use of these wonderful devices. 9:00 AM at the Chihuahuan Desert Nature Park. Free.
- June 14 Asombro Institute's booth at the Las Cruces Farmer's Market. Visit our booth at the popular Farmer's Market in the Downtown Mall in Las Cruces from 8:00 AM - 12:00 PM. There will be a fun science activity for kids. Free.
- **June 21 Nature Walk.** Come out to the Chihuahuan Desert Nature Park for a relaxing and enjoyable nature walk. This is a great opportunity for newcomers and locals both to learn about the desert. The walk begins at 8:00 AM at the Chihuahuan Desert Nature Park. Free.
- July 12 Asombro Institute's booth at the Las Cruces Farmer's Market. See June 14 listing. Free.
- July 19 Useful Plants of the Southwest. Join us in activity stations and on a walk in the desert to learn about plants that have been used for food, medicine, and more. The event begins at 9:00 AM at the Chihuahuan Desert Nature Park. Free.

Education Programs

Here are the programs your donations helped us provide from January - March 2008.

- Jan 8 Hi Hopes Garden Club talk on organization
- Jan 9 Valley View Elementary weather
- Jan 9 Central Elementary weather
- Jan 11 Field trip volunteer recruitment and training
- Jan 12 Farmer's Market
- Jan 16 MacArthur Elementary weather
- Jan 17 Booker T. Washington Elementary weather
- Jan 17 Annual Meeting
- Jan 30 Kiwanis Mesilla Valley talk on organization
- Feb 2 Rio Grande / Rio Bravo Water Teacher Workshop
- Feb 4 Anthony Community Center desert safety
- Feb 6 Valley View Elementary solar system
- Feb 6 Central Elementary solar system
- Feb 7 Tombaugh Elementary field trip
- Feb 8 Alameda Elementary field trip
- Feb 9 Farmer's Market
- Feb 11 Tombaugh Elementary field trip
- Feb 12 Jornada Elementary weather
- Feb 13 MacArthur Elementary solar system
- Feb 14 Booker T. Washington Elementary solar system
- Feb 16 Archaeology Day

- Feb 20 Las Cruces Newcomers talk on organization
- Feb 20 Sierra Middle School vegetation measurements
- Feb 20 National Public Observatory total lunar eclipse
- Feb 21 Valley View Elementary field trip
- Feb 21 Jornada Elementary science night
- Feb 23 School to World Career Day in Albuquerque
- Feb 26 Mesilla Valley Christian School field trip
- Mar 1 AAUW Girls Can!
- Mar 7 Doña Ana Community Center desert safety
- Mar 11 Sonoma Elementary weather
- Mar 12 Central Elementary earth movers
- Mar 13 Jornada Elementary field trip
- Mar 14 Sonoma Elementary field trip
- Mar 15 A Dog's Day at the Park
- Mar 17 Valley View earth movers
- Mar 18 Mesilla Park Elementary field trip
- Mar 19 MacArthur Elementary earth movers
- Mar 20 Booker T. Washington Elementary earth movers
- Mar 24 Stone Age to Space Age Program field trip
- Mar 28 Loma Linda Elementary field trip



Newsletter Gets A New Name

Congratulations to Tillie Tilghman for suggesting "Asombro Insights," the new name chosen for our quarterly newsletter! The choice was difficult because we received many wonderful suggestions from our members.

We first met Tillie years ago when she attended a workshop we hosted, and she later brought these new ideas to her students at Picacho Middle School. Since that time, Tillie has volunteered at several of our education events, and she has been a member of the organization for six years.

Tillie clearly understands the mission of the organization and is familiar with our quarterly newsletter's purpose to bring information and "insights" to our members. Thank you, Tillie!

Volunteer Opportunities

In the first quarter of 2008, volunteers for the Asombro Institute for Science Education have already donated more than 600 hours of service! To say that we would not be able to accomplish as much as we do without them is an understatement.

As much as all of these talented, dedicated individuals do, we are so busy that <u>we are always in need of additional volunteers</u>. There are a variety of ways you can help, and we know we can find tasks that will be fun for you and a service to the organization. For example, if you enjoy being outside, consider helping maintain the Chihuahuan Desert Nature Park's trails during a volunteer workday. If you are organized, consider helping make copies, compiling education materials, or keeping up with routine work in the office. If you love working with kids, consider helping with field trips and classroom programs.

Unlike many other organizations, we have no minimum number of hours required; every hour is valued. You can sign up

to help with as much or as little as you want. Join us today!

For information on volunteering at the site, contact Paul (paul@asombro.org).

For information on volunteering with education programs, contact Rink (rink@asombro.org).



Volunteer Donna Yargosz uses her teaching expertise to share her knowledge and love of the desert with students.

Archaeology (Continued from page 3)

that we modern people recognize as closer to our own. But the Nature Park sites are important for what they attest to: people supporting themselves in highly complex, creative, and sustainable ways. These traditions carried people through long periods of environmental fluctuations that most of us modern folks can hardly fathom. Some of their ideas and concepts are reflected in the pictographs (paintings on rock) found in other nearby (and also restricted) parts of the Doña Ana Mountains. Their traditions re-emerged after Puebloan-farming came to an end in the southern Southwest, around A.D. 1450. In historic times,

Spanish explorers encountered sparse populations of nomadic hunter-gatherer Sumas, Mansos, and Apaches who occupied the majority of the northern Chihuahuan Desert, and who, to quote prominent Southwestern archaeologist Stephen Lekson, "were loathe to give up any of it."

The archaeological record of this area stands as testimony to important periods of people's continuity and change. One of the participants in that archaeology conference made the point that the world needs these archaeological resources as a source of wisdom for decisions about the management of our lands and our future.

As a final note, please enjoy and appreciate the archaeological resources of the area. If you see an artifact, go ahead and look at it, pick it up, feel it, photograph it. Then, *please put it right back where you found it*. The tangible evidence for the legacy of past peoples is rapidly being erased by development, population pressure, and looting. Archaeological resources are protected by law on all public and state-trust lands. Once removed, they lose most of their scientific and cultural value.

Want to learn more?

Donors who give to the Asombro Institute at the Obsidian level or above will have an opportunity to meet Mark and go on a tour highlighting archaeology in and near the Chihuahuan Desert Nature Park. The date is tentatively set for October 25, 2008, so there is plenty of time to make your donation and gain access to this exclusive tour.



YES! I want to support the Asombro Institute for Science Education's efforts to increase scientific literacy by fostering an understanding of the Chihuahuan Desert. <u>All donations are welcome</u>; the minimum donation to receive a printed copy of the newsletter is \$10. Please sign me up in the following category:

| Quartz (\$15 +) | One-year subscription to the Asombro Insights. |
|--------------------------|---|
| Gypsum (\$50 +) | One-year subscription to the Asombro Insights and tickets to the Butterfly Flutterby. |
| Jasper (\$100 +) | Everything above plus invitations to a VIP breakfast at the site. |
| Obsidian (\$250 +) | Everything above plus invitations to a VIP tour. |
| Peridot (\$500 +) | Everything above plus a limited-edition print of the Nature Park. |
| Turquoise (\$1000 +) | Everything above plus a custom cactus garden planter. |
| | |
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