



# VOLUNTEERS' ASSOCIATION NEWSLETTER



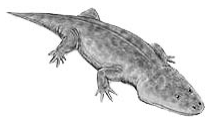
NEW MEXICO MUSEUM OF NATURAL HISTORY & SCIENCE

JUNE-JULY 2011

## FROM FOP: NEW MEXICO REDONDO FORMATION PALEONTOLOGY REVISED

Geoscience Collection Manager Justin Spielmann spoke at the April 18, 2011, FOP meeting about new discoveries in the Triassic Redondo Formation since the early 1970's explorations. Former museum director and paleontologist Adrian Hunt and staff paleontologist Spencer Lucas also collected there for the museum in the 1990's.

The Redondo Formation is part of the Chinle Group exposed in eastern NM south of Tucumcari in the Apache Canyon area. During the late Triassic that part of the state was a warm and relatively wet area with a series of shallow lakes that resulted in extensive mud-rock and shale strata.



The fauna collection now includes three genera of fresh water fish and a significant number of land animals.

*Metoposaurs*, the slow moving amphibians with the broad, flat heads that lived in small streams and lakes, included a new genus named *Apachesaurus*. It was a

small 8" - 10" animal with several new modifications in the lacrimal and occipital regions, the post temporal foramen and the otic notches.



*A new species, Redondosuchus rineharti was named after NMMNH&S paleontologist Larry Rinehart for his work in analyzing and documenting the new species.*

Those adaptations must have been good, because *Apachesaurus* lived for a long time.

Several types of reptiles have been collected, including most of the skeleton and the largest skull found to date of a

male phytosaur. A phytosaur is a huge, semi-aquatic reptile that resembles a crocodile but the two are not related. Named



*Redondosaurus*, it became the model for one of the exhibits in the Triassic Hall, and



a duplicate mount was made for the Carnegie Museum in Pittsburgh.

A number of aetosaurs have been found, including yet another new genus, *Redondosuchus*. This was determined by analysis of the armor plates, called

scutes, which were the only fossils found.

[Aetosaurs are the only reptiles that are identified based on the differences in their scutes.] A new species, *Redondosuchus rineharti* was named after NMMNH&S paleontologist Larry Rinehart for his work in analyzing and documenting the new species.

Three unique ground dwelling crocodiles have also been collected.

One genus was named *Sphenosuchid* because of its long legs--*the crocodile on stilts*.



Fragments of another, named *Redondovenator* (the hunter, because of its size) is the holotype

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for this animal. Fragments of a reptile with mammal characteristics was found and named *Trirachodonatide*. Ichnofauna, or trace fossils, include theropod tracks, but no fossil remains have yet been found. The Redondo Formation faunachrons have resulted in creating a five-fold increase in new discoveries since 1972, which has fostered timeline correlations with other strata as far away as Germany.

Dick Yeck  
VP for Programs, FOP

## FROM OUR PRESIDENT

The year 2012 marks the centennial for New Mexico statehood and the 25th anniversary of the museum. Plans are underway to celebrate these events. The theme will be *A Hundred Years of Discovery*. I suspect there will be opportunities for volunteers to help in exhibits' design and fabrication or to simply suggest ideas.

Our newest exhibit *Degrees of Change: New Mexico's Climate Forecast* will open May 20, 2011. By Fall many of you will have received special training for this exhibit and will be able to converse on the subject with our visitors.

Also in the works is a revamping of the Astronomy Hall, including a new, interactive constellations exhibit created by volunteer Roger Kennedy and the "Tech Team". Related to this, just outside the Planetarium exit, is the Sun Dagger exhibit. This is a good place to introduce the changes in the apparent position of the sun throughout the year and its relationship to the seasons. Please keep everyone from spinning the date knob.

Can you figure out the reason for the major and minor lunar stand stills? And as you wander back into the technical world of Space Exploration, don't forget to point out the blink comparator and the discovery of Pluto.

For those of you less interested in machinery and gadgets and more interested in enjoying the world of nature instead, there is the Tertiary Hall. Its large murals depict the menagerie of North American mammals, which evolved after the end of the dinosaurs. Wander in there sometime and ponder the scenes, and perhaps

engage some guests in conversation. So, with all that, carry on and enjoy.

John McDonnell

## A RETIREMENT

Dear Volunteer Colleagues--

*I am going to retire June 30, 2011.*

I have worked at this Museum for 27 years, from before the doors opened. I have had a hand in many projects and many endeavors revolving around science education--teaching



adults, children and teachers, both in the Museum and in the field, as well as helping in exhibit development.

I started as a volunteer here, helping to lead trips to the Bosque del Apache long before there was

a building. Then, I taught summer camp beginning in 1984. My first full-time work was coordinating docent training in preparation for the opening in 1986. There were over 200 enrolled, and some of you are still volunteering here! During most of my tenure here, I coordinated Exhibit Hall Docent training. I have always enjoyed the connection with new volunteers as you wrestled with new ideas. I enjoyed you keeping me on my toes and stimulating my brain, as well.

I have seen many changes in the building, in staff and in the ever-changing exhibits, as well as growth in individual volunteers. But one special constant has been working with such dedicated people, volunteering your time to help others learn--you know the answers to the most common questions and inspire thinking about some of the most complex questions.

I have gotten to know so many great volunteers over these years that we have a family joke

about how many people I will know at any public event we attend!

What am I going to do...? I have had great role models--such energetic and giving people whom I've gotten to know as they volunteered at the Museum. I do have a list started of new opportunities, and I know I won't be moping on the couch!

I have made friendships that are long lasting--even if we go for awhile without contact, please know that it doesn't mean we aren't still great friends.

And, who knows, you might just catch me as I slip into the Exhibit Halls to docent now and then...?

*Take care, Tish Morris*

## VOLUNTEER RECOGNITION AND APPRECIATION



Walter and Allene Kleweno were inducted into the Senior Hall of Fame at the annual Silver Horizons Senior Hall of Fame Awards Dinner at the Marriott Pyramid on May 12, 2011. Since 1982, the Silver

Horizon organization has worked to improve the quality of life of older adults with limited income in Bernalillo County by providing activities such as home repairs, safety modifications, utility assistance and food distribution. Each year the group selects several persons who, through their generosity and involvement, have demonstrated outstanding support of their community.

The Klewenos were nominated by Abigail Eaton of the NM Natural History Foundation. In addition to being a long-time volunteers at NMMNH&S, Walter and Allene Kleweno have been active in many community organizations including the Albuquerque Community Foundation, the New Mexico Symphony Orchestra, the Rio Grande Nature Center, the

American Cancer Society and the Nancy Floyd Hayworth Foundation. As chair of the Library Project Committee, Allene, a former librarian, has worked tirelessly to place books and materials on breast cancer in libraries throughout the state of New Mexico including tribal libraries and bookmobiles.

In addition to his many volunteer hours, Walter, a retired geologist, has participated in the Exxon Mobil Volunteer Involvement Program while here at NMMNH&S, which has provided Bioscience Collections with thousands of dollars over the years to purchase reference books, equipment and materials used to improve the work done on the collections.

Through the Kleweno's activities and generosity, they have shown passion for their community and for the organizations that enrich our lives. Congratulations and thank you Walter and Allene!

*Patricia Gegick, Bioscience Collections Manager*

## CONGRATULATIONS, GRADUATES!

This year we have three wonderful young women that who just graduated from High School: **Madison Chavez, Ria Eck, and Beth Sanchez**. We also have a fine young man, **Phoy St. John**, who has just graduated from the Albuquerque Police Academy. We are very proud to count all these young people among our volunteer corps!

*Linda Walton*

## A FIELD TRIP TO THE NATIONAL WEATHER SERVICE (March 29)

On Tuesday, March 29, at 12:30 PM, a group of docents carpooled to the National Weather Service Operations. Kerry Jones and Dee Kann were our very knowledgeable guides on our tour, which is a part of their public outreach program.

First, we watched videos of some aspects of the weather bureau with lively discussion and trivia questions interspersed. Then, we observed the many facets of what it takes to compile and predict our weather here and worldwide.

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The facility is staffed 24/7 with three shifts. They also have volunteers who assist in many aspects of operational duties. Weather balloons are launched twice every day.

It was most interesting and informative, and a good time was had by all!

*Flo Sayer, Field Trip Committee*

### **LOS LUNAS SILVERY MINNOW REFUGIUM AND WHITFIELD WILDLIFE CONSERVATION FIELD TRIP**

January 12, on a cool and breezy morning, Paul Mauermann drove nine intrepid volunteers to meet Linda Heinze at the Los Lunas Silvery Minnow Refugium. Douglas Tave, Refugium Manager, gave us a tour of the indoor hatchery, which consists of tanks, aquaria, and three water recirculating systems. These systems house a refugial population in case of river disasters. The refugial population is an "insurance" population in case a disease affects other populations.

We then proceeded to the Outdoor Refugium, which mimics all of the habitats critical for life stages of the minnow with water conditions similar to the Rio Grande. Minnows raised under these conditions are physically fit and have a higher survival rate than minnows raised in tanks. Because the refugium was dry for cleaning and repairs, we were also able to see all of the inner systems that are not visible when the water is flowing. We discussed the possibility of returning during the summer to see the refugium in full operation.

Continuing south on NM 47, we followed Linda to the Whitfield Wildlife Conservation Area near Belen. Since 2003, the Valencia Soil and Water Conservation District has been restoring this 100 acre former dairy farm to its natural Bosque ecosystem, including permanent palustrine wetlands, seasonal wetlands, and riparian areas. The land has been placed into a permanent conservation easement with the USDA Natural Resources Conservation Services Wetlands Reserve Program.

After dropping off our lunches at the new education center, Linda led us on a 1.5 mile loop trail to see restoration efforts and wildlife. Back at the education center, we were treated to drinks, snacks, and a discussion of the program with Ted Hodoba, Project Manager, and volunteers from the Friends of Whitfield Wildlife Conservation Area. The volunteers provide educational programs for school groups from Valencia County and as far away as Albuquerque. We enjoyed an interesting trip which increased our awareness of two local conservation efforts.

*Gail Harcourt*

### **THE VOLUNTEER FIELD TRIP TO EL MALPAIS (May 12)**

Our field trip to El Malpais started with a running commentary by Larry Crumpler on the geology of the Rio Grande rift valley as we drove across it in the van. We had headsets so we could hear every word. It made the drive on I-40 so entertaining that there was no conversation at all among participants.

We picked up the McCarty lava flow while still on I-40. McCarty is the youngest lava flow in the continental US. About 3000 years old, it is excellently preserved in the desert of New Mexico. Volcanic features here can be compared with features found on other planets.

Larry told us some testing for the Mars Rover happened here.

Larry and Jayne

Aubele explained that there is a revolution going on right now in Volcanology, and old assumptions are being revised day by day. The McCarty flow, for instance, is part of a more complex system than was previously thought. Instead of being one massive flow,



Larry & Jayne explain an overlook at El Malpais.

it is a mix of lava flows that originated at various times and took different paths as each flow interacted with previous flows and other geological features. Once a flow erupts, the crust forms quickly, thickening to several feet in a matter of days.



Participants look for China through crevasse.

Additional lava inflates the flow, generating new streams of lava going in different directions.

What look like sinkholes are, instead, places where the original flow formed a hard, thick crust, and later flows flowing around it rose higher as they inflated. As Larry and Jayne explained how what we were looking at could be re-interpreted, their excitement was contagious. The Field Trip to a Revolution in Volcanology was a great success!

*Brigitte De Saint Phalli*

## **VOLUNTEERS' BOTTLE CAPS BENEFIT EARTH HOUR HEMISPHERE MURALS**



Back at the beginning of March, we sent out an email to the Volunteer Association asking for help collecting the raw materials for a public mural to be created at Earth Hour-- plastic bottle caps. Many volunteers responded!

Huge thanks go to those of you who saved and donated your plastic bottle caps for our Earth Hour Mural.

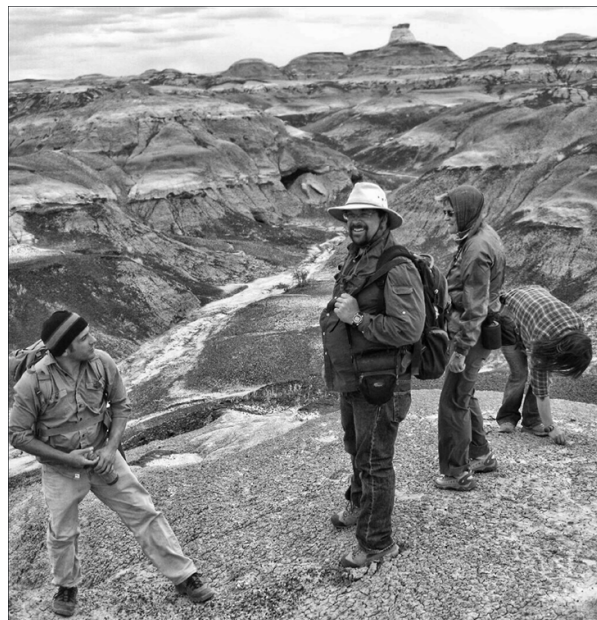
The bottle caps went through the wash cycle with some bleach and were sorted into colors. We received enough caps for Museum Visitors

to glue down over 400 of them onto two hemisphere panels. Now the Education Department is screwing the caps in place to make a lasting tribute to visitors who participated that evening. When all is complete, we will send out a photo of the finished products. It is a great way to make art from trash!

*Cirrelda Snider-Bryan, Eileen Everett & Carolyn Gregory*

## **BISTI VOLUNTEER FIELD TRIP**

On an unexpectedly cool May day a van of volunteers accompanied Tom Williamson to explore the home of the Bisti Beast. For those who don't know it, the Bisti is an area of beautifully stark badlands on BLM lands not far from Farmington in the northwestern



Dr. Tom Williamson can even keep that great hat on in the Bisti windstorm!

corner of the state. On our drive to the site of our visit, we were able to identify many layers of Cretaceous formations.

There are few large landmarks in the Bisti so it's good to have a guide as knowledgeable as Tom. He guided us to an interesting coal seam, which had plant remains and even some flakes of amber in it. We also hiked to an area that had abundant small dinosaur bones.

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The whole Bisti area is so vast that it has not been fully explored, but there are surely many more interesting fossils to be found especially since new material is continually being eroded out of the surface. The one factor which was the same as our previous field trip to the Bisti was a ferocious wind. We joked that it replaced a dermabrasion treatment at the spa. Since Tom will be spending two weeks in June in the field out there, we certainly wish him an abatement of the wind!

*Pat Robinson*

### CONTINUING EDUCATION...

#### **TYRANNOSAURS OF THE SOUTHWEST**

**Monday, June 6, 2011 9:30 am in the MPR**

Tom Williamson, Ph.D., Curator of Paleontology, has done research centered primarily on Late Cretaceous vertebrates. A portion of the research is concentrated on the San Juan Basin of northwestern New Mexico. New Mexico contains one of the most complete records of Late Cretaceous through Paleocene terrestrial vertebrates.

Tom will give a talk on Tyrannosaurs, including *Tyrannosaurus Rex*. Tyrannosaurs were the dominant, large, predatory dinosaur of the northern continents during the Late Cretaceous. There has been an explosion of new discoveries over the past several years which has led to new understanding of the evolutionary history of tyrannosaurs. New discoveries include at least two new taxa from the American Southwest: *Bistahieversor* (the "Bisti Beast" of NM) and *Teratophoneus* (a new tyrannosaur from the Grand Staircase of southern Utah). Both of these dinosaurs were named by Thomas Carr (Carthage College) and Tom Williamson. (Two other colleagues also contributed to the paper naming and describing *Teratophoneus*). These dinosaurs help to paint an interesting new picture of dinosaur life and evolution during the Cretaceous.

Join us for an informational and interesting morning with Tom Williamson.  
*Coffee and donuts, of course.*

*Gerry Laidlaw*

### **VOLUNTEER EDUCATION**

SPECIAL TRAININGS, CLASSES, FIELD TRIPS AND EVENTS....*FOR VOLUNTEERS ONLY*....

#### **Programs at-a-glance**

##### **JUNE**

**Docent Discussion** – Exhibit Hall Refresher Training --June 7 (Tuesday) • Cretaceous Hall • 1 p.m. – 2:30 pm

**Open Sesame** – Cart Training June 13 (Monday) • 2-3:30 pm • Solar Cart

**Docent Social** - June 17 (Friday) 11-noon • in the Volunteer Lounge

##### **JULY**

**New Exhibit Training** – “Emergence” July 7 (Thursday) • 2 – 4 pm

**Docent Discussions** – Exhibit Hall Refresher Training - July 13 • 9-10:30 am • Ice Age Hall

**Open Sesame** – Cart Training July 20 (Wednesday) • 9-10:30 am • Mars/Space Cart

### **SPECIAL TRAINING RESCHEDULED**

Volunteer Training on a new exhibit:

***Emergence*** – Life on Earth  
July 7, from 2-4 pm, in MPR

**NOTE:** This was originally scheduled for May 31 from 10 am to noon, but has now been rescheduled.

The Museum will open a new component to the Origins Hall (scheduled to open at the end of June)--focusing on the development and evolution of life on Earth. This exhibit is an outgrowth of research work from the Santa Fe Institute, and the exhibit has been developed and created by graphic art students from Highlands University... Join Mike Sanchez for training on this new component of Origins. Includes a tour and discussion at the exhibit.

## **VOICES IN SCIENCE ADULT PROGRAMS**

*LECTURES – TRIPS – COFFEES – CLASSES – TOURS – SPECIAL EVENTS*

### **Programs at-a-glance**

#### **JUNE**

##### **June 9 • curator's coffee**

The Art of Explosion

##### **June 12 • event** Solar Sunday

##### **June 13 • tour** Docent-led Exhibit Tour

##### **June 2, 9, and 16 • lecture series** *June is Mammoth Month*

**June 2** - Mammoths, Humans and Ice Age Art

**June 9** - Mammoths in Lea County

**June 16** - Mammoths of New Mexico

##### **June 10-11 • event** BioBlitz

##### **June 15 • adult class**

Searching for Answers About Climate Change

##### **June 24-26 • special event**

San Juan River Raft Trip

#### **JULY**

##### **July 6 • tour** Exhibit Design and Fabrication

##### **July 8 • class** Albuquerque Geology

##### **July 10 • event** Solar Sunday

##### **July 13, 20 and 27 • class**

Behind-the-Scenes @ the Museum

##### **July 14 • curator's coffee**

Art in the Age of Mammals

## **LECTURES**

### **JUNE IS MAMMOTH MONTH—LECTURE SERIES**

All evening lectures are held at the New Mexico Museum of Natural History & Science  
1801 Mountain Rd. NW, Albuquerque, NM  
87104 • (505) 841-2800

Visit: [www.nmnaturalhistory.org](http://www.nmnaturalhistory.org)

Special Mammoth Lecture Package:

see all 3 mammoth lectures for only **\$15**  
(\$12 members, \$10 students) **6** (\$5 members,  
\$4 students)

**Purchase in advance** online to guarantee your seats, go to [www.NMnaturalhistory.org](http://www.NMnaturalhistory.org) or purchase tickets at the door before the talk. Doors open at 6:15 p.m.

*Note: The first 35 volunteers to sign up are free (see sheets in VolunteerLounge). If seats are available that night, any other Volunteers who have not signed up can get in for free as well.*

**Questions:** August Wainwright

email: [programs.NMMNHS@state.nm.us](mailto:programs.NMMNHS@state.nm.us)

call 505-841-2861

## **MAMMOTHS, HUMANS AND ICE AGE ART**

**Barbara Olins Alpert**

**Thursday, June 2 • 7:00 – 8:30 pm**

It has been known since the 1920's that the early human inhabitants in North America lived alongside and hunted mammoths. Since 2009, with the discovery of a verified mammoth drawing in North America, we have evidence that at least one human on this continent looked at a mammoth as an object of art. In Europe and Asia many depictions of mammoths have been found. We will look at authentic European mammoth images, at the verified American image—and at examples of North American forgeries of mammoth images. By means of the art, we will explore the relationship between humans and mammoths in the Ice Age.

***Barbara Olins Alpert** is an art historian and artist. She taught prehistoric art at the Rhode Island School of Design for many years. In addition to exhibitions of her work in the US, she has shown work in Malta, Russia, China and Japan. She is listed in the UNESCO publication *Who's Who in Rock Art*. Alpert has had articles in a number of journals including "l'Anthropologie" (Musée de l'Homme). Her recently published book is *The Creative Ice Age Brain: Cave Art in the Light of Neuroscience*.*

## MAMMOTHS OF NEW MEXICO

**Gary Morgan, Curator of Paleontology,  
NMMNHS**

**Thursday, June 9 - 7:00 – 8:30 pm**

**NOTE:** This lecture was originally scheduled for June 16 and has been moved to June 9.

During the Ice Ages, from 1.5 million years ago to 10,000 years ago, the high plains of eastern

New Mexico supported large herds of mammoth, horse, camel and bison. Bones of the earliest mammoth in the New World have been found from Tijeras Arroyo in Albuquerque to the Mesilla Valley south of Las Cruces. New Mexico was home to the Imperial mammoth and the Columbian mammoth—but not the Woolly mammoth!

*Gary Morgan's primary area of interest is fossil mammals from the last 35 million years of geologic time. His field and research program in New Mexico concentrates on faunal and biostratigraphic studies of Miocene, Pliocene, and Pleistocene vertebrate sites throughout the state. Ongoing projects in New Mexico include studies on Pliocene (2-5 million years old) vertebrates from the Rio Grande Valley south of Las Cruces in Dona Ana County and in the Gila River Valley north of Lordsburg in Hidalgo County; cave deposits in Slaughter Canyon Cave in Carlsbad Caverns National Park, and fossil vertebrates associated with Paleoindian artifacts from late Pleistocene deposits (11-12,000 years old) in Sandia Cave in the Sandia Mountains near Albuquerque.*

## MAMMOTHS IN LEA COUNTY [And other significant discoveries along the western edge of the Llano Staccato]

**Calvin Smith, Executive Director, Western  
Heritage Museum Complex**  
**Thursday, June 16 • 7:00– 8:30 pm**

**NOTE:** This lecture was originally scheduled for June 9 and has been moved to June 16.

In cooperation with the New Mexico Museum of Natural History & Science, a Columbian

mammoth is being excavated about 35 miles west of Hobbs, just off the “Caprock” known locally as Mescalero Ridge. The specimen is located in a small Pleistocene lakebed that is between 18,000 and 13,000 years old. Is the animal intact and complete? Were humans associated with the death and/or scavenging of this mammoth? What happened to the megafauna of the region and the humans who hunted them? This topic has been a pursuit of the presenter for over 50 years and he will explore some thoughts and research results.

*Calvin Smith, a Hobbs native, returned to his home in 2007 with 40 plus years in museum management and three degrees from Eastern New Mexico University. He was the first Curator of the Blackwater Draw Museum; first Director of Education for the Texas Memorial Museum at the University of Texas in Austin; first Director of the Spindletop Museum; and the first Director of Arkansas Museum Services. At Baylor University, he was the Director of the Strecker Museum and Professor and Chairman of the Department of Museum Studies. After 20 years at Baylor, he was lured back home by the opportunity to develop the Western Heritage Museum Complex which includes the Museum and the Lea County Cowboy Hall of Fame.*

## SPECIAL EVENT

### **BioBlitz 2011 at Rio Grande Nature Center State Park**

**Friday–Saturday, June 10–11**

Join the New Mexico Museum of Natural History and Science, The Nature Conservancy, and Rio Grande Nature Center State Park for a day of natural discovery!

**Friday evening,** biologists will be on hand to describe the nocturnal activities at the Rio Grande Nature Center State Park and demonstrate the preparations necessary--like setting live traps for the Saturday walks.

**Saturday, throughout the day,** scientific experts will lead walks to explore the middle Rio Grande ecosystem and find different groups of living organisms including plants, birds, insects, and reptiles. Walks will begin in the

early morning and will continue into the afternoon hours. Explore the biodiversity of your own backyard, and learn about how climate change is impacting wildlife and ecosystems in central New Mexico. Bring cameras and upload photos as part of the Photo Sharing Slideshow station.

Free admission (\$3 all-day parking fee)  
The Rio Grande Nature Center is located at the end of Candelaria NW, west of Rio Grande Blvd.  
*No registration required.*

**Information:** [www.NMnaturalhistory.org](http://www.NMnaturalhistory.org) for more information and updated schedule of activities or call Eileen Everett at 841-2837 or [EileenM.Everett@state.nm.us](mailto:EileenM.Everett@state.nm.us)

*Funded by ASTC Communicating Climate Change (C3), NM EPSCoR grants, and the New Mexico Museum of Natural History & Science*

### **FIELD TRIP**

#### **Family Fun on a River Run! — Rafting the San Juan River**

**Friday–Monday, June 24–27**

Great adventure for children seven years and over with accompanying parent(s) or grandparent(s). Raft from Bluff to Mexican Hat, Utah, on a spectacular stretch of the San Juan River exploring the natural history through games, stories and other fun activities.

**Pre-registration required.** For more information or to guarantee your place on this trip, register online, go to [www.NMnaturalhistory.org](http://www.NMnaturalhistory.org)

**Questions:** August Wainwright  
email: [programs@NMMNHS@state.nm.us](mailto:programs@NMMNHS@state.nm.us)  
call 505-841-2861

### **ADULT CLASS**

#### **Searching for Answers about Climate Change**

**Wednesday, June 15 • 6:30–8:30 pm**

As evidenced throughout the Museum, climate

has impacted how the world has looked for billions of years. Why is the climate change that is occurring today any different than changes in past climate? Join Eileen Everett, Climate Change Educator, on a journey viewing our world through the lens of climate change. Explore how our climate has changed in the past and how scientists predict climate will impact humans, ecosystems, and our planet in the future. Learn how to wade through all of the information we are inundated with on a daily basis about climate change and get to the science of climate change. Class fee includes dinner and a guided tour through the exhibit.

*Eileen Everett joined the Education Department in Spring 2009 as Climate Change Educator. Previously, Eileen worked as Education Manager for Audubon New Mexico and as a Fish and Wildlife Biologist for the US Fish and Wildlife Service.*

**\$35** (10% discount for members and volunteers)

**Pre-registration required.** For more information or to guarantee your place in this class, register online, go to [www.NMnaturalhistory.org](http://www.NMnaturalhistory.org)

**Questions:** August Wainwright  
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*Funded by ASTC Communicating Climate Change (C3), NM EPSCoR grants, and the New Mexico Museum of Natural History & Science*

### **ADULT CLASS**

#### **Albuquerque's Geological Landscape**

**Jayne Aubele - One-session class**

**Friday, July 8 - 9:00 am – 12:00 noon**

Albuquerque's landscape is a snapshot of the geologic past and a record of the dynamic geology that formed our state. Did you know that the Rio Grande, the Albuquerque Volcanoes, and the Sandias are all part of the same geological story? Do you want to learn

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more about where you live and why it looks the way it does? Attend this one-session museum class and learn about the geology of the greater-Albuquerque area. No prior knowledge of geology is required.

A copy of the Museum's Albuquerque Geoscape Poster (a \$10 value) will be given to participants.

*Jayne Aubele is Educator/Geologist at the museum. Her focus is volcanoes, and she has mapped and researched the geology of New Mexico and the Southwest as well as the Moon, Mars and Venus. Jayne has been a research staff scientist and program manager for NASA's Space Grant Program. She has authored or co-authored many technical articles and popular books/chapters about NM geology, including the Field Guide to the Sandia Mountains. She was geologic technical advisor and on-camera geologist for the 2008 KNME-TV program, "The Sandias."*

**\$35** (10% discount for members and volunteers)

**Pre-registration required.** For more information or to guarantee your place in this class, register online, go to [www.NMnaturalhistory.org](http://www.NMnaturalhistory.org)

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call 505-841-2861

### ADULT CLASS

#### **Behind-the-Scenes (at the Museum)**

**Wednesdays, July 13, 20, and 27, 1:30–3:00 pm**

This is a 3-session class for adults that will take you behind the "public floors" of the Museum to learn about the people and expertise needed to keep a natural history and science museum functioning. On July 13, you will learn about the Museum's biological collections, including the preparation of mammals, skins, birds, and shells, with Bioscience Collections Manager Patricia Gegick; on July 20, you will learn about the

Museum's paleo/geo collections, including the extensive and ongoing fossil preparation work required for research and display, with Geoscience Collections Manager Justin Spielmann; and on July 27, you will learn about the work that is needed to design, build, and install museum exhibits, with Museum graphic designers and exhibit fabricators. This is a unique opportunity to see the museum as you have never seen it before and learn from museum staff.

**\$50** (10% discount for members and volunteers)

**Pre-registration required.** For more information or to guarantee your place in this class, register online, go to [www.NMnaturalhistory.org](http://www.NMnaturalhistory.org)

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### CURATOR'S COFFEE FOR THE PUBLIC

#### *A Café Style Program*

Join us for a casual discussion followed by a themed tour. Limited to 15 people and includes coffee, light refreshments, and Museum admission.

#### **Detonography: The Art of Explosion**

**Evelyn Rosenberg, Artist**

**Thursday, June 9 • 9:30 – 11:00 am**

In 1985, Evelyn Rosenberg developed a technique to make metal sculpture using explosives; a unique process that she called detonography. This technique allows her to make large scale, monumental sculptures with intricate, complex details on the surface; and she says, "I like the idea of taking a destructive force and using it to make something that is beautiful." The Museum has one of her pieces, entitled *Evolutionary Geoscape*, proudly displayed in the Atrium. Come and hear about

detonography and then see the artwork with the artist.

***Evelyn Rosenberg** has made over 45 public art works around the world; and she has had over 40 one-person and group shows since 1969. Her work has been documented in numerous magazine, newspaper, and television stories, including Smithsonian Magazine, Scientific American, Science News, American Artist, Nightline, the Today Show, and ¡Colores!. In 2007, she won the New Mexico Governor's Award for Contributions to the Arts. She holds a Master of Fine Arts degree from the University of New Mexico.*

**\$8** (10% discount for members)

*Note: This curator's coffee only is free to volunteers... there will be a sign up sheet in the volunteer lounge. This is a special offer due to the fact that the earlier Volunteer Curator's Coffee with this speaker was canceled.*

**Pre-registration required. Limited to only 15 paid participants.** To guarantee your place, register online, go to [www.NMnaturalhistory.org](http://www.NMnaturalhistory.org)

**Questions:** August Wainwright  
email: [programs@NMMNHS@state.nm.us](mailto:programs@NMMNHS@state.nm.us)  
call 505-841-2861

## PUBLIC CURATOR'S COFFEE

### *A Café Style Program*

Join us for a casual discussion followed by a themed tour. Limited to 15 people and includes coffee, light refreshments, and Museum admission.

## **Art in the Age of Mammals**

**Matt Celeskey, Museum Exhibit Designer, Thursday, July 14 - 9:30 – 11:00 am - Meet at the wooden steps in the Atrium.**

Over the past 65 million years, New Mexico has been home to native species of rhinos, camels, horses and elephants, along with a host of other hairy critters utterly unlike anything you'd see at the zoo today. Join Exhibit Designer Matt Celeskey on a tour of

the halls spanning the Cenozoic Era—the Age of Mammals—with an eye on how different artists have envisioned the changing environments, plants, and animals of western North America. We'll discuss upcoming plans to enhance some of these halls, and take a trip to the Museum's new Exhibit Studio to see how staff and volunteer artists, designers, and fabricators collaborate to create the Museum's displays.

***Matt Celeskey** has worked on exhibits for zoos and museums for more than 15 years. He is currently an Exhibit Designer/Illustrator at the New Mexico Museum of Natural History and Science, where his art and interactive displays can be seen in several recently renovated halls. Matt has recently completed illustrations for the upcoming books Children of Time: Becoming Human and Traces of a Permian Seacoast.*

**\$8** (10% discount for members and volunteers)

**Pre-registration required. Limited to only 15 participants.** To guarantee your place, register online, go to [www.NMnaturalhistory.org](http://www.NMnaturalhistory.org)

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call 505-841-2861

## COMMUNITY SCIENCE CONNECTIONS

**Museums, Libraries, and Families Working in partnership to bring fun-filled educational events to the community!**

***Sponsors:** NMMNHS and Planetarium, Community Science Connections, Albuquerque/Bernalillo County Libraries, National Museum of Nuclear Science and History, and the Rio Grande Nature Center State Park.*

*Programs are funded in part by the Institute of Museum and Library Services (IMLS) with support by the New Mexico Museum of Natural History and Science.*

## SOLAR SUNDAYS

**Sundays, June 12, July 10 12:00 – 3:00 pm**

Telescopes, sun, and bilingual hands-on activities for the whole family Special Planetarium Presentation at 11:00 am (Regular fee applies)

**Free** (with Museum admission)  
No registration required

**Information:**

[www.NMnaturalhistory.org](http://www.NMnaturalhistory.org)

**Questions:** August Wainwright

email: [programs@NMMNHS@state.nm.us](mailto:programs@NMMNHS@state.nm.us)

call 505-841-2861



### **WORKING FIELD DAY AT BALL RANCH ON MAY 7, 2011**

It was a good day for doing paleo field work on Bureau of Land Management (BLM) lands southeast of the Santo Domingo Pueblo. The outing to the Ball Ranch area was organized for a group of 20 Museum FOP volunteers who were accompanied by Paleontologist, Gary Morgan, Geosciences Collections Manager, Justin Spielmann, BLM Regional Paleontologist, Pat Hester, and BLM Rio Puerco District geologist, Brittany Gaudette.

The group planned the day with two goals in mind, scout for and document new localities in the fossil rich area and collect additional *Brontotherium* bones eroding from an arroyo bank at the Stearn's Quarry. Currently, the Museum is allowed to only do surface collection at Ball Ranch, but there is hope that the scientific value of Stearn's Quarry fossils will help in making a case for a complete excavation there.

Getting to the site was tricky. Access was through a locked gate, across Pueblo lands via a rough easement road, then down steep, boulder-strewn jeep trails that only 4x4

vehicles could navigate. A 1/3 mile hike ended at the Stearn's Quarry where Gary Morgan demonstrated the technique of dry screening to find fossil fragments that were mixed with arroyo sand at the bottom of the bone bed. Gary then led the group on a quick survey of a petrified forest area where more vertebrate bones were discovered. As fossils were found, each location was documented by FOP volunteers, using GPS devices. The finds were then collected, bagged separately and labeled with GPS coordinates, stratigraphic and topographic information and other notes.

The 24 individuals then divided into two primary groups. Some returned to the Stearn's Quarry to work the rest of the day. Others split into small groups. Most of these scouts investigated areas where fossils had previously been found, using maps provided by Jim Moore, FOP Field Trip Coordinator.

After trudging several hours up and down hills and through arroyos in 85° heat, the scouts reconvened at the Stearn's Quarry to turn in their documented fossils and watch as an exposed limb bone was jacketed for removal.



Dry screening with Gary Morgan

Ten hours after beginning their trek to a hot dry location with no facilities, the intrepid volunteers returned to the Museum with smiles on their faces. Their accomplishments included finding several new fossil localities, improving their GPS and documentation skills and collecting bones from the Stearn's Quarry, which could help make a case for a complete excavation. The BLM representatives and Museum professionals were impressed by this enthusiastic, hard working group and look forward to cooperating on similar activities in the future.

Mary Moore

## T. REX HISTORY STILL UNFOLDING

Dr. Tom Williamson, Curator of Paleontology at the Museum, was the guest speaker for the March, 2011, FOP meeting. His topic, *Tyrant Lizards of the Southwest*, was a treatise on the iconic evolution of tyrannosauroida, a family of related meat-eating dinosaurs that lived during the Cretaceous period in North America, Asia and probably Europe. These tyrannosauroids were once grouped with other large dinosaurs, but based on what is called “stem based definition”, it has been determined that they did not descend from mid Jurassic Allosauridae but likely from the coelophysoids from which *Coelophysis* evolved. That means that they are related to birds. The oldest fossils found to date are from China, and the current cladogram shows eight species evolved en route to T. Rex. They co-habitated with the Allosauridae, at least in the US, until their extinction.

In southwestern US, *T. Rex* and its antecedents lived on the shores of the Great Western Inland Sea, which stretched from the Gulf of Mexico to the Arctic Ocean. These animals had huge heads, large mouths with big teeth, and strong jaw muscles. The western side genera developed smaller arms with two fingers and deep skull features, while genera found in Alabama retained longer arms with three fingers and shallow skulls. Other morphological differences in these two groups are not fully understood, but *T. Rex* became the dominant tyrannosauroid on the planet by the end of the Cretaceous. [There are three animals that lived in Argentina in the late Cretaceous that are larger than *T. Rex*, but they are technically Allosauridae.]

The issue of the various sizes that specimens can have was discussed. Some small specimens are dwarf or pygmy species, and some are juveniles. Size criteria include the number and size of teeth, type of skull sutures



and skull shape, but the best indicators of age are the bone growth rings when available. Tyrannosauroids grew very rapidly to maturity in their *teen* years but did not seem to live much longer. The oldest specimen so far, called *Sue*, was about 29 years old. One of only two casts of Sue created by the Chicago Museum of Natural History was on loan to our museum in 2007. Our own specimen in the Atrium that we call *Stan*, was acquired in 2009.

Besides Stan, five other tyrannosauroid fossils are in our museum. In the upper Cretaceous Hall is *Daspletosaurus*, an early tyrannosaur that was illegally collected on the Navajo Reservation by thieves in 1995. At the top of the ramp to exit the Cretaceous Hall is what was formerly known as the “Bisti Beast.” Found in 1977 in the Bisti Badlands in the San Juan Basin, it was finally determined to be an earlier *T. Rex* species and was named *Bistahieversor sealeyi* after its discoverer. At the end of the

ramp we have the jaw bone of a *T. Rex* found in Elephant Butte Reservoir in 1983 (and prepared by former volunteer Joe McDowell). There are two *T. Rex* trace fossil foot prints: one in the in the ramp exiting the Extinction exhibit, and the second in the Atrium next to Stan.

Knowledge about the evolutionary history of *T. Rex* is slowly increasing, but it will always be the signature animal of the carnivorous dinosaurs!

*Dick Yeck, VP Programs, FOP*

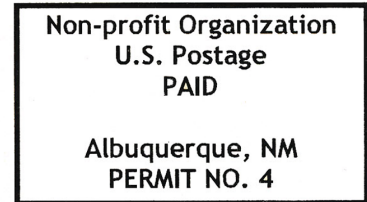
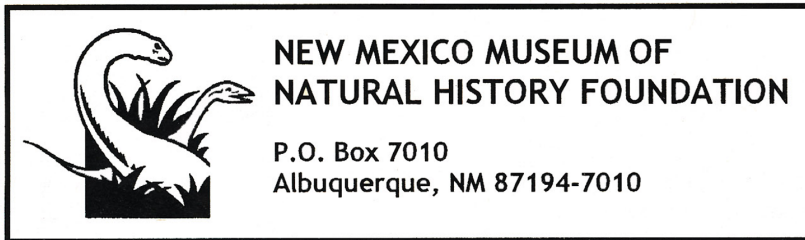
### NEXT FOP MEETING

There will be no FOP meetings in June, July and August. **The next meeting will be September 17, 2011.**

*Dick Yeck*

~ JUNE 2011 ~						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6 Continuing Ed Tyrannosaurs of the Southwest 9:30 am MPR	7 Docent Discussion Cretaceous Hall 1-2:30	8	9 <b>ADULT CLASS</b> <i>Detonography: The Art of Explosion</i>	10 <b>SPECIAL EVENT</b> <i>BioBlitz 2011 at Rio Grande Nature Center State Park</i> 2 days	11 <b>SPECIAL EVENT</b> <i>BioBlitz 2011 at Rio Grande Nature Center State Park</i> 2 days
12 <b>SOLAR SUNDAY</b> 12-3	13 Solar Cart Refresher 2-3:30	14 Volunteer Board Meeting	15 <b>ADULT CLASS</b> <i>Searching for Answers about Climate Change</i>	16	17 Docent Social in Vol. Lounge 11-12	18
19	20	21	22	23	24 <b>FAMILY FIELD TRIP</b> <i>Rafting the San Juan River</i> 4 days	25 <b>FAMILY FIELD TRIP</b> <i>Rafting the San Juan River</i> 4 days
26 <b>FAMILY FIELD TRIP</b> <i>Rafting the San Juan River</i> 4 days	27 <b>FAMILY FIELD TRIP</b> <i>Rafting the San Juan River</i> 4 days	28	29	30 Tish Morris' Retirement	Notes:  <b><u>Public events are marked this way.</u></b>	

<b>JULY 2011 is "Mammoth Month"</b>						
Sun	Mon	Tue	Wed		Fri	Sat
July 31	NOTE: <i>Public events are marked this way.</i>				July 1	2 <b>LECTURE SERIES</b> <i>Mammoths, Human and Ice Age</i> 3 Saturdays
3	4	5	6	7 <b>NEW Exhibit</b> Training <i>Emergence</i> 2-4 <b>Rescheduled</b>	8 <b>ADULT CLASS</b> <i>Albuquerque's Geological Landscape</i>	9 <b>LECTURE SERIES</b> <i>Mammoths in Lea County</i> 3 Saturdays
10 <b>SOLAR SUNDAY</b> 12-3	11	12	13 Ice Age Hall Refresher 9-10:30 <b>ADULT CLASS</b> <i>Behind-the-Scenes (at the Museum)</i>	14 <b>PUBLIC CURATOR'S COFFEE</b> <i>Art in the Age of Mammals</i>	15	16 <b>LECTURE SERIES</b> <i>Mammoths of New York</i> 3 Saturdays
17	18	19	20 Mars/Space Cart Refresher 9-10:30 <b>ADULT CLASS</b> <i>Behind-the-Scenes (at the Museum)</i>	21	22	23
	25	26	27 <b>ADULT CLASS</b> <i>Behind-the-Scenes (at the Museum)</i> 3 Wednesdays	28	29	30



**NMMNHS VAN**

**JUNE - JULY, 2011**

**ADDRESS SERVICE REQUESTED**

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**VAN Editor: Louise Harris**

**August-Sept VAN Deadline is July 15, 2011.**

Email articles to [louise@goingourway.net](mailto:louise@goingourway.net) with a copy to [chris.sanchez@state.nm.us](mailto:chris.sanchez@state.nm.us)  
Please limit each article to 800 words—less if you have an accompanying photo.

**VAN MISSION STATEMENT16**

To inform, engage, and enhance the experience of NMMNHS Volunteers by:

- Acting as a vehicle of “continuing education”
- Keeping volunteers informed about the Museum
- Relaying news of volunteers and their activities.

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*We welcome your articles pertaining to the Museum. We may edit for clarity and space limitations.*