



SITE LINES

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Winter 2020

Message from the Outgoing Council Co-Chairs

Dear Stewards:

It has been a privilege and honor to serve as co-chairs of the SFNFSS council. The January council meeting was our last official act as co-chairs. What a great group of folks we are—so down-to-Earth and no BS. Thanks to everyone for shepherding us through the responsibilities. Muah! We look forward to going back to being mere stewards and visiting our sites more.

If any stewards are interested in serving on the council in any capacity, please let your ATLS know. The council is devoted and great to work with. And if you want to see for yourselves, you're welcome to attend the council meetings, which are held quarterly at the Forest Service headquarters.

On December 20, we had the real pleasure of joining Mike Bremer's friends and colleagues at Maria's in Santa Fe to honor his service to and retirement from the SFNF. What a nice and well-deserved tribute to Mike! Many of Mike's colleagues took the opportunity to give acco-

lades, and we were struck by how many of the speakers recognized Mike's involvement in the SFNF Site Steward Program and what a success and model it has been. Of course, we all know and appreciate Mike's sponsorship and support, but it was eye-opening to see just how many people there remarked on the high caliber and success of the program. It was a nice opportunity to gain some perspective on what we do. Paul and I left feeling honored and proud with a renewed respect for the SFNFSS program.

Looking forward, we are very happy that Will Dearholt has agreed to assume the role of council chair. Kathi Turner has already shown her support for Site Stewards. And 2020 is looking to be a banner year.

So here's to us and all we do. May the spring weather and New Mexico sunshine reinvigorate us in our activities this year. Cheers!

-Lois Haggard and Paul Leo

Message from Incoming Council Chair

Training for new stewards is coming up on March 21 at the SFNF office in Santa Fe. It would be great if active stewards could come to the training to meet the trainees. The training starts at 9 a.m. and goes until mid-afternoon. If you are planning on coming, bring a lunch since we'll be staying on-site over the noon hour.

The annual meeting is going to be September 18 through 20, probably at Bandelier National Monument. People will be able to camp Friday

and/or Saturday or just come for Saturday if that suits them better. The plan is to try to get the Juniper Campground near the entrance station. The Juniper Campground doesn't really have a group site but it has a lot of campsites in near proximity. Sites have tent pads, car pull-outs, tables, and fire rings. Restrooms are close by. Think of things you might bring for the silent auction and lunch. Stay tuned for more details.

INSIDE THIS ISSUE:

Summary of January 18 Council Meeting	2
Site Steward Foundation Update	3
Geology of the Northern New Mexico and Jemez Mountains	3
Preview of March and April Lectures	5
Want Fries with That?	6
Save the Dates	6

Contributors to this Issue

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The editors thank you!

Incoming Chair Message (cont)

At the annual meeting, we generally have the State of the Forest talk on Saturday morning (the 19th), a potluck lunch at noon, speakers in the afternoon, a silent auction table, and a happy hour from about 4 to 6pm. People can

spend Saturday night and maybe go on a hike the following morning (the 20th) somewhere in this area. We'll try to have an interesting jaunt that Sunday morning after we break camp.

— Will Dearholt

Summary of January 18 Council Meeting

The following is excerpted from Judith Isaacs' minutes of the meeting. Thank you, Judith.

Kathi Turner is now the Heritage Program Manager/Forest Archaeologist, replacing Mike Bremer who retired on December 31, 2019. She was named as Acting Forest Archaeologist in December, was one of the applicants for the job, and was hired.

The slate of officers presented to the council was approved. They assumed their duties at the conclusion of the January meeting. Beginning a two-year term are Will Dearholt, chair, and Bob Florek, vice chair. Beginning their second year are Judith Isaacs, secretary, and Nancy Brouillard, treasurer. Stewards who have questions and/or concerns should contact Susan McGrew (sumac3b@gmail.com) or Paula Lozar (lozarpaula@cs.com), who are the members-at-large. Susan and Paula are the conduit between stewards and the council.

Training for new site stewards will be held in the SFNF conference room in Santa Fe at 9 a.m. on March 21, 2020. Publicity is underway. Sandra Arazi-Coombs, Acting Assistant Forest Archaeologist, will provide support in terms of obtaining equipment, printing, etc. As of January 18, there were 16 provisional stewards who need training; Lois will contact all the applicants who have submitted applications. All stewards are invited to come for a refresher, and ATLS who need more stewards may want to come to recruit new stewards. The Training Committee includes Paul Leo, Lois Haggard, and Susan McGrew.

The Education Committee still does not have a chairperson. Thanks to Chris Gardner and Susan McGrew, however, speakers have been obtained for the February, March, and April Wednesday lectures. Lectures are held on the first Wednesday of our off-season months: October, November, February, March, and April. Speakers, a description of their talks, and short biographical sketches can be found on our website: click on Events and Lectures.

If you would like to volunteer for the Annual Meeting committee, please contact Will Dearholt (wrd@lanl.gov). The format will be as usual: reports from ATLS and committee chairs; the State of the Forest; awards for outstanding site steward service, a potluck/chile lunch, a silent auction, and afternoon speakers. Worth some celebration at the annual meeting is the fact that it's the 20th anniversary of the existence of the SFNF

Site Steward Program!

Site monitoring has begun in some areas.

The next council meeting is scheduled for Saturday, April 4, at 9 a.m. in the Santa Fe Forest Service office in Santa Fe.

-Nancy Cella



Front row, L to R: Judith Isaacs, Bob Florek, Will Dearholt, and Nancy Brouillard.

Back row, L to R: Susan McGrew, Ben Molina (Española/Coyote Archaeologist Technician), Kathi Turner (Forest Archaeologist/Heritage Program Manager), Sandra Arazi-Coombs (Acting Assistant Forest Archaeologist), and Paula Lozar

Photo by Paul Leo

Site Steward Foundation Update

This year, 2020, marks the twelve-year anniversary of the founding of the Site Steward Foundation in 2008 and we continue our assistance to site steward programs in New Mexico and Colorado. The Foundation is currently accepting applications for the 2020 grant program and if you would like to apply and be considered for a grant up to \$1,000, please contact Gary Newgent at sitestewardfoundation@gmail.com for an application. Deadline for grant applications is October 1, 2020. There were no grant applications received during 2019. For a list of previous grants awarded, visit "Projects" on our website, www.sitestewardfoundation.org.

The 2020 SiteWatch and Foundation annual meeting and election of officers will be held Saturday, March 28, 2020, at Los Luceros New Mexico State Historic Site. Members of the Foundation will vote on a new board of directors with the addition of Phil Young as vice president and Ray Willison as treasurer. Phil and Ray are both original founding directors of the Foundation in 2008 and we welcome their return to the board. Anne Ravenstone, a member-at-large of the Foundation board of directors, has recently

retired from the board. Anyone interested in joining the Foundation board as a member-at-large should contact Gary Newgent at sitestewardfoundation@gmail.com.

The Foundation is planning on operating information tables at the Archaeological Society of New Mexico annual meeting, May 8-10, 2020, at the Sagebrush Inn in Taos, New Mexico and the Pecos Conference, August 6-9, 2020 in Mancos, Colorado. We are also currently planning a couple of two- and three-day tours of archaeological sites in New Mexico during 2020.

Please help us make our goal of over 100 members in 2020. If you are not a member of the Site Steward Foundation, or have not renewed your membership for 2020, please consider joining or renewing today. The Foundation accepts credit cards for membership dues and donations on our website www.sitestewardfoundation.org. If you would like to be notified of Foundation tours and activities, please subscribe to our email list on the Foundation website.

Thank you for your support of site stewards!

–Gary Newgent, President

“Geology of Northern New Mexico and the Jemez Mountains: Possible Archaeological Insights”

If those who attended this talk on Wednesday, February 5, didn't know anything about the geology in northern New Mexico, they do now. “New Mexico has the best geology,” was Fraser Goff's introduction, and he and his geologist partner/wife, Cathy, convinced us that this is a valid observation. As well, it is obvious that he and Cathy love what they do.

Dr. Goff began by describing the long history of the geological formations of the southern Rocky Mountains, beginning with the Precambrian formations, which contain a wide array of varieties of rock types. Outcrops of granite and gneiss occur in the Guadalupe Box (near Gilman tunnels on the Guadalupe River); these formations date to 1.65 billion years. Other old tough rocks also occur as Sandia granite (1.45 billion), and were used as hammer stones and clubs by prehistoric people. The Permian-age red beds (280 million) stone was used by the Puebloans as building stones;

also used as building materials were the Permian-age Sangre de Cristo sandstone. Salinas Pueblo buildings also used reddish sandstone as building materials.

The buildings at Picuris Pueblo present somewhat of an enigma; instead of using local rock, the buildings are primarily adobe. The pueblo is surrounded by the Chinle, Entrada, Morrison, and Dakota Formations, sedimentary layers dating from the late Triassic to early late Cretaceous. These stones have lots of fossils, petrified wood, and uranium. Also on the Colorado Plateau is the Menefee Formation, which contains 80-million-year old coal beds. These formations occur between Kayenta and Cuba. In Chaco Canyon is the Mesa Verde Group of sandstones, whose youngest is the upper Cretaceous-age Cliff House Sandstone that dates to 77 my. (Dr. Goff mentioned that he'd like to be an archaeologist at Chaco Canyon.)

Geology of Northern New Mexico (cont)

The geology on the Southern High Plains is principally composed of Quaternary deposits like the Ogallala Formation, noted for its large aquifer. Near Raton are deposits that contain coal and methane. Profiles of outcrops show the KT boundary, which contain the iridium anomaly (iridium is a rare element often taken as evidence for an extraterrestrial impact event). The KT boundary is where the Cretaceous and Tertiary periods meet, and represents the end of the age of dinosaurs due to the Chicxulub meteorite impact 65 my ago on Mexico's Yucatan Peninsula. Important in these Quaternary deposits are the microcrystalline cherts and flints used for the Paleo-Indian projectile points.

The Rio Grande Rift is a series of basins that stretch diagonally from Colorado to Mexico. The rift separates the Colorado Plateau from the stable North American crust (aka craton) that forms the nucleus of the continent. It's an extension of the Earth's surface that has been estimated to move apart 1-2 mm/year. It dates to about 25 my. A Chama River Valley section of limestone has been made famous by Georgia O'Keeffe's *White Place* painting near Ghost Ranch. Within the Abiquiu Formation are quartz and pumice deposits. More important to flint knappers is the chert at the base of Cerro Pedernal.

Posi-ouinge, a Tewa site in the northern Rio Grande Valley, is located on a gravel terrace near Abiquiu. Found in the gravels are rhyolite and quartzite, both used to make lithic tools.

The Jemez Lineament, a northeast-trending crustal series of faults, includes the volcanic eruptions in the Jemez Mountains. These mountains date from 70 to 15 my and represent a large volcanic field. Dr. Goff identified the major sources of obsidian in the Jemez Mountains: two sources near Mt. Taylor (3.5-2.5 my), and one near Taos that dates be-

tween 5.3-2.4 my. The obsidian there is of poor quality while the better quality, known jokingly as "weapons-grade obsidian," occurs in the Jemez Mountains. (If you've never seen the major outcrop of obsidian on the Valles Caldera, it's well worth a visit.)

Mt. Taylor is a strato-volcano that overlies the rocks of the Colorado Plateau. The obsidian source is on the west side of Mt. Taylor. Eastward is Grants Ridge, which has obsidian sources that date from 3.5 to 3.1 my. Grants Ridge tuff (exploded magma and ash that have consolidated into solids) also contains obsidian fragments. Bandelier Tuff (1.62-1.25 my) forms the base surrounding a caldera. There are seven obsidian sources within the Valles Caldera NP; the best are located on Cerro Medio. Colors of obsidian are diverse; most are jet black, black to gray, and, less common, mahogany. The sources are geochemically distinct, and can be identified by the trace elements within the piece. The mahogany color is formed by oxidation and is sometimes marbled. Dactite, basalt, and rhyolite are products of volcanism that are produced by different temperatures. Bandelier tuff, used extensively for buildings in Bandelier National Monument and many other sites, is soft enough to be carved, insulates well, and is porous.

Again, northern New Mexico is geologically diverse, with rocks ranging in age from 1.8 billion years to the present. Pueblos were usually located near water sources, and people primarily used the local rocks for building materials and lithic tools.

Fraser and Cathy Goff offer geology tours during the year; in the past, these have included Mt. Taylor, the Gila Cliff dwellings, and the Catwalk Recreation Area. They would like to visit Blackwater Draw between Portales and Clovis (type site for Clovis projectile point). Their tours are given through the Pajarito Environmental Education Center (PEEC, 2600 Canyon Rd, Los Alamos, NM 87544. 505-662-0460).

— Nancy Cella

Previews of March and April Lectures

For our March and April Wednesday lectures, doors to the Forest Service are open by 5:30. Bring a brown bag supper, socialize with fellow site stewards, and be ready to enjoy these lectures that begin at 6:00 p.m. and last about an hour.

Thank you Chris Gardener and Susan McGrew for scheduling our spring 2020 speakers.

March 4, 2020. Ann Hunkins, "Animal Tracks"

...Tracking is more than just identifying animal tracks and sign on the land; it is a way to contact our roots, our connection to the earth. Signs of human presence, recent and ancient, geologic formations and vegetation patterns are all part of the art of tracking. We will address the most common questions: how to tell feline from canine tracks, how to tell wild from domestic canine tracks, and how to be sure you've seen a mountain lion track. She will cover basic animal track, sign and scat identification of most common species in the area. We will study gaits, how different animals move, and what these patterns tell us about their behavior. I will also present sensory awareness exercises, different ways to see, thinking like an animal, and gratitude.

Ann Hunkins has lived mostly in New Mexico since 1992, where her first job was a photographer for the *Santa Fe New Mexican*. She spent many years living in Nepal working as an interpreter during the Maoist conflict there. She has been studying tracking intensively for over a decade, with Casey McFarland, Jim Lowery, and other teachers. Recently, she received her Level 4 certification with the international organization trackercertification.com, and is currently working on Specialist certification. She also studies bird language, awareness, and other tracking-related ancestral skills still in use today.

April 1, 2020. Mollie Toll, "Archaeobotany: Evidence for Human Dietary Patterns Over Broad Sweeps of Time and Space"

We are lucky here in the Southwest to have better climatic conditions for preservation of perishables, and hence more evidence for how people have used plants in the past here. We will focus on uses of plants for food, and how available wild and domesticated plant resources and subsistence strategies have changed from big game hunters, to archaic hunter gatherers, to farmers, here in New Mexico. We will take a look at widespread useful plants that occur over and over again in archaeological sites, and some of the curious oddballs. We'll think about why some plants, documented securely in the ethnographic literature as pillars of the traditional plant repertoire, occur rarely in archaeological contexts. We'll go over how plant remains are retrieved archaeologically, and how those methods have affected data collection over time. We will think about the development of New Mexico's complex regional cuisine over 20 centuries, and how the taste of food has been influenced by domesticated plants arriving from Mexico 3,000 years ago, and by a new array arriving from the Mediterranean by way of Mexico in the 16th to 18th centuries.

Botanical remains and artifacts will be available to examine up close.

Mollie Toll brings a variety of different experiences to bear on these ideas, including anthropological and archaeological academic perspectives (BA University of Chicago, MA Loyola University) and plant ecology (MS University of New Mexico). Real archaeobotanical training took place as a collaborative experience with colleagues (Vorsila Bohrer, Karen Adams, Pam McBride, and other members of the Southwest Paleobot Study Group) over several decades of examining and reporting on assemblages from Paleo-Indian to historic contexts. Special interests include prehistoric farming and water control issues (experimental fields in Chaco Canyon and in several school gardens) - disciplinary ideas has led to a decade in public schools, as a science coach and proponent of school gardens, and current stint as a museum educator.

Site Lines

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Want Fries with That?

A few years ago when I was driving home from the Native Plant Society of New Mexico's annual meeting, I joined a field trip at Aztec Ruins National Monument. The most exciting thing we saw that day was a handful of tiny potatoes grown from ancient stock. Yes, in addition to the corn, beans, and squash diet we're all familiar with, apparently Four Corners sites are also revealing potatoes, *Solanum jamesii*, from at least 10,000 years ago. Near Magdalena, NM, archaeologist Lisbeth Louderback of the University of Utah and botanist Bruce Pavlik of the Natural History Museum of Utah located some plants last summer. A few sites in Arizona, New Mexico, Utah, and Colorado have also yielded the potato, hence the Four Corners name. Their range appears to extend into eastern Texas and western Mexico.

For a fascinating look at this news, see the March/April 2020 *Archaeology* magazine. The potato – a big one is about the size of a walnut - was served with smoked river trout in October 2018 at an Indigenous People's Day dinner. A staple in Peru, potatoes haven't been associated with cultures this far north until recently. This one contains twice the protein, zinc, and manganese of other spuds with three times the calcium and iron. The plant is well adapted to the piñon-juniper habitat of central New Mexico, so look for it next time you're heading to Pie Town.

— Irene Wanner

Save the Dates

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| March 4 | Wednesday lecture – “Animal Tracks,” Ann Hunkins. The lecture begins at 6 p.m. |
| March 28 | SiteWatch/Site Steward Foundation Annual Meetings. Los Luceros, New Mexico Historic Site north of Española. |
| April 1 | Wednesday lecture – “Archaeobotany,” Mollie Toll. The lecture begins at 6 p.m. |
| April 4 | Site Steward council quarterly meeting, 9 a.m. SFNF offices conference room |
| May 8-10 | Archaeological Society of New Mexico annual meeting, Sagebrush Inn in Taos, New Mexico |
| August 6-9 | Pecos Conference, August 6-9, in Mancos, Colorado. |
| September 18-20 | – Annual meeting. It's a camping year so those who want to come on Friday evening to set up camp are welcome (happy hour follows the camp set-up). Business, meetings, awards, potluck lunch, and silent auction Saturday. Stay tuned for details. Remember that proceeds from the silent auction help fund our expenses. Bring the good stuff and buy good stuff. Thanks to Shelley Thompson for handling the auction. |

Stewards, especially those who are new to our organization, are urged to attend the meetings listed above, as they are able. These meetings have guest speakers of all stripes and topics, and are a great way to enrich your archaeological and historic knowledge of the Southwest. Plus, they are lots of fun.