Understanding Ground Stone Tools
by Joan R. Simon

Margie Burton, Research Director at the San Diego Archaeological Center, gave an illuminating talk on archaic ground stone tools at the January 12th Docent Society meeting. She explained that, for archaeologists, “ground stone includes any stone item that is primarily manufactured through abrasion, polish, or impaction,” or is itself used in those activities. Ground stone tools include manos and pestles (hand held stones) and flat and basin metates and mortars (nether or “under” stones). Sometimes flat grinding surfaces, basins and mortars are worked into bedrock and large boulders in the landscape and cannot be moved.

She explained that ground stone tools have been used by traditional societies all over the world and she brought many intriguing samples from San Diego County to the meeting. In this area, the earliest ground stone tools, that have been found, date to the Archaic period, which began about 8000 – 7000 years ago. In the more recent Late Prehistoric period from about 1300 years ago, ceramics and arrowheads start to appear. Kumeyaay, Luiseño, Cupeño, Juaneño, and Cahuilla people continue to live in the region today where over 30,000 sites have been found, many in the inland and mountain areas away from the coast.

Dr. Burton focused on experiments conducted at the San Diego Archaeological Center to develop and test criteria for assessing grinding tool function and the evolution of hunter-gatherer grinding technology in San Diego County and elsewhere. The objectives of the experiments were to create use-wear patterns that can be compared to the wear surfaces on ground stone artifacts and to determine the relative efficiency of different tool shape and rock types.

A total of 151 volunteers were assembled from colleges and universities, secondary and elementary schools, and various civic groups. The volunteers used three tool shapes: flat metates, basin metates and mortars. They used three different rock types: plutonic, volcanic and sedimentary. And they used three different intermediate substances (i.e., the materials that were to be ground): acorns, Chia seeds and dry clay (which would have been used to make pottery).

The volunteers worked in pairs. They were given a nether and an upper stone, material to grind and a
receptacle to collect the processed material. Each grinding session was carried out for six hours, which was determined to be the time necessary to assess a wear pattern in the rocks. The material collected was then weighed.

“People in the past were flexible,” Dr. Burton said. The rocks they used depended on where they lived. For example, while most metates and mortars found in the San Diego area are made from granite, sandstone was used along the coast “because that was what was most readily available in the right shapes and sizes.”

“All over the world, people were confronted with the same kinds of issues,” Dr. Burton said in conclusion. They needed to carry out similar kinds of tasks to prepare food and other products and as a result produced “similar if not identical forms of tools.”

**January 2013 Docent Meeting Minutes**

*Excerpted from notes of TPDS January 12, 2013 General Meeting, by Secretary Lynne Truong. Complete minutes are in the docent library.*

Meeting called to order at 10:30 am by President Bill Eckles.

Bob Doolittle presented a delightful slide show on the trip a group of docents took to Vulcan Mountain Wilderness Reserve.

**Docent of the Month: Lynne Small**

for her wonderful leadership of the merry band of Whacky Weeder. (See pg. 3.)

**Ranger’s Report: (Bill Eckles)**

- ADA trail improvement starts Monday, January 14, and will take approximately five months to complete. Work will cover Discovery Trail, South Fork of Broken Hill to lookout point and Whitaker Garden. No new trail, existing trail will be widened and flattened where needed with compacted granite to make the trails wheelchair-accessible. Low bridges on Broken Hill Trail and benches. Work paid for by State. (See article on pg. 4.)
- Parry Grove has 48 steps finished, about 30% completed. It will have more steps because the new steps are not as steep.

**TPA: (Pat Masters)**

- Announced a workshop on January 19th at the Scripps Institute Auditorium from 9-12 pm. Topic: *Opportunity & Constraints for Education Around the Lagoons.*

**Treasurer’s Report: (Carolyn Butterfield)**

- December museum shop sales and charitable contributions were excellent. Our bank balance continues to be strong. The financial report will be posted in the Library.

**Museum Shop: (Nancy Woodworth)**

- Nancy informed us about the National Park Landmark Program. The Secretary of the Interior can designate biological asset sites in the United States. There are 600 sites in the US, 37 of which are in California. TPSNR was designated as a biological asset in 1977. The 2013 National Park Landmark Calendar features photos of contest winners. A photo of Broken Hill won Honorable Mention and is featured in the calendar. Nancy has two boxes of calendars available to docents.

**Children’s Program: Sue Randerson**

introduced Marie Johnson & Barbara Justice, the new co-directors of the Children’s Program.

**Docent Training:** The program has 75 applicants for the training to begin in February. (See article on pg. 6.)

Selma Torres from the Class of 2012, citing the successful retention rate at Qualcomm, is looking into a similar peer-mentoring model to engage new docents.
Docent of the Month

The January Docent of the Month, Lynne Small, took over as the coordinator of the Whacky Weeder about a year ago. Her predecessor, Steve Tarkington, hails her skillful coordination of the weeding work with rangers, Reserve staff, and Seabees “to accomplish so many positive things for the Reserve” and to make this joint effort “run like a well-oiled machine.”

Lynne writes of her experience:
“...I am not alone in having been introduced to volunteering in the Reserve by Barbara Wallach. She lured me into ‘whacky weeding’ long before I became a docent in 2011. Now I find it both a privilege and a pleasure to be a part of the Docent Society. ...”

— Lynne Small

Children’s Program

by Marie Johnson & Barbara Justice, Children’s Program, Co-Directors and Louis Sands, Children’s Program Coordinator

The Children’s Program had the first week of January off, due to schools still being on vacation, but in spite of that, 341 children came this month for presentations and trail walks covering the Kumeyaay (3), Ocean, Whales & Dolphins (2), Ecosystems & Food Chains (1), and Geology (1).

Docents giving presentations in January were Paul Howard, Joellen Barnett, Bob Doolittle, Barbara Wallach, Janet Ugalde, and Ann Smith Mercandetti.

We need more docents to “fill the blanks” for February tours. It is easy to get information online about the dates, programs and sign-up. If you have any questions, please ask any of us for assistance. We’d love to have more docents come join us and, as you can see from the numbers, we have contact each month with a lot of visitors to the Reserve and many have never been here before! We think it is very special to be the first ones to share our enthusiasm about Torrey Pines State Natural Reserve with them.

We have a good time giving our children’s tours and are often surprised by what we hear from the children. Last week, on-trail, a child saw something and asked “Is that Big Foot?”
New ADA Trail at TPSNR

A new project to upgrade 3,825 feet of existing trails to make them accessible to people with disabilities is underway at the Reserve. When completed, it will provide access to Whitaker Garden, above the Parry Grove Trail, the West Overlook, and a new overlook on the South Fork of the Broken Hill trail that will afford views of Broken Hill (see map below). The paved sidewalk from Whitaker Garden to the West Overlook, which was installed last fall, is 95% completed. Work on the remainder of the project got underway in January.

Dotted lines represent the ADA project. The two upper parking lots are near the top; the South Fork of Broken Hill Trail section is bottom center.

The project will take five months more, with the expectation that the new pathway will be complete before summer. Supervising Ranger Dylan Hardenbrook explained that the project will not involve paving any new areas of the Reserve or creating any new trails. The tread surface of the path where it is not on existing paved roads will be made from stabilized decomposed granite (DG), which is currently used extensively in the Reserve.

During construction, portions of the Reserve’s trail system may need to be closed, including the Discovery Trail, West Overlook Trail and the South Fork of the Broken Hill Trail. The California Conservation Corps (CCC) crew will be trimming along these trails and Reserve staff will post signs when they are closed. Supervising Ranger Hardenbrook noted that “the pink ribbons and pin flags that can be seen along the ADA route are marking particularly sensitive plants, so the crew knows to be extra careful around them.”

Funding for the project has been provided by the Department of Parks and Recreation in Sacramento. On completion, the new trail will be upgraded and classified as ADA (Americans with Disabilities Act) compliant. The upgrades will include trail surface improvement, repair of drainage issues and improved benches and drinking fountains (in existing locations). Currently, there are 4,000 feet of ADA trails in the Reserve.

Leader Needed for Carmel Valley Road Project

The Carmel Valley Road (CVR) project, involving the Los Peñasquitos Lagoon, is in its fourth year of removing invasive plants, planting and maintaining native plants along the south side of CVR. This rejuvenated rare wetland environment now includes habitat for Belding’s Savannah Sparrows and California Gnatchatchers. Often egrets can be seen close to the road hunting some watery prey.

A volunteer day is scheduled the first Saturday of every month and block captains will come out with their crews to join in with any public or docent volunteers. Carol Martin (previous Torrey Pines park aide and now assisting Darren Smith as a volunteer) has been the coordinator for the project since the beginning. She is “retiring” and moving to New Mexico and would like to train her replacement before she moves in May.

Volunteer in Parks Passes

District-wide and state-wide Volunteer in Parks (VIP) passes for docents who have worked more than 100 hours or 200 hours in 2012 are now available at the Lodge and can be picked up between 11am and 1pm in the park aide office. They will also be available at the Feb. 9th docent meeting. District-wide park passes are awarded to those who have accrued over 100 hours of volunteer service and are honored at all San Diego Coast District parks for day use. State-wide passes are given to docents with more than 200 hours and are equivalent to the Annual Day Use hang tag, good at almost all California State Parks.

The Reserve staff wishes to thank all the docents for their dedicated volunteer service in 2012. Everyone’s hours help with our special home away from home. We especially acknowledge those that put in extra effort over and above the norm.

Laura Lowenstein
Park Aide, Volunteer Coordinator

4 Torrey Pinecone February 2013
Carol will give more information to anyone interested in knowing more about this volunteer opportunity. She also will fully train anyone before she leaves in May.

Briefly, the job includes sending out a reminder email to the group one week before the first Saturday of the month, a volunteer project day.

Also, the coordinator would interface with park staff to arrange for staff to oversee the project day and transport any vegetation to dumpsters.

The coordinator would also recruit volunteers and be present for the volunteer days as much as possible.

Let’s keep this wonderful project going! If two docents would like to assist with the coordinating duties for this project, the duties can be shared. Please contact Carol if interested at dosito2008@yahoo.com.

From the Coast of Maine to the Southern Coast of California: The National Estuarine Research System

by Nancy Viehmann, Volunteer & Visitor Services Coordinator, Wells Reserve, Wells, Maine

Estuaries: “Where Rivers Meet the Sea”

Have you ever visited Tijuana River National Estuarine Research Reserve located just a short drive south of Torrey Pines?

As a seasonal Whacky Weeder volunteer at Torrey Pines, I am often talking about “my” estuary Reserve in Maine, the Wells National Estuarine Research Reserve (Wells Reserve) where I work coordinating volunteer programs and visitor services.

The Reserve system is a partnership between NOAA (National Oceanic and Atmospheric Administration) and coastal states. There are currently 28 Reserves located throughout the United States, preserving more than one million acres of estuarine land and water. Reserves conduct research, monitoring, restoration, education, and training designed to improve our understanding and management of estuaries. All 28 are linked closely by system-wide initiatives, yet each one has its own unique characteristics and programs that mesh with geography and issues of local interests.

Reserves stretch from Maine to Florida and Puerto Rico on the East Coast, along the Gulf Coast, and from Alaska to Southern California on the West Coast. Among our inland states, there are reserves in Ohio and Wisconsin. Although far from the coast, rivers entering the Great Lakes emulate many similar estuarine conditions to those that meet the sea. In addition to the Tijuana Reserve here in California, there are Reserves at Elkhorn Slough in Morro Bay, and San Francisco Bay. All the NERRS (National Estuarine Research Reserve System) Reserves receive funding through NOAA with matching funds coming from other sources. Each Reserve is different and each is worth a visit when you travel! You can learn more and see a map of their locations at nerrs.noaa.gov.

Taken from its website tmerr.org, “The Tijuana River National Estuarine Research Reserve preserves one of the largest remaining examples of coastal wetland habitats in the southern California sub-region. The 2,293 acre Tijuana River Reserve is located in Imperial Beach. As three-quarters of the Reserve’s watershed is in Mexico, its programs apply an international perspective to critical issues of habitat restoration, endangered species management, wastewater from Mexico, sediment management, and recreational use.” Primary partners for Tijuana are the California Department of Parks and Recreation and the U.S. Fish and Wildlife Service.

The Wells Reserve (wellsreserve.org) in Maine is a 2,200 acre property located between two rivers on a spectacular site that was formally a saltwater dairy farm (Laudholm Farm). Research emphasis is on ensuring healthy salt marsh ecosystems primarily on Maine’s southern coast. Its buildings are listed on the national register of historic places and its seven miles of trails wind through uplands, woodlands, saltmarsh, and beach. It includes a visitor’s center, exhibits, coastal ecology research center, and a special collections library. Matching funding at the Wells Reserve comes from the Laudholm Trust, a not-for-profit organization, a unique federal-private partnership within the Reserve system.

NERRS Reserves, just like Torrey Pines, rely on volunteers to augment their educational, research and stewardship programs. At the Wells Reserve, we annually benefit from the contributions of between 400 and 500 volunteers each year. I am honored by and get great joy from coordinating volunteer activities for people of all ages from early teens to those in their 90’s!

In the winter, while visiting our children and grandchildren in Del Mar, it is a privilege for me to come to Torrey Pines to work with fabulous docents on Monday mornings and to be a very small part of the work that goes into sustaining the beauty of this state reserve. Each year, I leave inspired by all of you!
2013 TPDS Docent Training Begins
Saturday, February 23rd
by Janie Killermann

The initial gathering of potential trainees who have registered their interest in becoming docents and have received confirmation of their application will meet on Saturday, February 23rd at 9:00 am at the Visitor Center/Lodge/Ranger Station at the top of the park road within TPSNR.

Our first meeting is designed to help potential trainees understand the joys and commitments of becoming a docent. A panel of active docents will discuss the expectation that docents will volunteer 72 hours or more each year and will share examples of the many richly rewarding activities from which docents can fulfill their hours.

This year we have initiated a waiting list for the Training Program to assure there is adequate space within our historic Lodge for the weekly classes. We feel that immediate access to all of the wonders of TPSNR and our ability to show the trainees important docent functions at the Reserve are important to the success of the training program. Rather than move the classes from the Lodge to a larger site outside the Reserve, we’re choosing to preserve the experience and share with our trainees the magic of this place that has been important in making TPSNR one of the most visited spots in San Diego.

Folks who are interested in learning more about the training program and adding their name to our waiting list are invited to contact us at docenttraining@torreypine.org.

FLASH From Laura Lowenstein: Don’t forget to donate your ZooNooz magazines to the Museum Shop.

Art in the Pines by Judith Zyskind and Mike Yang

This year, Art in the Pines is May 4th and 5th, Saturday and Sunday, the same weekend as Cinco de Mayo. Artists have until February 15th to apply to be juried into the show. This year artists can display in booths and/or enter the Plein Air Competition. Connie Beardsley is arranging the jurying of artists into the show and the judging of the Plein Air Competition. Our many talented docent artists will continue to have a booth, and this year Bobbi Krueger will be organizing the Docent Booth.

Please consider displaying your art this year. Although there is no application fee for docent artists, there is a 35% commission, which goes to our Children’s Program. Contact Bobbi for an application (see membership list for her email address).

Discussions after last year’s event led to the following changes this year:
1) The event is now open to all California artists
2) Booth charge was raised from $160 to $180
3) Detailed rules for the Plein Air Competition are published in the Application on our website
4) The Plein Air Competition fee was raised from $25 to $30
5) The length of time Plein Air artists may paint in the Reserve was shortened to 5 weeks
6) Two Honorable Mention awards of $50 each were added to the Plein Air Competition
7) We will no longer sponsor the Open Air Gallery

Please let your artist friends know about the event which is described on our website under “Activities,” then “Public Calendar.” There they can find links to the Application and Information Flier: torreypine.org/activities/aitp/artistinfo/artistapp.html. They can also email aitp@torreypine.org for answers to their questions.

The purpose of Art in the Pines is to raise money for the TPDS Children’s Program. Last year we raised $9,900. We hope to raise as much or more in 2013! This event creates community awareness of Torrey Pines State Natural Reserve and attracts visitors to the Reserve to enjoy artwork that is nature-themed and focused on California artists. The event has been successful because of your efforts and we are looking forward to your continuing help. Lillian Lachicotte is in charge of volunteers, so PLEASE contact her (see membership list for her email address).
Did you know?*

Rain Beetles
by Tom Polakiewicz

One of the most unusual life cycles of any chaparral resident is that of the rain beetle, *Pleocoma puncticollis*. Both the male and female rain beetles begin life as a larva that lives underground for eight to twelve years. They munch on the roots of shrubs and trees until they finally pupate and become adults. Female rain beetles never leave their burrows. The males do fly above ground, but for a very short time.

The male beetles have to keep up their body temperatures in order to fly well, but need the cold rain to keep from overheating. So they only fly on cool, rainy mornings. But they have no mouth parts and do not eat. They only have enough stored energy for about two hours of flight, and can only fly for about twenty minutes at a time. That means they have no more than six rainy days to make their low flights through the chaparral to find a mate. At the end of that time they die.

The females attract the males to their own burrows with a powerful pheromone. After mating they retreat deep into the soil until early spring when they lay their eggs and die.

Do we have rain beetles in Torrey Pines? You could go out on a cold, rainy morning and crawl around under the bushes to find out. Or, you could stay home and click on torreypine.org/animals/Insects/Pleocoma.htm instead.

*This “Did You Know?” tidbit is one of an occasional series of submissions from Tom Polakiewicz.

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Total of 81 species

Gadwall 39
American Wigeon 51
Mallard 22
Northern Shoveler 10
Northern Pintail 26
Green-winged Teal 9
Canvasback 4
Lesser Scaup 23
Bufflehead 22
Red-breasted Merganser 12
Ruddy Duck 7
California Quail 6
Red-throated Loon 5
Pied-billed Grebe 7
Eared Grebe 1
Western Grebe 39
Black-vented Shearwater 6
Double-crested Cormorant 17
American White Pelican 1
Brown Pelican 33
Great Blue Heron 3
Great Egret 3
Snowy Egret 6
Little Blue Heron 1
Black-crowned Night-Heron 1
White-faced Ibis 2
Turkey Vulture 1
Osprey 2
White-tailed Kite 5
Northern Harrier 3
Cooper's Hawk 1
Red-shouldered Hawk 1
Red-tailed Hawk 5
American Coot 33
Snowy Plover 28
Semipalmated Plover 8
Kildeer 10
Spotted Sandpiper 1
Greater Yellowlegs 1
Willet 8
Greater/Lesser Yellowlegs 1
Whimbrel 1
Marbled Godwit 3
Sanderling 20
Least Sandpiper 25
Long-billed Dowitcher 5
Heermann's Gull 40
Ring-billed Gull 86
Western Gull 21
California Gull 45
Herring Gull 2
Forster's Tern 1
Cassin's Auklet 25
Eurasian Collared-Dove 2
White-throated Swift 20
Anna's Hummingbird 23
Allen's Hummingbird 1
Belted Kingfisher 1
Nuttall's Woodpecker 4
American Kestrel 4
Peregrine Falcon 1
Black Phoebe 7
Say's Phoebe 1
Cassin's Kingbird 6
Western Scrub-Jay 4
American Crow 6
Common Raven 8
Bushtit 35
House Wren 3
Bewick's Wren 1
Blue-gray Gnatcatcher 2
California Gnatcatcher 11
Wrentit 13
Northern Mockingbird 1
California Thrasher 3
European Starling 16
Orange-crowned Warbler 2
Common Yellowthroat 11
Yellow-rumped Warbler 50
Spotted Towhee 4
California Towhee 26
Savannah Sparrow 19
Song Sparrow 27
Lincoln's Sparrow 2
White-crowned Sparrow 40
Golden-crowned Sparrow 1
Red-winged Blackbird 21
Western Meadowlark 10
Brewer's Blackbird 15
House Finch 38
House Sparrow 5

(Combined TPSR monthly count/RSF Christmas count) Observers: Blair Francis, Eva Armi, Frank Wong, Phillip White, Amrit Sidhu, David Mathis, Barbara Dunn, Gary Grantham, and Anonymous

Herb Knüfken’s amazing photo gallery may be found here: pbase.com/herb1rm
The Pinecone, a calendar of events, notes from business meetings, and other items of specific interest to the docent membership, is published bi-monthly (even months). For odd months we publish the Torreyana. Please submit items by the 20th of the month to the Editor Editors@torreypine.org. This newsletter is edited by Docent Joan R. Simon. Items for publication may also be left in the Torreyana mailbox in the docent library.

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Februray 2013 TPDS Lodge Docent Hosting Calendar - Updated 1/30/13

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<td>To sign up for an opening, call the hosting docent (858-755-8219) to confirm the time and write your name in the Logbook. If you cannot do your session, please try to find your own substitute by switching with another docent or using the short-notice list. Then call the hosting docent to make the change in the Logbook. Coordinators: Irene Larrimore &amp; Jan Lombardi</td>
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