

The Nature Park News

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The Nature Park News is published quarterly by the Chihuahuan Desert Nature Park, a nonprofit organization dedicated to increasing scientific literacy by fostering an understanding of the Chihuahuan Desert. Please direct all inquiries to:
 Chihuahuan Desert Nature Park
 P.O. Box 891
 Las Cruces, NM 88004
 505-524-3334 (Voice)
 505-523-2866 (Fax)
 E-mail: cdnp@zianet.com
 Web site: www.cdnp.org

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Teachers Continue Learning Through the Summer

The “lazy” days of summer were anything but lazy for teachers from Las Cruces and Gadsden schools who participated in the Chihuahuan Desert Nature Park’s June workshops. Teachers spent two days learning about water, desertification, and soil erosion as part of the Desert Teachers and Learners Project, funded by a grant to the Nature Park from the Environmental Protection Agency’s Environmental Education Grant Program.

On June 4, teachers spent the day learning about local water issues. The busy day included field trips to the Chihuahuan Desert Nature Park, Isaacks Lake (an ephemeral lake near the Nature Park), and the Rio Grande. Teachers also learned about xeriscaping, desert plant and animal adaptations for living in an arid environment, evaporation, transpiration, and much more.

On June 7, the focus shifted to desertification and soil erosion. Scientists from the Jornada Experimental Range and the Chihuahuan Desert Nature Park explained some recent research on these topics. Teachers also spent time at the Nature Park’s newest soil pit display to learn about soil composition and strata.

Once teachers had soaked up information during the workshops, it was their turn to use their teaching expertise to share the new information with the general public. Teachers worked in teams to plan, design, and deliver hands-on activity stations related to water

and erosion to children and adults who attended the “Nightlife of the Desert” program at the Nature Park on June 16.

When teachers were asked on anonymous evaluations if they would recommend Nature Park workshops to fellow teachers, 100% responded affirmatively. One teacher wrote, “I would encourage all teachers to attend future workshops. I know I will!”



Alex Mares from NM State Parks shows teachers maps of the Rio Grande during the Nature Park’s teacher workshop on water issues in early June.



On June 16, teacher workshop participants shared their new knowledge with members of the general public who attended the Nature Park’s “Nightlife of the Desert” program.

Notes from the Board

Vandalism Does Not Alter Our Mission



Note from Executive Director Stephanie Bestelmeyer: After several months without incident at the Nature Park, vandals struck once again in late June, this time destroying the restroom facility. Below is a letter sent by Board member Mary Beth Harper to local newspapers outlining the Board of Directors' and staff's reaction and next steps.

By Mary Beth Harper, Board Member

Fire has been in the national news a lot this summer. While South Lake Tahoe was burning last weekend, a local fire caused great damage to a Las Cruces non-profit organization, ironically enough, dedicated to the education of local young people, some of whom were likely the source of the arson. With the influx of retirees to Las Cruces, it is obvious some people admire and respect this hot, generally dry and friendly corner of the Southwest. Apparently, some younger people do not.

The Chihuahuan Desert Nature Park is both a location and a science education provider. For more than ten years, the Chihuahuan Desert Nature Park (CDNP) has been educating tens of thousands of children in Southern New Mexico and West Texas on the importance and value of our desert ecosystem, while at the same time teaching students of all ages the fundamental concepts of science inside and outside the school classroom. Several miles north of Highway 70 on Jornada Road is a 960 acre piece of land with hiking trails, an amphitheater, picnic tables, benches, interpretive signs, shade structures and, before last weekend, \$40,000 worth of composting toilets for visitors and groups of schoolchildren on field trips to use. The toilets were deliberately burned beyond use the weekend of June 23-24.

The organization is small, and the Board of Directors and staff have worked really hard the last seven years, with the help of hundreds of volunteers, to create a natural and friendly space that the community could use, free of charge, with an open-gate policy. After four incidents of vandalism and arson in the last four months, the open-gate policy will have to change. This inclusive, friendly, helpful, and dedicated organization is going to have to make other changes as well to protect its interests and its mission. How very sad for the Park and for the greater community that the relationship of trust has been broken.

Who is responsible for the ongoing vandalism? Answer: likely bored and angry young men, between the ages of 16 and 25; probably individuals who have not been successful

in school, maybe among the 30% who have dropped out before graduation, who have no sense of right or wrong, no respect for themselves or the property of others, no idea how important science education is in this technological and changing world of ours. They have few long-term goals and no idea how to create them, having missed the benefits of a complete education, from both their families and their public schools. They are not functional and contributing members of society, and as time passes, they may have fewer opportunities to ever be.

So, what happens next for the CDNP, its staff, the Board, the dedicated volunteers, and most importantly, the 12,000+ students, teachers, and parents the organization affects each year? First, we will not quit and we will not walk away. Second, we find better ways to protect ourselves and our property from senseless vandalism and we rebuild when we can. Third, we continue to teach the kindergarten through 12th graders who participate in our programs just how important it is to take care of the ecosystem in which we live, whether or not we like it. We continue to provide students with real-life examples of the applications of science, the discoveries of research, and the opportunities to actually become a scientist if they work hard in school and want to succeed. We build their self-esteem and self-respect then watch their respect for others grow. We laugh and hike, plan events and dig postholes, teach students, build trails, plan more and better educational lessons, reach out, and continue reaching out to the children who are our future and the future of this community.

We may cry and rage but we refuse to be victimized by the rage of the young people we are so willing and desirous to reach, to teach, to serve. We have an obligation to make our corner of the world a better place. If any of the vandals read this, we hope they will see that there are other ways to leave a mark on society, ways more positive and lasting, less destructive and vengeful. We always need volunteers to help with outdoor events at the Park, classroom presentations for students, artwork, and general site maintenance. There are no educational qualifications or age restrictions, only the requirements to care about kids, our Chihuahuan Desert, and making a positive difference. The symptoms of societal unraveling are clear. The Chihuahuan Desert Nature Park can contribute to re-weaving that structure, but we need community support. We want to be part of the solution instead of part of the problem.

Calendar of Events



July 28 - Chihuahuan Desert Education Coalition strategic planning meeting. 9:00 AM at the State Police Command Center in El Paso (4801 Osborne Dr.). Contact Rick LoBello for more information (915-521-1881).

August 4 & 5 - Bug Fest at the El Paso Zoo

August 18 - Butterfly Flutterby. 9:00 AM - Noon. Join Nature Park staff and volunteers to learn about species of butterflies found in our area and how to attract more to your garden. Crafts and games available for kids of all ages. Bring the whole family. \$1 admission.

September 22 - Third Annual Chihuahuan Desert Fiesta at Tom Mays Park in Franklin Mountains State Park, El Paso.

Unraveling the Mysteries of Desertification

By Ed L. Fredrickson & Rodrigo Sierra Corona

Like most of the Earth's arid and semi-arid regions, the northern Chihuahuan Desert has undergone a rapid transition from desert grasslands to shrub dominated desert scrub. When complete, this transition negatively affects many ecosystem services provided by arid landscapes such as water quality and quantity, biodiversity, and forage production for wildlife and livestock. Most ecologists refer to the change from desert grasslands to desert scrub as *desertification*. Understanding how and why this type of desertification occurs is critical to efforts to recreate and maintain desert grasslands now and in the future.

One approach to understand desertification is to examine areas that have yet to undergo desertification, or where desertification processes have only recently begun. Here we can observe how healthy grasslands function and the forces that initiate and sustain shrub dominance. One such place that only recently began this transition in the northern Chihuahuan Desert is in the northwestern state of Chihuahua just south of the US/Mexican border. Here is a region known as the Janos – Casas Grandes complex that is home to the largest remaining black-tailed prairie dog population in North America and currently under consideration as a biosphere reserve.

An advantage to this region is its size. Scientists studying shrubs moving into the edge of a grassland, or ecotone, are likely to arrive at a much different conclusion on desertification over an entire region. And, unlike other regions that have undergone desertification more than 100 years ago, this region appears to still have all the elements of healthy grasslands.

Scientists such as Gerardo Ceballos at Universidad Nacional Autónoma de México, Alberto Lafon at the Universidad Autónoma de Chihuahua,

Martha Desmond at New Mexico State University, and Jeff Herrick of the USDA Jornada Experimental Range have come together at this location to study different aspects of this unique region to learn more about processes such as desertification. While our knowledge is still incomplete, we can begin to piece together possible scenarios that may result in desertification. One scenario involves both livestock and prairie dogs.

At other locations it was observed



Communal (ejido) land within the proposed Janos-Casas Grandes Biosphere Reserve with annual grasses and bare ground.



Private land holdings within the Janos-Casas Grandes Biosphere Reserve dominated by mesquite.

that large ungulates, like bison and cattle, form “grazing associations” with prairie dogs, where both prairie dogs and livestock or bison benefit from each others’ presence. Ungulates prefer to graze the edges of prairie dog colonies where grasses are more nutritious. As a result of their grazing, they remove tall grasses that create visual obstructions that impair vigilance for predators, and reduce visual communication among the colony’s members, while impeding

colony expansion.

In the Chihuahuan Desert this association may be more complex, with an overall complexity that strengthens the association. Ungulates often eat the seed pods of mesquite, a shrub that has replaced grasslands throughout the Chihuahuan Desert. While the pods are easily digested, the seeds often pass through the digestive tract unharmed and are deposited on the soil far from the parent plant. When conditions are right, the seeds germinate, and if they are not eaten and survive a number of other possible calamities, they mature to produce more seed.

Eventually, plant by plant, the mesquite replaces the grasses and the amount of forage for ungulates steadily declines.

Steve Archer and Jake Weltzin, while studying prairie dogs in Texas, learned that prairie dogs limit the establishment and dominance of woody vegetation and act to maintain grassland systems by removing pods, destroying seedlings, and girdling saplings. Depending on the situation, they either control or suppress mesquite and preserve the grasses for prairie dogs and ungulates to eat.

Prior to the end of the Mexican Revolution, Apaches and Revolutionaries limited the number of people moving into the region. During this time, the availability of water limited ungulate movements and their dispersal of mesquite seed. While drought and grass fires would promote the

(continued on page 4)

About the Authors

Ed L. Fredrickson is a scientist working with the USDA-ARS Jornada Experimental Range. Rodrigo Sierra Corona is a doctoral student at the Instituto de Ecología, Universidad Nacional Autónoma de México. The authors wish to thank the people of Ejido San Pedro, Janos, and the hard working people of ProNatura.

Exclusive Tour Opportunity - Wildlife of the Jornada Basin

A special opportunity awaits a few lucky people - an exclusive, guided tour of an area normally closed to the general public. Scientist, naturalist, and Nature Park Board President Justin Van Zee will lead a tour of the Jornada Experimental Range north of the Chihuahuan Desert Nature Park on **Saturday September 15** from 9:00 AM until 2:00 PM. Justin has a wealth of information about the region and is often praised for his ability to make information understandable to non-scientists.

Starting at the southern end of the Jornada Experimental Range, the trip will take you through remnant desert grasslands and shrublands, diverse areas not found in other areas of Doña Ana County. We'll pass around Antelope Flats, a grass-filled basin where wildlife is frequently seen. The western slopes of the San Andres Mountains will be visible from areas not normally open to the public. We'll also see Red Lake, a unique dry lakebed surround by large mesquite dunes.

This trip is a fundraiser for the Nature Park. Tickets are \$50 and include the tour and lunch. Space is limited for this trip of the year, so call the Chihuahuan Desert Nature Park office (505-524-3334) to reserve your spot today.

Desertification (continued from page 3)

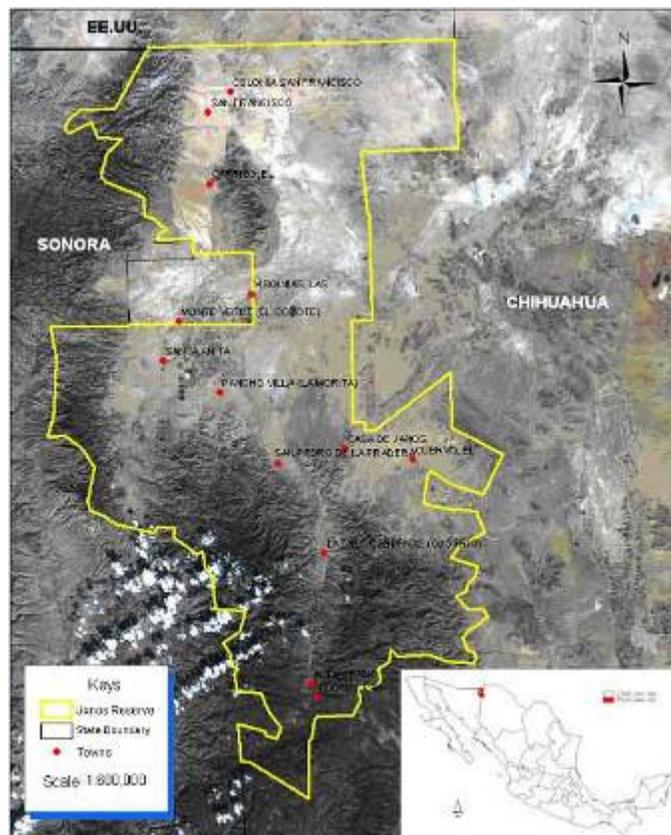
expansion of prairie dog colonies, ungulates were likely the most stable factor affecting prairie dog distribution; thus, the bulk of the prairie dogs probably lived within the distance ungulates traveled from water.

After the 1934 Agrarian Code, more people, livestock, and water developments populated the area once held by large estates. Certainly, the influence of both livestock and prairie dogs expanded as well. But the Agrarian movement of the 1970's saw the largest increase in people and cattle as land was divided up into communal lands too small to be economically viable based on pastoralist pursuits. Prairie dogs and cattle ceased being cooperative and began competing for the same grass; competition worsened with the drought of the 1990's and early 2000's. Private land owners began poisoning prairie dogs in the 1980's providing mesquite on opportunity gain dominance, while communal lands underwent a transition from perennial grasses to annual grasses and bare ground with less intensive poisoning campaigns. Desertification had taken its hold on the land.

Could this same process have occurred on places like the Jornada Experimental Range? Possibly. Prairie dogs likely occupied areas dominated by low stature grasses, expanding with the cattle boom of the 1880's. With the larger cattle numbers and water developments occurring just prior to and during World War I, prairie dog numbers likely expanded, precipitating government funded poisoning campaigns that eradicated all but a few prairie dog colonies. Mesquite now had a chance to expand in areas once dominated by prairie dogs. Grasses began to disappear.

While desertification on the more variable substrates found on the Jornada was probably complicated, prairie dog eradication may have played its part. Is it possible that

prairie dogs may reverse the effects of desertification? Hard work and dedication by researchers in places like the Janos-Casas Grandes Biosphere Reserve may tell us how.



Location of the proposed Janos-Casas Grandes Biosphere Reserve in northwest Chihuahua.

Chihuahuan Desert Expo Goes Out In Style

Due to the uncertainty of progress on the Downtown Mall construction, the Chihuahuan Desert Nature Park's popular "Chihuahuan Desert Expo" will take a hiatus for at least one year. This premier education event for kindergarten through 3rd graders has grown considerably since its inception in 1999.

The 9th annual Expo was held on Thursday May 3, 2007 on the Las Cruces Downtown Mall. A total of 1,186 children from all over southern New Mexico came to enjoy 24 activity stations developed by Nature Park staff. More than 100 volunteers received training and then ran stations for the excited students. Station topics included everything from archaeology to soil to desert plants and animals. Students learned through a variety of modalities - arts and crafts, puppet shows, physical activities, demonstrations, games, and plays.

We would like to thank the following businesses and clubs for providing food, monetary donations, in-kind support, station supplies, and/or volunteers: Albertsons, Domino's Pizza, GFWC Progress Club of Las Cruces, Jornada Experimental Range, Kinkaid & Co., Master Gardeners, Mesilla Valley Kiwanis Club, Moose Lodge

#2081, Moy Surveying, Native Plant Society of New Mexico (Las Cruces Chapter), New Mexico State University, Oñate High School, Papa John's Pizza, Raritan Central Railway, REA Magnet Wire Company, Sam's Club, Sonic, US Postal Service, Walmart, WERC, and the World Wildlife Fund.



Volunteer Bob Tafaanelli teaches students how to use wind meters and other tools at the Chihuahuan Desert Expo's "Weather Lab" station.

Education Programs

Here are the programs your donations helped us provide since the last newsletter.

- | | |
|--|--|
| April 5 - Sierra MS - field trip | May 7 - Lynn MS - arthropods |
| April 10 - Tombaugh Elementary - field trip | May 8 - Lynn MS - arthropods |
| April 11 - Jornada Elementary - arthropods | May 9 - Sonoma Elementary - classification |
| April 12 - Columbia Elementary - soil | May 10 - Davenport Elementary - field trip |
| April 13 - Sonoma Elementary - field trip | May 11 - Hillrise Elementary - field trip |
| April 13 - Jornada Elementary - bears | May 12 - Farmer's Market |
| April 14 - Farmer's Market | May 17 - LCPS Head Start - field trip |
| April 16 - Dona Ana Elementary - soil | May 18 - Mesilla Valley Christian School - field trip |
| April 16 - Mesilla Elementary - field trip | May 19 - Nature Walk at the Park |
| April 17 - Tularosa MS - field trip | May 30 - Gym Magic Summer Camp - field trip |
| April 18 - Hermosa Heights Elementary - soil | June 2 - Leesburg Dam State Park - Critters & Creatures of the Chihuahuan Desert |
| April 18 - NMSU Ag Extension class - park tour | June 4 - Desert Teachers & Learners Workshop - water |
| April 19 - Jornada Elementary - arthropods | June 5 - WSMR Summer Camp - desert animals |
| April 19 - Valley View Elementary - soil | June 7 - Desert Teachers & Learners Workshop - erosion |
| April 19 - MacArthur Elementary - soil | June 9 - Farmer's Market |
| April 19 - Ft. Bliss - Earth Day Fair | June 9 - Ysleta Library - I'm A Scientist, Too |
| April 20 - Percha Dam State Park - Migration Sensation | June 14 - Scientifically Connected Communities - teacher workshop |
| April 21 - Star Tour | June 16 - El Paso Memorial Park Library - weather |
| April 23 - Ross MS - field trip | June 16 - Nightlife of the Chihuahuan Desert |
| April 23 - Santa Teresa MS - Gear Up After School | June 20 - AARP - nature park |
| April 24 - Alameda Elementary - soil | June 23 - Enchanted Gardens - Critters in Your Garden |
| April 25 - Santa Teresa MS - Gear Up After School | June 23 - El Paso Westside Library - desert animals |
| April 25 - Lynn MS - field trip | June 26 - Tresco - desert safety |
| April 26 - Jornada Elementary - arthropods | June 27 - RASSI/NMSU - nature tour |
| April 27 - Lynn MS - field trip | July 7 - El Paso Main Library - biomes |
| April 28 - Alamogordo Earth Day Fair | |
| May 3 - Chihuahuan Desert Expo | |
| May 4 - NM MESA - teacher workshop | |

Nature Park VIP Breakfast

A sunny, breezy morning greeted 50 of the Chihuahuan Desert Nature Park's Turquoise, Peridot, Obsidian, and Jasper-level members on Saturday June 30 at the annual VIP breakfast.

"The staff and Board really enjoy this event. It is one time during the year when we get to thank our members face-to-face and show them the work that they make possible," said Executive Director Stephanie Bestelmeyer.

Attendees were treated to music by Randy Granger and a delicious meal prepared in Dutch ovens by Nature Park Program Coordinator Rink Somerday. They also had an opportunity to see displays of Nature Park education materials and a few of the thank you cards and drawings provided by Nature Park student program participants. A desert scavenger hunt organized by Board member Mary Beth Harper rounded out the special morning.



Nature Park members enjoy the VIP Breakfast at the Nature Park on June 30.

Other Ways to Support the Park

Albertsons Community Partners Program Update - Albertsons has recently discontinued their Preferred Savings card. Since the Community Partners program was linked to this card, there have been changes in this program as well. Beginning in mid August, the Community Partners program will be restored with brand new cards that the cashiers will scan at check-out (the same way the program worked originally). We have ordered new cards for distribution to our members; [please call our office \(505-524-3334\)](tel:505-524-3334) or e-mail [Stephanie \(cdnp@zianet.com\)](mailto:cdnp@zianet.com) with your name and address, and we will send you a card in August. This program results in more than \$5,000 for the Nature Park each year, so please consider rejoining. Thank you!

EcoPhones Expands - Many of you have already donated your old **cell phones or printer ink jet** cartridges to the Park. EcoPhones, the company that donates money to the Park for every phone or cartridge collected, is now also collecting and paying for **DVDs, portable DVD players, laptop / notebook computers, MP3 players, X-Boxes, Sony Playstations, GPS devices, and digital cameras**. All manufacturers are accepted, and they pay something for every item - working or not! Call the Nature Park office to arrange for drop-off of your items.

Use GoodSearch.com (powered by Yahoo) as your search engine, and the Chihuahuan Desert Nature Park receives a donation for every search you run. It's really that easy. Sign up at GoodSearch.com today.

Do your **online shopping through iGive.com**, and the Nature Park receives a percentage of your total purchases. Nature Park members' online shopping "expeditions" to popular sites such as gap.com, Dell.com, and Barnes & Noble are all resulting in donations to the Park. Check iGive.com first when you shop; they are adding more online retailers each week.

These seemingly small efforts help the Chihuahuan Desert Nature Park a lot. Please take just a few moments to become part of these wonderful, easy fundraisers. Call the Nature Park office (505-524-3334) and our staff will be happy to answer any questions and help you get signed up. Thanks for your ongoing support!

New and Renewing Members

Many thanks to all of our new members, renewing members, and those who gave additional gifts last quarter.

Turquoise

Susan Vantress

Peridot

Paul Bussan

Jasper

Vickie S Avery
William Kwan
Native Plant Society of NM Las Cruces Chapter
REA Magnet Wire Company
John Sproul
Marthe Wygant

In Memory of Dr. Bruce Van Zee & Bob Gibbens

Mollie Walton

Gypsum

Ferne Allan
Melisa & Steve Bradec
Larry Brenner
Martha Duran
Enchanted Gardens
New Horizons Computer Learning Center
Rex & Susan Sanders
Mrs. Joy Van Zee
Alice & Gene Ward
Donna & Michael Yargosz



Quartz

Anonymous (2) Leota Attaway Lathan & Nancy Baker Mrs. Ida Brumbaugh Marcia Corl Mrs. Carnell Cutler Jean Davis Margaret Favrot Jean & Bill Gilbert Leland H. Gile Michael Gilman	Mrs. Sally Harper Joyce Johnson Joan Keeney Greg & Kathie Lennes Billy Russell Mr & Mrs Paul Russell Robert & Selia Severance Mrs. Juanita Stovall Dia & Mel Taylor
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Chihuahuan Desert Nature Park
P.O. Box 891, Las Cruces, NM 88004-0891

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

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

I would like \$_____ of this donation to go to the Chihuahuan Desert Nature Park endowment fund.

Please make checks payable to Chihuahuan Desert Nature Park or charge to:

Visa MasterCard Account Number: _____
 Expiration Date: _____
 Signature as it appears on card: _____

NAME _____

ADDRESS _____

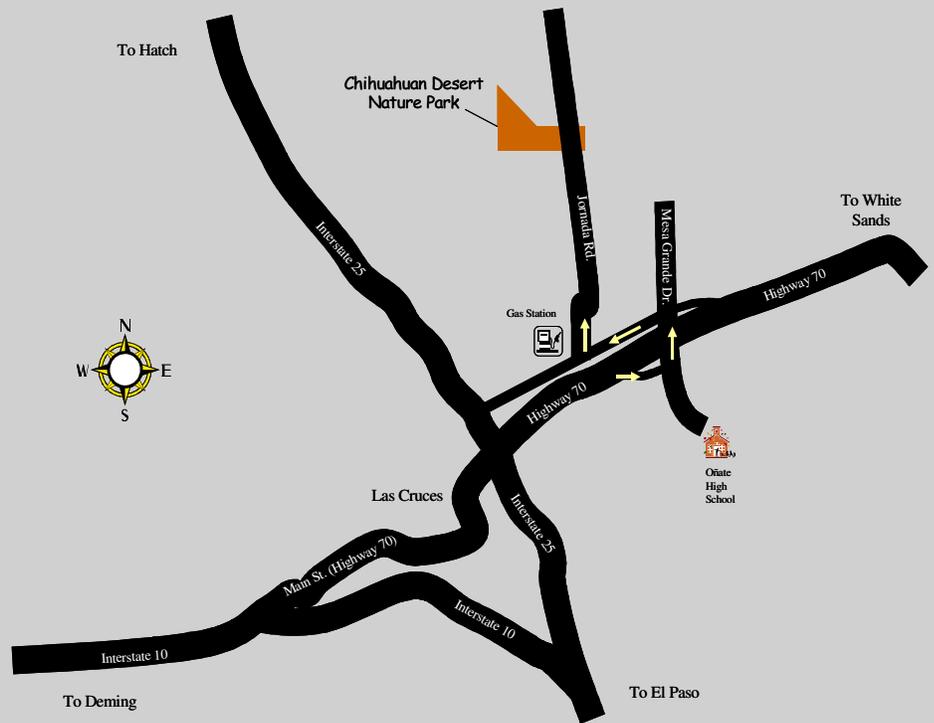
CITY _____ STATE _____ ZIP _____ PHONE _____

E-MAIL _____ Check here if you do NOT want to be listed in Nature Park publications _____

Directions to the Nature Park

- From I-25 in Las Cruces, head east on Highway 70.
- Take the Mesa Grande Drive exit (at Oñate High School).
- Make a U-turn under the highway to head west. After the U-turn, stay in the right lane.
- Turn right (north) on Jornada Road.
- Follow Jornada Road north for 6.5 miles. After approximately 1.5 miles, the road is unpaved.
- Turn left at the Chihuahuan Desert Nature Park sign.
- Follow the entrance road to the parking area and trailhead.

ENJOY!



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