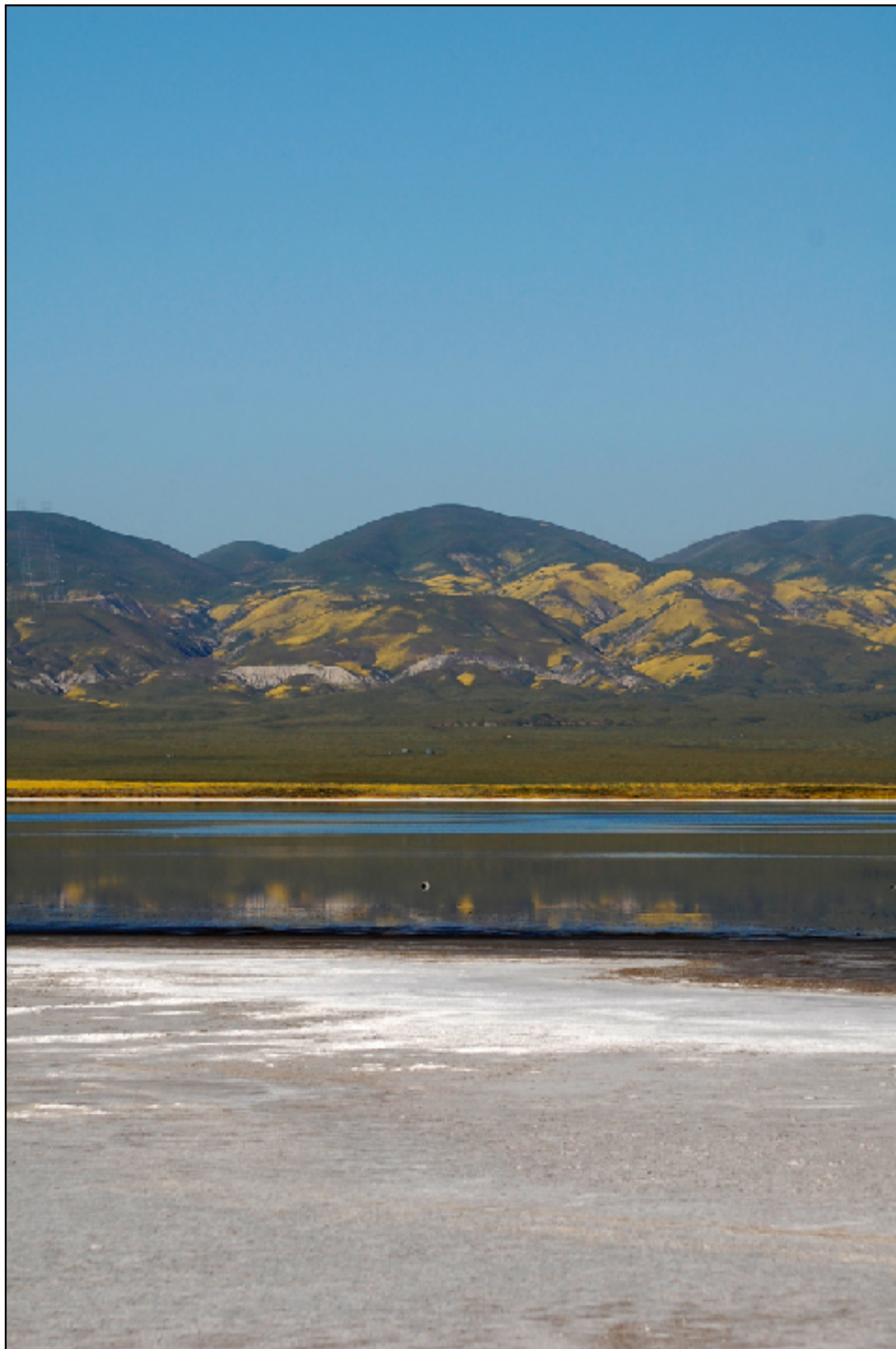

The Carrizo Plain Today

2023-2024

Newsletter of the Friends of the Carrizo Plain



2023-2024



Greetings from the Friends of the Carrizo Plain



The winter/spring of 2021-2022 was a wildflower bust. It hardly rained, and vegetation was stripped from much of the valley floor by hungry animals. But millions of seeds in the ground were just waiting for another wet year. and in the spring of 2023 burst forth in one of the great wonders of the world. The Carrizo Plain got national and even world-wide coverage of the masses of color covering the place.

However, the National Monument was not formed because of wildflowers and scenery. The Carrizo Plain was designated a National Monument January 17, 2001 by President William Clinton to *“protect the largest undeveloped remnant of San Joaquin Valley grassland ecosystem, providing for the long-term conservation of the endemic plant and animal species, a refuge for endangered threatened and rare plant and animal species, as well as important populations of pronghorn antelope and tule elk; Soda Lake, the largest remaining alkali wetland in southern California; geologic processes and the San Andreas fault; significant fossil assemblages; and archaeological and cultural resources”*.

The Friends of the Carrizo Plain (FOCP) is a tax-exempt, 501(c)(3), public benefit corporation established in 2002, shortly after the Carrizo Plain was designated a National Monument. Since then we have worked in conjunction with the Managing Partners of the Carrizo Plain National Monument (Bureau of Land Management (BLM), California Department of Fish and Wildlife (DFW), and The Nature Conservancy (TNC), to preserve, protect and foster education of the unique resources that the Carrizo boasts. At this time we mainly work with BLM. FOCP’s values statement supports a respect for the resources within the Monument, ensuring good stewardship of the land, maintaining the serenity of the place, and trust between the public, FOCP and BLM. FOCP places great value in leaving a legacy for future generations.

FOCP believes that the famous quote from Baba Dioum rings true. He said *“In the end we will conserve only what we love, we will love only what we understand, and we will understand only what we are taught.”* We help operate the Goodwin Education Center bookstore, and FOCP Board members have created interpretive educational resources seen within the Center. We also sponsor school field trips into the Monument, and maintain a web site with educational resources. FOCP has also provided tablets and a computer for the Center.

We also educate the public by outreach at community events, by providing participant luncheons and educational materials at volunteer activities such as National Public Lands Day, and information tables at civic events such as Morro Bay Bird Festival, and San Luis Obispo Earth Day Celebration.

FOCP was able to fund an intern to work with BLM staff to support the Goodwin Education Center activities and to help with tours. We can continue supporting the intern position next year because of your financial support of our organization. We have also helped BLM by providing some funds for road re-grading for better public access.

A recently completed project is a series of information panels in the garden next to the visitor center to provide information on the natural resources. These were designed and produced by FOCP, and are helpful to visitors arriving when the Center is closed.

We have financially supported the publishing of this Visitor Guide to the Carrizo Plain National Monument since 2010. We also develop relationships with the Gateway communities of Taft , Atascadero, and Santa Margarita. We have prepared as-yet-unpublished geology and botanic guides along the highways between the Gateway cities and the Monument.

So, if you have not already done so, give yourself a great adventure and come visit the Monument. Stay longer and drive and hike into the spectacular back-country. And, if you can, support our organization.

Thank you David Chipping: President.



Carrizo Plain Information



Welcome to the Carrizo Plain National Monument; a powerful yet peaceful landscape of sky and earth in a pattern seen nowhere else. As you explore this living museum, remember the closer you look, the more you see.

Geography and Climate: The Carrizo Plain is an internal drainage basin with all surface water draining to Soda Lake. The lake evaporates and becomes a white, salt-encrusted basin during the dry season of May through November. The plain stretches for about 50 miles north to south; it is bordered on the northeast by the Temblor Mountains and on the southwest by the Caliente Mountains. Caliente Mountain, the highest peak in San Luis Obispo County, stands 5,106 feet high while the Temblors reach up to 4,332 feet high at McKittrick Summit. The San Andreas Fault makes its seemingly quiet path through the area and is clearly visible near Wallace Creek. The plain is one of the sunniest places in California and summer temperatures often exceed 100 degrees F. On winter nights, however, temperatures often dip below freezing.

Plants and Animal: Plant communities range from iodine bush and saltbush scrub to valley grasslands and California Juniper woodland. Many sensitive species live on the plain including the blunt-nosed leopard lizard, the San Joaquin kit fox, the giant kangaroo rat, and the San Joaquin antelope ground squirrel. Tule elk and pronghorn antelope have been reintroduced into the area and can be seen at various locations on the plain. Winter brings long-billed curlews, ferruginous hawks, and other birds to the Carrizo Plain. Many raptors, including red-tailed hawks, golden eagles, harriers, owls, and others, can be found all year throughout the area. The California condor has been reintroduced nearby and will hopefully return to its historic foraging grounds.

Human History: Chumash, Yokuts, and other Native Americans hunted and traded in the area. Painted Rock, probably used for religious ceremonies, is one of the more significant examples of Native American rock painting in the world. Dryland grain farming and ranching developed in the late 1800s; in 1912 mechanized agriculture brought large-scale farming to the plain. Today, most people come to Carrizo for recreation - birding, hiking, photography, camping, hunting, and just plain relaxing.

Management: The Carrizo Plain National Monument, covering almost 250,000 acres, is managed jointly by the Bureau of Land Management, the California Department of Fish and Wildlife, and The Nature Conservancy. A primary management focus is rare and endangered plants and animals and restoration of native ecosystems. Research is an active and important part of management, and projects are underway to better understand species and their habitats. Melding human use and species preservation, prescribed fire and livestock are used as tools to reach management goals

Some Helpful Hints

- Services (gasoline, food, water) are not available. Services are available in Taft to the east and Santa Margarita and Atascadero to the west.
- Only street legal vehicles are allowed on the monument.
- Vehicles must remain on designated roads. Dirt roads are impassable or closed when wet and have a potential for fire danger in summer. Soda Lake Road is only partially paved.
- Permits are required for campfires during fire season and, are available at Bakersfield BLM office, 661-391-6000 .
- Cultural artifacts and rock art are protected; so please don't remove or touch them.
- Do not harass wildlife.
- Leave No Trace. Pack out what you pack in.
- Follow California Department of Fish & Wildlife hunting regulations.
- Target shooting is not allowed on the monument.
- Pets must be under owner control at all times. In addition, pets must be leashed or caged at all developed sites including visitor center, interpretive areas, trailheads and campgrounds.

Painted Rock

- Painted Rock is closed to public access March 1 through July J5 to protect biological and cultural resources.
- Guided tours are offered in March through May by permit only.
- Self-guided tours are offered July 16 through the end of February by permit only.
- Permits for Painted Rock guided and self-guided tours must be booked at www.recreation.gov or by calling toll free, 1-877-444-6777. TDD 1-877-833-6777.
- Horses and pets are not allowed at Painted Rock, on the trail to Painted Rock or the Painted Rock parking area.

Facilities

- KCL and Selby Camp - primitive camping, restrooms.
- Goodwin Education Center (Visitor Center) - information, brochures, campfire permits, restrooms, no water. Open December through May, Thursday through Sunday, 9:00 AM to 4:00 PM. Closed holidays.
- Painted Rock- restroom, picnic tables, no water, 1.12- mile trail from parking lot to Native American pictograph site.
- Soda Lake Overlook - vista, restrooms, no water.
- Traver Ranch - Information and self-guided tour of dryland farming equipment, restroom, no water.

For More Information • Goodwin Education Center - 805-475-2131

Goodwin Education Center, .HCR69 Box 3087, California Valley, California 93453

Bureau of Land Management News



The Carrizo Plain National Monument is recognized for its significant geologic, biological, historical, and cultural resources. There are many things to see and do when you are out on the monument depending on your interests. Many visitors enjoy viewing spring wildflowers, wildlife viewing, camping, hiking or hunting.

If you would like to visit Painted Rock, we offer guided tours (mid-March – May) and self-guided tours (July 16 – February). Reservations for all tours are made at www.recreation.gov or calling toll free 1-877-444-6777.

The Goodwin Education Center is open December – May, Thursday – Sunday from 9am – 4pm. In December we had our grand re-opening, expanding the center about 800 square feet, almost doubling it in size.



We have two campgrounds (KCL & Selby); both are on a first-come basis and offer fire rings, picnic tables, and vault toilet.

Happening on the monument in 2023: Research continues on the Carrizo Plain Ecological Project of Cal Poly SLO and UC Riverside with the habits of the endangered Giant Kangaroo Rat (*Dipodomys ingens*) at the heart of the study. Aspects of the ecology of the endangered Blunt-nosed Leopard Lizard (*Gambelia sila*) continues to be studied including M.S./PhD students from UC Davis, Cal Poly SLO and York University looking at genetics and habitat preferences. The Working Dogs for Conservation sniffed out plenty of lizard scat to augment that genetic work as well. Western Spadefoot (*Spea hammondi*) toad surveys were conducted by the USGS revealing a banner year of reproduction. Bumble bee surveys turned up over a dozen sightings of the Crotch's Bumble Bee (*Bombus crotchii*), a species petitioned under the Endangered Species Act.

Please keep in mind there are no services (gas, food, water) available on the monument and cell coverage is spotty at best, so plan ahead for your visit.

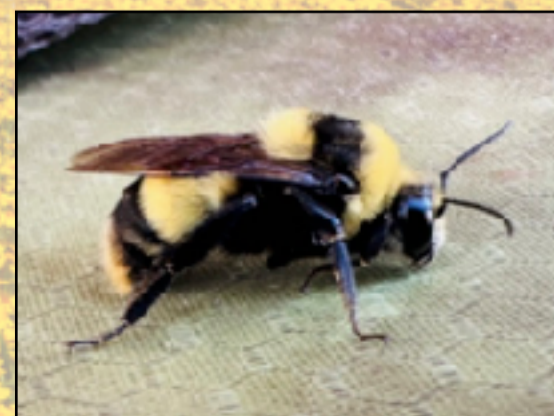
All vehicles on the monument must be street-legal and must remain on roads. During rainy periods some roads will be muddy and impassable, please obey any posted road closed signs.

If you have any questions you can contact the education center during open hours at 805-475-2131 or the Bakersfield Field Office at 661-391-6000.



Blunt-nosed Leopard Lizard
(*Gambelia sila*)

Crotch's Bumble Bee
(*Bombus crotchii*)



The Friends of the Carrizo Plain

OUR MISSION

The Mission of the Friends of the Carrizo Plain is to support the managing partners in the Education, Interpretation, and Conservation of the unique resources of the Monument.

OUR VALUES

- Being good stewards of the land
- Fostering trust between the FOCP, the managing partners and the public
- Actively promoting and generating enthusiasm for understanding the resources of the monument
- Cooperating and building consensus to achieve goals
- Respecting the serenity of the monument
- Leaving a legacy for future generations to appreciate

Native Plant Wall Graphics

Large mural panels featuring the art of John Iwerks now grace the walls of the Goodwin Education Center thanks to funding provided by the Friends of the Carrizo Plain. From left to right, the panels depict the native plants Goldfields and Owl's Clover, Arroyo Lupine, California Poppy, and Desert Candle



Star Gazing by Ellen Cypher

Over 20 years ago, not long after President Clinton designated the Carrizo Plain National Monument, BLM hosted public scoping sessions to help guide development of a management plan. Among other topics, they asked participants what aspects of the Monument were most important to them. One of the most valued features was the night sky. Free of the smog and light pollution common to our cities, and without trees to block the view, the Carrizo Plain is an ideal place for star gazing.

I had already come to love the view of the heavens from the Carrizo Plain by that time, while participating in a giant kangaroo rat (GKR) research project. One of our trapping sessions was always in August, often during the Perseid meteor shower. Most people avoid the Carrizo Plain during the summer months, and with good reason—daytime temperatures can be well over 100 degrees F, the wildflowers are long gone, and GKR have clipped off the grass heads to leave a barren landscape. But if you arrive around sunset, set up your camp before dark, then pack up in the morning you can beat the midday heat yet be prepared to watch the celestial show after dark.

Although there are generally 10 meteor showers visible in North America in a given year, most have few meteors per hour. According to skyandtelescope.org, the two most reliable are the Perseids in August and the Geminids in December, although moonlight or clouds may reduce visibility. So check the weather forecast and the online celestial calendars, prepare for current conditions, and give it a try!

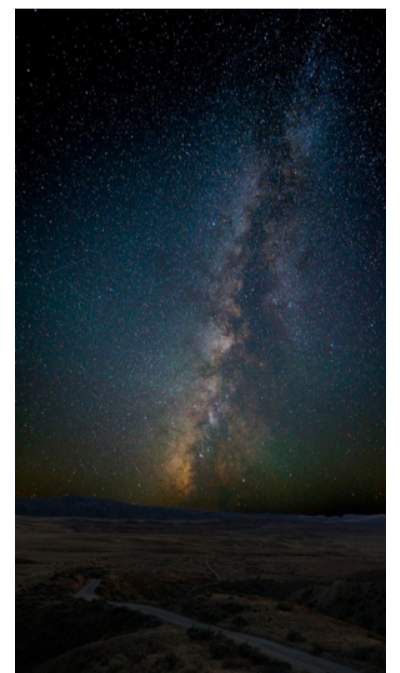


Photo: Road to Glory by Levi Mize (from our 2017 Carrizo Plain photo contest)

PLACES IN THE MONUMENT WORTH VISITING



Soda Lake Overlook

Visitors entering from the northern entrance should visit Soda Lake Overlook, located about 2 miles from the entrance. The site offers information and a toilet, and a short trail to the top of the hill. The top offers a broad vista of Soda Lake and the Temblor Range to the east, and the Carrizo Plain extending southward, flanked to the west by Caliente Mountain to the west. Looking eastward across the lake, you might be able to identify the San Andreas fault running along the base of the hills.



Springtime view of a wet Soda Lake from the Overlook. Note the carpets of yellow flowers.



Soda Lake Boardwalk

Situated opposite the entrance to Soda Lake Overlook, this short trail will take you down to the edge of Soda Lake. Note the salt tolerant vegetation such as Iodine Bush surrounding the lake, and the white salts that crystallize from waters drawn up through the mud in the summer sun.

Soda Lake occupies a closed basin that formed when mountain building closed off what was once a connection to the Salinas River. The salts are dominated by sodium carbonate, and were once processed and exported from the southeast corner of the lake. The lake often contains water after an average winter's rainfall, and migrating waterfowl may use the lake when water is present.



The trail to the Soda Lake Boardwalk



The Goodwin Education Center

From the Soda Lake Overlook, the Visitor's Center is just a seven-mile drive down Soda Lake Road, the main thoroughfare in the Carrizo Plain National Monument. The Center is open from December to May. If it is closed, an informative brochure and a detailed map are available just outside the center's doors. The Center contains exhibits on the animals, plants, history, and geology of the area, and books, brochures, and other items are on sale to help support the monument. It also features bathrooms and picnic tables, and is the place to get permits and information.

The Center also features a small garden featuring native plants, informational signage, and an exhibit of the old farm machinery dating from the time when the floor of the Carrizo Plain was actively farmed for grain.



The small Goodwin Education Center, with bathrooms, picnic facilities, a small store, and lots of information on the natural history of the Monument also offers an exhibit of old farm machinery



Painted Rock

Reservations are required to visit Painted Rock. After obtaining a permit from the Goodwin Education Center, a dirt road heads southward to a parking area, and then to a foot trail to Painted Rock.

The sandstone formation at Painted Rock has long drawn the attention of Carrizo Plain National Monument visitors. About 3,000 - 4,000 years ago, Native Americans began to paint their sacred images within the alcove of the rock. Not surprisingly, the power of this place continues to enthrall, and it still receives many visitors today. Spiritual leaders and other tribal members created the rock paintings as an expression of their cultural and religious beliefs. Please help us protect Painted Rock, a cultural resource of the American Indians of California and a special place for future generations of people to enjoy and benefit. Please do not touch, climb, or walk on any part of the rock to help preserve it. Tread carefully while visiting the site and do not disturb or collect artifacts, remove plants, or disturb the wildlife.

Remember: reservations are required to visit Painted Rock.



Painted Rock as seen from the Goodwin Education Center



Wallace Creek

Wallace Creek is on Elkhorn Road, which runs along the base of the Temblor Range. From the Visitor Center, go north a little bit on Soda Lake Road, then turn east on Simmler Road. It is dirt- dusty when dry, and sticky when wet, and should really be avoided when wet, even in 4-wheel drive. If Simmler Road is wet, go north, and just after the monument entrance turn right on 7-mile Road. Elkhorn Road veers off to the right just before 7-mile Road meets Highway 58. Whichever way you go, once on Elkhorn Road go south until you pass under large electrical transmission lines, and the parking for Wallace Creek is a little way to the south.



Trail to Wallace Creek and the San Andreas Fault from the parking area on Elkhorn Road. The fault is the long low ridge in the middle-ground of the photo. Wallace Creek enters the fault on the far right, and through offset, turns and runs along the fault, and then turns again on the far left.

Wallace Creek is perhaps the best place in the monument to view just how dramatically the San Andreas Fault has affected the Carrizo Plain. The 625-mile fault line runs nearly the entire length of California, from near the Salton Sea to Cape Mendocino. Evidence of its work can be seen in the offset of the creek bed and fault scarps, which according to the self-guided tour, are particularly well preserved in the Carrizo Plain.

The 8.0-magnitude Fort Tejon earthquake of 1857 may have centered in the Carrizo and is probably the strongest earthquake to hit California in historic time. Surface ruptures extended 200 miles and offsets of 30 feet occurred within the Carrizo Plain. Future seismic activity within the Carrizo is highly likely, as this is the plate boundary between the North American and Pacific plates.

The creek is currently offset by about 130 meters, 10 meters of which were caused by the 1857 Fort Tejon earthquake. Because of these unique features, the Carrizo Plain provides academics with plenty of research opportunities. Evidence of the fault's activity can also be seen elsewhere in the Monument



Traver Ranch

The Traver Ranch was established in the 1940's when the family purchased approximately 800 acres and began building the large block house that still stands along the edge of Soda Lake Road. The family was primarily involved in dry land farming of wheat and occasionally barley. Examples of farming implements that were used are on display in the field east of the block house. The house provides important habitat for the pallid bat and western small-footed bat, as well as other wildlife species. Because of this, the house has been secured to allow wildlife access, but prevent human entrance into the structure. For your safety and to minimize disturbance to wildlife, do not enter the fenced area around the ranch house. Please enjoy the farming equipment on display.



Part of the exhibit of old farm equipment once used in grain farming

There are other remnants of the old ranching days scattered about the Monument. The abandoned Wells Ranch (right) was situated several miles south of the KCL Ranch.





Southern Entrance and Sag Pond

At the southern entrance to the Monument you will find information signs. You would be standing just west of the San Andreas fault, which closed off a local drainage, resulting in water ponding and then evaporating into a salt flat. Northwest of this point, Soda Lake Road runs along the line of the fault, and if you look up the badland gullies on the east side of the road, you will see many of them taking a dog-leg to the right, where they have been offset by the San Andreas fault.



The Sag Pond, or closed drainage basin, along the line of the San Andreas fault, as seen from the southern entrance information kiosk

OFF THE BEATEN TRACK



Spring flowers along Elkhorn Road in the Elkhorn Plain



Badlands near Padrones Spring on Padrones Road

Few visitors to the Monument take the dirt side roads that run into the back country from Soda Lake Road. We recommend continuing south on Elkhorn Road past Wallace Creek to the southern end of the Elkhorn Plain. Past the Wallace Creek San Andreas fault parking lot, the road continues south and then turns toward the Temblor Range, and then continues on the east side of the San Andreas fault into the Elkhorn Plain. The Plain is a broad valley between the main Temblor Range and the hills pushed up along the trace of the San Andreas fault.

Another dirt road worth taking begins about 4.3 miles south of Traver Ranch opposite some cattle corrals and runs west from Soda Lake Road into the southern part of the Caliente Range. It passes some interesting geology, several year-round springs, badlands, and steeply tilted lava beds. .

One note of caution. These roads can be very muddy when wet and a high-clearance vehicle is recommended. Cell phone service is very poor if you get stuck. **DRIVING OFF-ROAD IS STRICTLY FORBIDDEN**



The Dragon's Back pressure ridge along the San Andreas fault. The Elkhorn Plain is hidden behind the ridge



Campgrounds

KCL Campground is situated about 11 miles south of the visitor center in a grove of cottonwood trees, which are some of the few shade trees on the monument. Camping is available on a first come-first served basis; BLM does not take reservations. Of the 12 campsites, two are elevated and ADA compliant. All have picnic tables and fire pits, and the site includes horse corrals and an ADA compliant vault toilet. Electricity and drinking water are not available. There is no garbage service; please act responsibly and pack out any refuse you have. Formerly owned by the Kern County Land Company, the KCL still has a few of the original barn structures as well as some of the corrals. Please refrain from entering the barn structures.

Selby Campground is situated a few miles south of the visitor center in the foothills of the Caliente Range. Camping is available on a first come-first served basis. This campground has 13 campsites with picnic tables, fire pits, horse corrals and a wheelchair accessible vault toilet. Electricity and drinking water are not available. There is no garbage service; please act responsibly and pack out any refuse you have. This campground is more secluded and the camper is only steps away from unlimited hiking in the Wilderness Study Area that lies outside the campground.

Looking For Love: The Great Tarantula Search for the Right Girl

One fun feature of the Fall season is the appearance of the harmless but, to some people, scary-looking Tarantula spiders. These males have stayed in their own burrows, hunting in a small area around the burrow which is often an abandoned rodent home. The males may start looking for female at around 6-7 years of age, and their long hikes over open ground explain why the life span of the male spider is not much longer. The females, which stay home, can live up to 25 years.

The spiders are not poisonous, but can give you a little nip if you bother them, and some people are allergic to the hairs on the spider's body. One bane of spider existence is the Tarantula hawk wasp. A female wasp will sting and paralyze a tarantula, then drag it back to her burrow. She then lays an egg on the spider. When the egg hatches, the wasp larva will feed on the tarantula.



A male Tarantula 'on the road.

Winners and Losers under the impact of intense drought

As we recently experienced an intense and prolonged drought, it is instructive to look at the analysis of the impacts of California's drought of 2012–2015 on the animals of the Carrizo Plain, which was published in the journal *Nature Climate Change* by a team of scientists. They quantified the responses of around 423 species of plants, arthropods, birds, reptiles and mammals over what had been, up to then, the driest period in the past 1,200 years for this global biodiversity hotspot.

The report states that plants were most responsive to one-year water deficits, whereas vertebrates responded to longer-term deficits, and extended drought had the greatest impact on carnivorous animals. Perhaps, surprisingly, locally rare species were more likely to increase in numbers and abundant species were more likely to decline in response to drought, and this effect was remarkably consistent across taxa and drought durations.

Of the mammals, California ground squirrel, San Joaquin kit fox and kangaroo rats fared badly, while Southern grasshopper mouse and short-nosed kangaroo rat were successful. For birds, barn owls and western meadowlarks declined, while killdeer and roadrunner populations remained stable. The rare blunt-nosed leopard lizard suffered, but the coast horned lizard and side-blotched lizard were little affected. Spiders and scorpions declined, but certain beetles did well. As was obvious to most people, nearly all plants were impacted, but certain hardy species such as red maids were successful in the absence of competition. The study concludes that while extreme droughts can produce substantial short-term declines in the abundance and diversity of species, these disturbances may play a vital role in the long-term maintenance of biodiversity by inducing periodic die-offs of dominant species and subsequent opportunities for rare, yet fast-growing, species.

The recent drought was worse than that of this study. In the winter of 2021-2022 there was almost no rain at all, and forage on kangaroo rat precincts was already reduced to almost nothing at the start of the so-called rainy season. Luckily the 2022-2023 rainy season provided the 'Superbloom' and an abundance of food for the entire food chain.

The Friends Support New and Replacement Signage in the Monument



Four of the information signs that we created have been placed along the path adjacent to the Visitor Center Entrance. Our latest sign was placed on the clay dune at the south end of Soda Lake on Simmler Road. We have also purchased sturdy metal sign supports to replace old and degraded wooden supports throughout the Monument.

Bladder Pod

The distinctive shrub known as bladder pod or burro fat (*Peritoma arborea* var. *globosa*) grows in the hills bordering the Carrizo Plains and the eastern end of the Cuyuma Valley. It is distributed along the inner coast ranges to the coasts of San Diego County and Northern Baja, Mexico, then east and north along the western edges of the Sonoran and Mohave Deserts. Its yellow flowers and stalked bladdery fruits can be found almost any time of the year, although it blooms most prolifically from late April to June. It is a member of the Spiderflower family (Cleomaceae) which is closely related to the mustard family, Brassicaceae (Cruciferae).



The Spiderflowers differ from most mustards by the stalked ovary and fruit that is an ordinary capsule rather than a silique. The original genus name was *Isomeris*, which means equal (Iso-) part (meri-) and refers to the fruit which splits into two equal halves. The specific epithet (name) *arborea* means tree-like and refers to the tree-like growth form of the plant. It is a shrub with slightly elevated rounded crown and a single trunk. It rarely gets over 5 feet tall. Although most of its leaves are compound, consisting of 3 to 5 leaflets, the leaves just below the flowers and fruits are simple. Bladderpod can be found on the road up to Caliente Ridge, and scattered throughout the Monument.

Carrizo Plain Conservancy adds to Monument

The Carrizo Plain Conservancy (CPC) is a local nonprofit organization, formed in 2013, whose mission is to work with individuals, other nonprofits, and local, State and Federal agencies to preserve, protect, and enhance the wildlife habitats that exist in and around the Carrizo Plain National Monument and surrounding lands. Since our formation we have conserved over 8,000 acres of lands in conjunction with partner organizations. In 2017 we completed the transfer of our first purchased property—42 acres on the shore of Soda Lake—to the Federal government after removing 11.5 tons of trash and debris that had accumulated there illegally over the years!

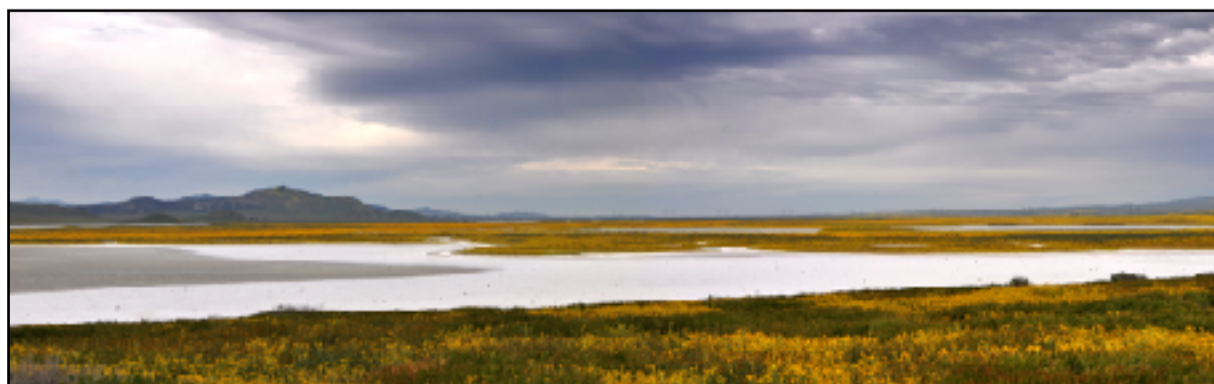
In the last year CPC has acquired by purchase or gift five parcels of land in the middle of Carrizo Plain National Monument (Section 14, Township 11N, Range 26W). An area of Section 14 possesses excellently preserved native vegetation and occupies about 120 acres that was subdivided many years ago, with lots ranging in size from 1/6 acre to 20 acres. About a quarter of the area is already conserved, and the site shows promise for more complete protection. The existence of the old subdivision spared this acreage from being cleared for agriculture, so it stands as a sort of reference area for what was once there. A letter will be sent to the 50 or so landowners in that area, asking them to consider the donation of their properties (which are not really developable) to add to the conserved acreage. The goal is to ultimately transfer the lands to BLM for incorporation into the Monument, along with an additional 12 parcels of land in other sections, for a total about 140 acres. The parcels were all purchased with private donations from local individuals and a grant from the Oakland-based California Wildlife Foundation, or were donated as gifts, and demonstrate the continuing interest and dedication of citizens to the Monument and its permanent protection.

Neil Havlik

The Clay Dunes of Soda Lake



Most of us have heard of sand dunes, but not of clay dunes. A number of clay dunes exist on the valley floor of CPNM, all downwind of a salt lake. They can best be experienced by driving on eastward on Simmler Road, which goes eastward from Soda Lake Road just north of the road to the visitor center. The 'clay' along this dirt road is sticky and slick when wet, and so the road should be avoided in wet weather. Simmler Road runs along the crest of a ridge on the southern end of North Soda Lake, and this ridge is the crest of the clay dune, or lunette. Lunette is a name that makes sense only when you view a clay dune from above, where it looks like a quarter moon with short arms pointing upwind at either end of the main transverse structure. If you stop and sample the soil, you will find a brown silt and clay soil that easily turns to dust that will blow in the wind. All of this dust originated on the bare floor of North Soda Lake, and the long axis of the dune is at right angles to the prevailing northwest wind. When the bottom of the lake dries out, a crust of salt forms on the lake bed surface as moisture wicks up from the dark clays below, evaporates, and leaves the salt to slowly thicken. Little pellets of salt and clay are picked up by the wind and blown toward the face of the clay dune where they are trapped by vegetation. Unlike sand dunes, which erode on their upwind side and grow on their downwind side, the clay dune tends to grow by accretion on the windward side. Some of the clay, and most of the salt is repositioned by rain, but in general the dunes get larger as the bottom of the lake is blown away. Looking south from the road you will see South Soda Lake, a smaller but still substantial lake with its own clay dune on the far side, and there are several smaller lakes and dunes beyond that dune. Clay dunes do not migrate like sand dunes, partly because the clays are somewhat cohesive. Their slopes are determined by erosion from rain and wind pitted against the sediment being caught by the plants, and therefore are gentle. However, the slope that leads from Simmler Road to South Soda Lake terminates in a small steep bluff that continues around the lake. This was developed from wave erosion from some earlier time when both lakes were far higher. The clay dune appears to have existed at least for the last 10,000 years, and research has shown that the dunes by grow at about 5 centimeters per century, mainly during drier periods. The eastern end of the Simmler Road clay dune veers away from the road and turns toward the northwest, where it flanks salty flats that are almost never inundated by the lake. These appear to be abandoned lake floor that once supplied the flanking clay dune with material, but which have now been semi-stabilized with vegetation (this is a great area for displays of the goldfields flower). Researchers have suggested that a recent tilt of the lake floor has raised the eastern shore, displacing the bulk of the lake westward. Blame the San Andreas fault for that.



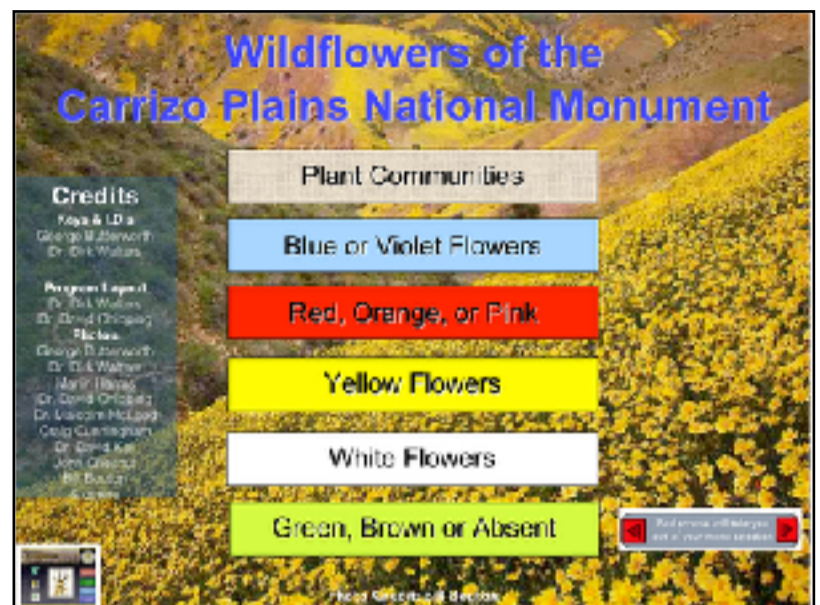
A rare spring storm over Soda Lake and the distant clay dune.

What the heck was that? Using the Goodwin Center Search Software

The Friends have constructed a pictorial database that runs on a publicly accessible computer at the Visitor Center. Just ask staff to turn it on in not running when you arrive,



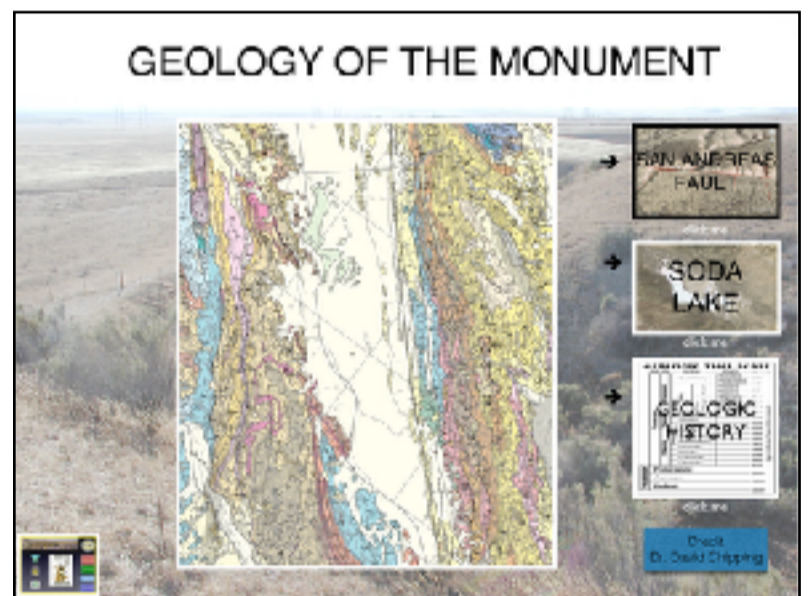
The start-up screen, shown above, lets you search through information on Points of Interest, Geology, Plants, Animals, and Recent Human History.



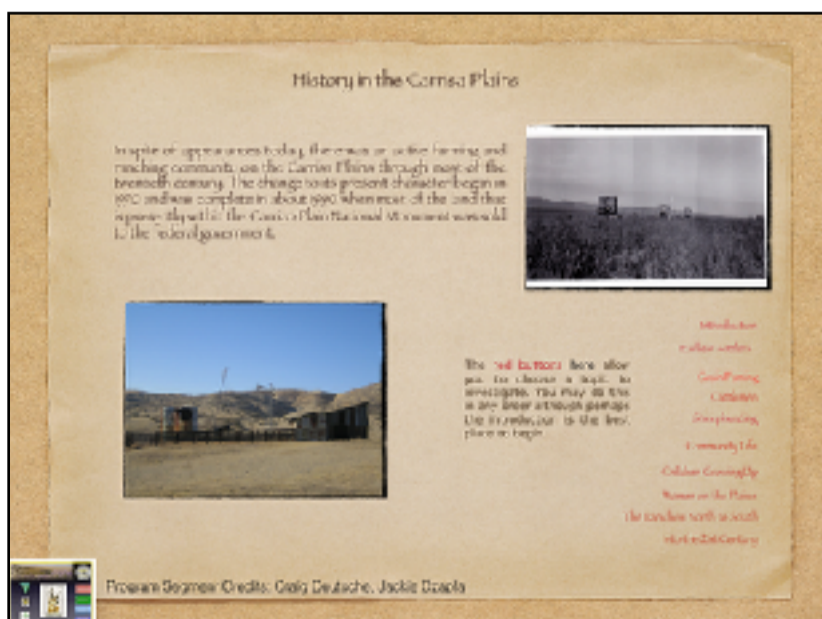
If, for example, you chose Plants, a page will then allow you to choose by color .



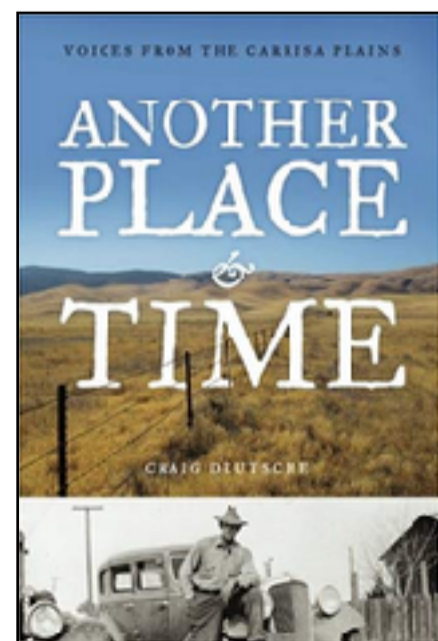
If you chose Animals, you can then search by Birds, Mammals, Amphibians and Reptiles, or Invertebrates

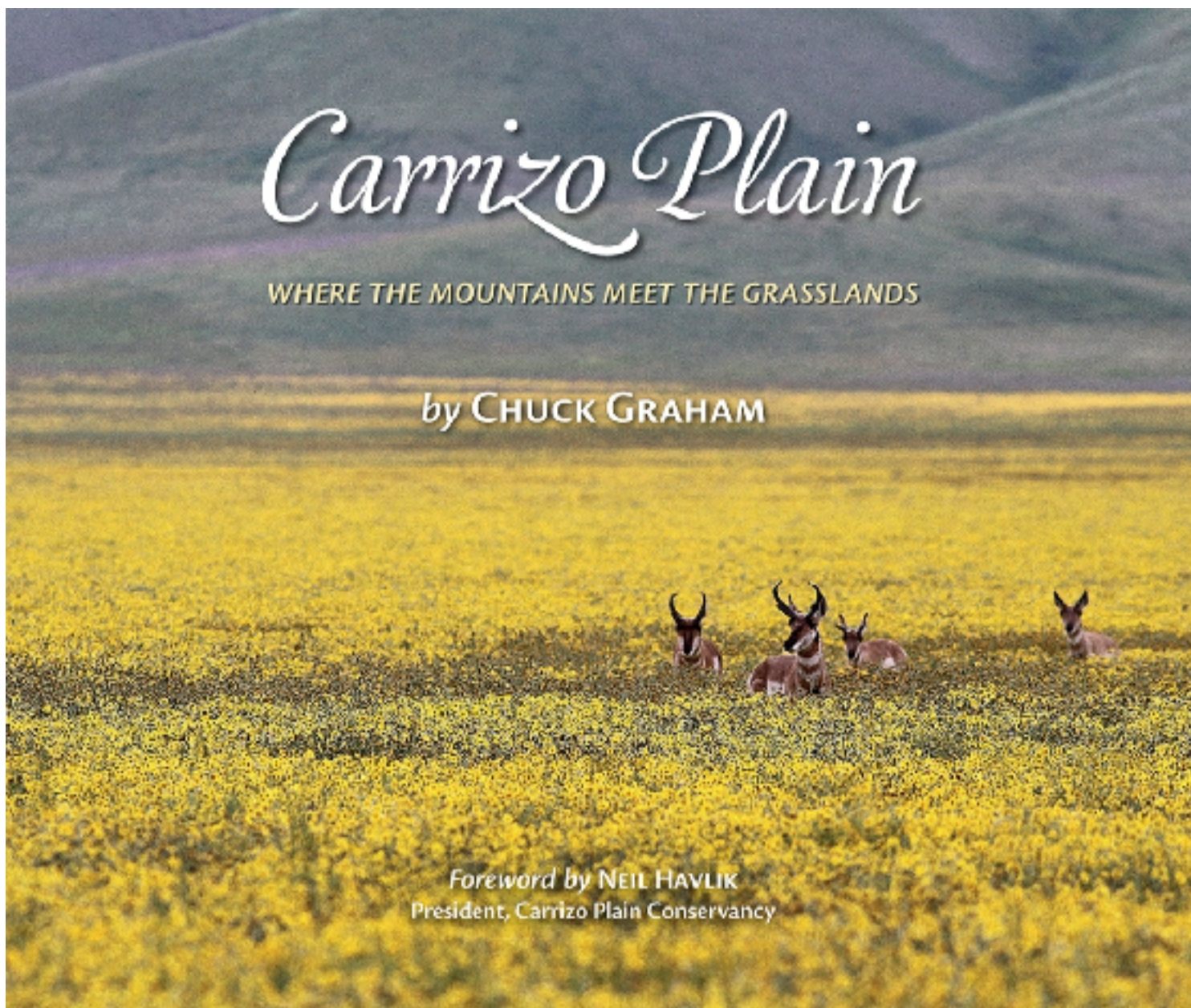


If you chose Geology, you can learn about the geological history, the San Andreas fault, and Soda Lake



If you chose History, you can learn about the pre-Monument history of farming and ranching. This information comes from Craig Deutsche's excellent book "Another Place and Time" which is available at the Visitor Center.



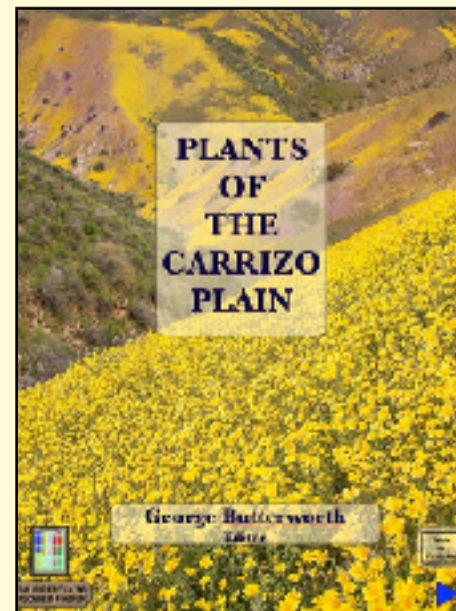
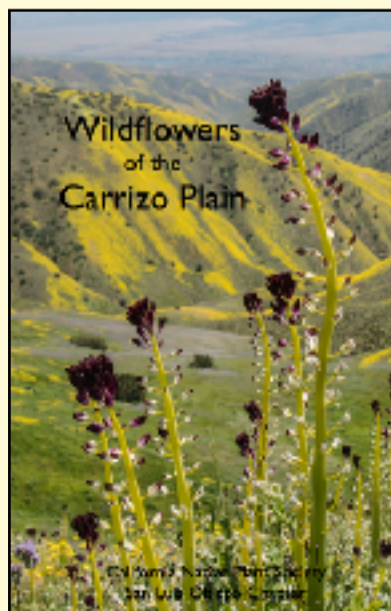


Chuck Graham's Beautiful Coffee-Table Book Available at Visitor Center

Chuck Graham has produced a pictorial homage to the Carrizo Plain at its most beautiful. His excellent photographs should encourage the reader to explore the many hidden paths, valleys, flowing springs, and mountain ridges beyond the easily travelled roadsides. We should all be grateful that this last remnant of the once extensive Central Valley grasslands is protected so that our children and our children's children can experience what Chuck has experienced with such apparent joy and appreciation.

so..... exactly what was that flower?.... that bird?.....that squirrel?

The Friends of the Carrizo Plain and BLM have identification resources at the Goodwin Education Center, both analog as photo sheets, and digital as a computer identification program that shows most of the plants and critters on the monument. You can also buy plant guides and animal guides at Goodwin. If you want to download plant identification in advance, the San Luis Obispo Chapter of the California Native Plant Society <cnpsslo.org> has a low cost, downloadable PDF-based ebook that can be mounted on any tablet or phone that can read PDF files, or which will play on your home computer. A simpler booklet of the most common flowers is also available from Goodwin and the CNPS site.



The Vernal Pools of the Valley Floor

The floor of the Carrizo Plain contains a small number of ephemeral wetlands that exist only during the winter and spring before drying up. The term ‘vernal’ applies to the Spring season in which the pools exist. The pools contain a number of species of animals and plants that are dependent on the annual cycle of submergence and desiccation, and which also can survive dry years such as 2008 and 2009 in which there is hardly any rainfall.

The geologic origin of the Carrizo Plain’s pools varies. Some form due to recent geologic deformation near the San Andreas fault, but the most important group of pools lies in the lowest valley topography north of the Monument, especially in the central area of Belmont Trail and near Seven Mile Road. The surface of the land is gently dimpled, the hollows being less than a foot or so below the surrounding higher ground, and the dimples being about the size of a table-tennis table. They can be spotted in the summer by the presence of white salty clay and the dried out remains of algal and bacterial mats that look like blackened peeled paint on the white background, and in the winter by rather muddy water. The water is usually muddy due to the teeming life of the pool that must be born, grow to maturity, mate and deposit seeds, cysts, and future offspring before the pool dries and the killing summer heat returns.



Western Spadefoot Toad (*Scaphiopus hammondi*)

This amphibian is most often found on the valley floor in association with ephemeral pools, emerging from underground burrows to breed and then reburying themselves when the pools dry. The toads are also found in the habitat types Mixed Scrubland, Alkali Desert Scrub and Annual Grassland.

Winter birding on the Monument

As the Carrizo Plain is quite high, and the air is dry, it gets very cold in the winter. Many of the dirt roads are impassable when wet, and the visitor center does not open until December. However this is a time for wildlife watchers, especially bird watchers.

Nearly 200 species of birds have been seen in the Monument, and in the winter water birds might use the lake. One sight that has vanished is an annual visit by sandhill cranes. The birds foraged in the harvested grain fields during the day, resting in the shallow waters of the lake at night. The grain fields are now gone, but so are the cranes.

You can download a bird checklist from the Morro Coast Audubon Society <<https://drive.google.com/file/d/0B5mJyGr0wTeDa2dRN1hGWVRnYTA/view>>

