

# MOUNT DIABLO REVIEW

MOUNT DIABLO INTERPRETIVE ASSOCIATION

FALL / WINTER 2022 • MDIA, PO Box 346, Walnut Creek, CA 94597-0346 • 925-927-7222 • www.mdia.org

## Shrubs in the Treetops: a Portrait of Mistletoe

Summer is gone and the mountain shifts gears into fall, and then winter mode. The blooms of the earlier seasons give way to fruits of their vegetative labor: seed beds, berries, nuts, and other forms of embryonic plant progeny, all hold promise of next year's floral offspring plus an extra yield: cuisine for native wildlife in the fall and winter. Observant hikers can spy autumnal foodstuff while wandering the mountain's grocery aisles aka trails. Coffeeberry, blackberry, toyon berry and wild grapes, madrone and manzanita fruits, bright red rosehips are just some of the menu items on offer. And oh so many acorns, the tremendous autumn and winter food source for many oak woodland residents. But acorns aren't the only seasonal edibles found in oak branches. Look up in the tree's crown and you might see an evergreen shrub that grows in a jumbled ball of fuzzy stems and leaves, a California native plant with a rich natural and cultural history and yet routinely misunderstood: oak mistletoe.

Mistletoe conjures up the holidays in many human cultures, but for wildlife it represents an altogether different reality. Food, shelter, a place to hunt, nutrients for the soil and plant-life beneath it, a plant host for hungry caterpillars. These are all ways that oak mistletoe interacts with life around it. To know it is to love it—or at least like it more. What better reason to delve into the nature—and culture—of mistletoe?

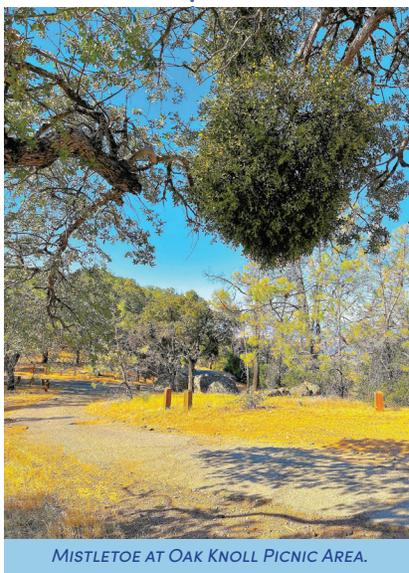
Historically, mistletoe is a plant-celeb, well represented in international folklore and myth. Early on, oak-worshipping Druids adopted mistletoe as a sacred symbol of life and fertility evidenced by evergreen leaves and bountiful berries in the dead of frozen winter. Kissing under mistletoe, by

then considered an aphrodisiac, began during Kronia, the Greek harvest festival later called Roman Saturnalia. It was incorporated in fertility rights used in marriage ceremonies and on farms. Ancient Romans and Scandinavians thought it a plant of peace under which warring enemies and quarreling couples could call a truce. In medieval Europe, homes decked with mistletoe were protected from fire, trolls, and witches. Victorian England reworked its legend to today's Christmas-time tradition whereby a decorated sprig overhead is permission for stolen kisses.

By comparison, oak mistletoe's factual role in nature lacks the thrill of the supernatural, but it's no less magical to wildlife that shares its existence.

All 13,000-plus species of mistletoe are a type of parasite, plants that feed off another without reciprocation. Parasite is a loaded term with villainous connotations amplified in this case by oak mistletoe's scientific name, *Phoradendron villosum*. *Phora* comes from Greek, meaning thief, and *dendron*, meaning tree. *Villosum* means hairy in reference to its leaves and stems. Thus, oak mistletoe is labeled a hairy tree thief. Not the best brand for a good first impression.

In truth, it's a hemiparasite and therefore only half (hemi) parasitic. It takes water and minerals from its host, but not carbohydrates. Mistletoe's tiny root-like structures are called haustoria from the Latin word *haustor*, meaning things that draw in. They infiltrate the host like so many teeny-tiny straws, sipping juices from the tree's xylem, tissues that transport fluids up from roots to branches and leaves. But like other



MISTLETOE AT OAK KNOLL PICNIC AREA.

## ROAD SAFETY IMPROVEMENTS

by Cameron Morrison,  
MDSP Supervising Ranger



**FOR THE PAST SEVERAL YEARS,** the staff at Mount Diablo State Park have been finding creative ways to decrease the number of vehicle and bicycle collisions that occur in the park. With vehicles, bicycles and hikers all sharing the narrow, windy roads, we realized that something needed to be done to make the roads safer and more enjoyable for everyone. We

started out creating short bicycle lanes on the sides of the road where there was an entrance to a picnic area or parking lot. This allowed slow moving bicycles to use the “bike turnout,” while vehicles could safely pass them. In 2016, after the bike turnouts proved to be extremely successful, we had a contractor install several more throughout the park. During the same time, we installed more than 150 new signs reminding users on the road to travel at a safe speed and not to pass bicyclists on blind curves. Pavement markings, double yellow lines, digital signs showing speed and several other safety improvements were also added in 2016.

In July of 2021, Mount Diablo State Park received a surprise budget allocation of \$1.5 million that was set aside specifically for the construction of more bike turnouts. This state budget allocation was spearheaded by State Senator Steve Glazer who recognized the importance of making the roads safer for those who visit Mount Diablo State Park. In July of 2022, construction began on 30 new bike turnouts and the project was completed in mid-September. We now have 47 bike turnouts on the roads in the park.

While the bike turnouts, signs, and pavement markings have been a huge safety improvement for all users on the roads, traveling at a high rate of speed continues to be the primary cause of all collisions over the past 10 years. While traveling on the roads in the park, please ensure that you are traveling at a safe speed for conditions, use the bicycle turnouts that are provided, and only pass slower moving vehicles when it is safe and legal to do so. These are all simple steps that we can take to ensure that everyone who visits the park can do so safely and enjoyably. 🍁

## MDIA PRESIDENT'S COLUMN

by Stephen Smith



**THIS CAN BE THE BEST TIME OF YEAR** to visit mount Diablo! No,

there aren't lavish displays of wildflowers to admire. The trails may turn a little soggy at some point and the temperatures will turn cool and then downright chilly. Some of our bird species may not

be around for winter and the sun may take some time off here and there. But I assure you that there is so much to experience here, and you can do so with a little more solitude as this time of year sees far fewer visitors to the park.

In the fall what you will see are some changing of the colors, though this might mainly include our poison oak and native grapevines. You'll be treated to our iconic Tarantula mating season in which you might spot our handsome males out in the late afternoon looking to woo a female. And who doesn't enjoy a nice crisp fall day in which to rack up some miles on the trail? Winter grasses will begin to turn green, carpeting the hillsides with an emerald hue. The creeks and springs will come alive, babbling, and rushing with the seasonal rains. More than likely, you will be dazzled by a day or two of snow blanketing the mountain, chancing that it will stick for a mini winter wonderland. A rainy day on the mountain can be magical and ethereal as the mist shrouds the flora. This time of year, particularly after a winter storm, is often the best opportunity for the world-class views Mount Diablo has to offer. With a nice cleansing of the air, you might spy the snow-capped peaks of Yosemite, the tops of the Sutter Buttes, the crags of Lassen Peak, or the ocean bound Farallon Islands.

No matter what your adventure I promise you that the mountain, in all its majesty, will share some secrets with you. So, open your eyes and ears, your heart and mind and let nature transform itself while it transforms you. See you on the mountain! 🍁



PHOTO: ERIN WILSON, WHITE TAILED KITE

(CONTINUED FROM PAGE 1)

## Shrubs in the Treetops: a Portrait of Mistletoe

green plants, oak mistletoe makes its own energy by photosynthesizing its own vital sugars rather than stealing them from its host. According to a recent study by Walter D. Koenig, whose many credentials include Research Zoologist Emeritus at UC Berkeley, on the effects of oak mistletoe on California oaks, “the negative consequences of *Phoradendron* presence on their hosts are negligible . . . and outweighed by the important ecosystem services mistletoe provides.”

Mistletoe’s ecosystem services make it a microhabitat in its own right. For example, the abundance and diversity of birds is directly tied to the presence of mistletoe. Its elevated bundle of fuzzy stems and leaves is a well-disguised nesting site to several bird species. House wrens, mourning doves, pygmy nuthatches, hummingbirds and others, including raptors like Cooper’s hawks and some owls, all find it a fine place to nest. Its plump berries, toxic to humans, are yummy edibles especially prized by birds (more on birds later). A flowering plant, mistletoe is a nectar and pollen resource for creatures that seek the same. Lizards and birds hunt insects in its branches. The leaves are high-protein forage for deer and other browsers, and fallen leaves infuse the soil with nitrogen, phosphorus and other nutrients that ripple through the soil food web. Mistletoe is the only host plant for the beautiful Great Purple Hairstreak butterfly. Whew—that’s a lot of ecosystem services!

So how does a shrub land itself in the tree-tops and why do some trees have some or many mistletoe clumps while others one or none? Short answer: birds.

Mistletoe’s partnership with birds was an evolutionary leap that allowed it to rise above its root-sucking parasitic ancestor, Sandalwood FYI, to today’s lofty lifestyle. Mistletoe depends heavily on birds to get around, relying on bird poop-dispersal to deliver seeds to high branches that offer it better opportunity to thrive than the shaded woodland floor. A tree-crown residence provides improved access to sunlight for photosynthesizing and more distance from the reach of earthbound leaf-nibbling animals.

Named for this bird-plant relationship, mistletoe comes from Old English “mistiltan” derived from two even older Anglo-Saxon words; mistel, meaning dung, and tan, meaning twig. Modern translation: poop-on-a-stick. Apparently, the tree-worshipping druids noticed mistletoe grew on dung-splattered tree parts.



WESTERN BLUE BIRD AND MISTLETOE. PHOTO: DAN FITZGERALD

Mistletoe berries are filled with viscous pulp that sticks like glue. In turn, sticky seeds tack onto bird beaks and feet and are wiped off (planted) onto twigs and branches. After digestion, seeds come through intact which allows birds to deposit them on places they like to roost best. So why do some oaks have a lot of mistletoe and others not? It’s a sign of a bird-favored tree, or not.

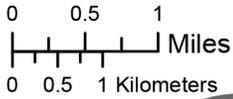
Let’s not overlook oak mistletoe’s inconspicuous, to humans, petal-less flowers that appear July through September. Each flower is either male or female and grows on separate shrubs; hence, each plant is either male or female. Fortunately, the modest blooms don’t go unnoticed by insect pollinators. Their visitation ensures there are berries in winter when other food is scarce, good timing for hungry animals, like squirrels and deer, but especially birds. Western bluebirds, mourning doves, grosbeaks, American robins and cedar waxwings are among the many feathered fans that literally flock to mistletoe in winter to dine on its fruit.

Western bluebirds so prize mistletoe berries that an extended family will take possession of a high yielding plant defending it against all other comers. Bluebird owners of a fruitful clump stay mostly together living off their berry harvest through winter when insect fare is meagre. Female offspring usually disperse at maturity, but sons stay behind as helpers so long as food is available, and thus enjoy a bluebird form of intergenerational wealth. But when berries disappear, so do the sons. Sound familiar?

Often misunderstood and no longer revered by people, mistletoe retains its deep value in nature. Next time you walk under one, perhaps you’ll find more to appreciate than stolen kisses. 

—By Jenn Roe, MDIA Natural History Docent

# MOUNT DIABLO STATE PARK



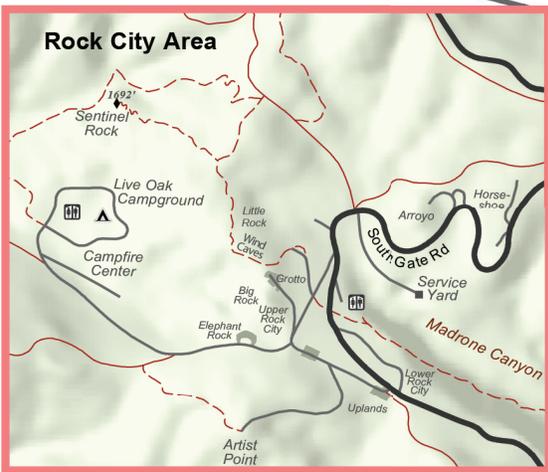
*Mitchell Canyon Road does not offer a route to the Summit via motor vehicle. Vehicles must enter through North Gate Road or South Gate Road.*

Most land adjacent to the park is private property. Do not enter without the owner's permission.



## Legend

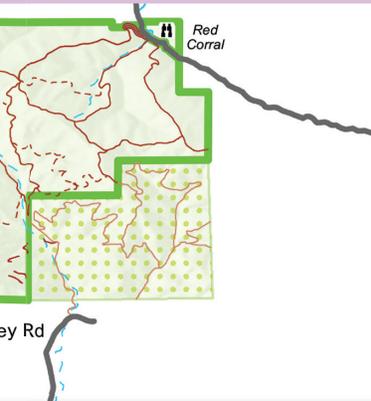
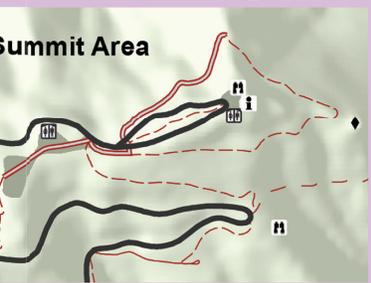
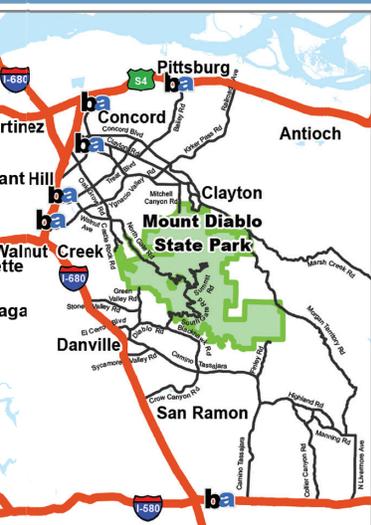
- Accessible Feature
- Entrance Station
- Ranger Station
- Visitor Center
- Restroom
- Point of Interest
- Horse Staging
- Campground
- Campground (Group)
- Rock
- Peak
- Major Road
- Park Road
- Fire Road
- non-MDSP
- Single-track Trail
- Trail Bikes OK
- Paved Trail
- Perennial Creek
- Seasonal Creek
- Pond
- Administered By EBRPD
- Mount Diablo State Park



Park Fees per Car	
Mitchell Canyon Entrance*	\$6.00
Macedo Ranch Entrance*	\$6.00
North and South Gate Entrances*	\$10.00
Golden Poppy Annual Pass	\$125.00
California Explorer Annual Pass	\$195.00
* MINUS \$1 FOR SENIORS 62+	

SITE
Stagecoach
Boundary
Buckeye
Wildcat
Barbecue Terrace

# Camping at Mount Diablo State Park



## Mount Diablo has three designated family camping areas and five group camps:

**JUNIPER CAMPGROUND** (36 sites, elevation 3,000 ft.) Located approximately two miles below the summit, on Summit Road, Juniper is known for its fantastic views. Three campsites meet accessibility (Americans with Disabilities Act) standards. **Reservations available.**

**LIVE OAK CAMPGROUND** (23 sites, elevation 1,450 ft.) Located one mile above the South Gate Entrance Station, off South Gate Road. Live Oak is near Rock City, where one can explore rock formations. **Reservations available.**

**JUNCTION CAMPGROUND** (6 sites, elevation 2,200 ft.) Located where South Gate and North Gate meet at the Ranger Station. This campground is situated in an open woodland area. **Available on a first-come, first-served basis only.**

**GROUP CAMPS** are Buckeye, Barbecue Terrace, Wildcat, Stagecoach, and Boundary. Each campground is primitive with running water (subject to availability) and pit toilets. Barbecue Terrace is equipped with horse ties for equestrian use. RVs are not allowed in the group camping areas. **Please check the state park website for status.**

- All campgrounds are provided with picnic tables, fire pits or stoves, potable water (subject to availability) and restrooms. Showers are available at Juniper and Live Oak campgrounds at no additional charge.
- The campgrounds are mainly designed for tent camping, but can accommodate RVs up to 20 ft. in length. No hookups and dumping stations are provided.

## Camping Procedures

Make reservations up to six months in advance using the ReserveCalifornia website at [reservecalifornia.com](http://reservecalifornia.com). To view a map of the campgrounds and for additional info, please visit [mdia.org/camping](http://mdia.org/camping).

Check-in time is 2:00 p.m. Check-out time is 12:00 noon.

During the fire season (generally May to October) the park is subject to closure due to extreme fire danger. Campers must call the park at 925-837-2525 or 925-837-0904 one day prior to their arrival to confirm park status.

## General Rules

- Alcoholic beverages are prohibited in the park.
- Eight people and two vehicles maximum per campsite.
- Each juvenile (under age of 18) must have written permission from his/her parents (with parent's phone number) prior to camping without adult supervision. Phone verifications will be attempted.
- Quiet hours are from 10:00 p.m. to 6:00 a.m.
- No electric generators from 8:00 p.m. to 10:00 a.m.
- Firewood gathering is prohibited.
- Fires must be in stoves or fire pits provided. **NO GROUND FIRES.**
- Campfire restrictions are in effect during the fire season. Check fire conditions for appropriate use (see page 6).
- Campers are locked in the park overnight from sunset to 8:00 a.m. For emergencies dial 911.
- Quiet—noise must not carry beyond your immediate campground or picnic area.

Group Camps			
	NIGHTLY USE FEE	CAPACITY	
		CAMPERS	VEHICLES
each	\$65	20	7
y	\$65	20	7
	\$100	30	10
	\$100	30	10
e	\$165	50	17

# THERE ARE 45 BIKE TURNOUTS IN THE MOUNT DIABLO STATE PARK



PHOTO: BIKE TURNOUTS ALLOW CARS TO SAFELY PASS UPHILL CYCLISTS WHILE AVOIDING DOWNHILL CYCLISTS.

**Mount Diablo is a popular cycling destination.** Bike turnouts allow cyclists to pull over to the right so that motorists can pass safely without crossing the double

line. Cyclists must use bike turnouts when followed by a vehicle. Please drive safely when in the park. See also the Supervising Ranger's Column on page 3.

 <b>FIRE DANGER CHART</b>						
Fire Danger Reading	Wood fire permitted in stoves and BBQ pits (designated picnic and campsites)	Use of Compressed Logs	Use of Charcoal	Use of Self-contained Stove	Cigarette Smoking <sup>1</sup>	Park Closed <sup>2</sup>
LOW	YES	YES	YES	YES	YES	NO
MEDIUM	NO	YES	YES	YES	YES	NO
HIGH	NO	NO	YES	YES	NO	NO
HIGH WITH RED FLAG	NO	NO	NO	YES	NO	NO
VERY HIGH/EXTREME	NO	NO	NO	NO	NO	YES

<sup>1</sup> THE PROHIBITION OF SMOKING UNDER HIGH FIRE DANGER INCLUDES SMOKING WITHIN A VEHICLE.  
<sup>2</sup> PARK CLOSURE APPLIES TO ALL HIKERS, VEHICLES, BICYCLISTS (MOUNTAIN AND ROAD), AND HORSEBACK RIDERS.

## Fire Danger: How Will It Affect You?

- When permitted, fires must be in stoves or provided fire pits.
- Never leave a fire unattended.
- Extinguish all fires prior to departure.
- Ground fires are not permitted.
- Firewood gathering is prohibited.
- Report all wildfires immediately. Call 911.

## Astronomy on Mount Diablo

The Astronomy Program is presented by Mount Diablo State Park, Mount Diablo Astronomical Society (MDAS), and Mount Diablo Observatory Association. For more details, go to Mount Diablo Astronomical Society's website, [www.mdas.net](http://www.mdas.net), and click on Event Calendar.

## New Mitchell Canyon Education Center

The Mount Diablo Interpretive Association has officially started a campaign to secure \$3 million in funding for the new educational center to serve visitors and students at the Mitchell Canyon entrance to Mount Diablo State Park. MDIA is taking the lead to apply for government and private grants, and to initiate a campaign for individuals to donate. This center will be an exciting addition to the State Park to achieve our goal of Preservation through Education. For more information visit our website [MDIA.org](http://MDIA.org) to help us achieve this goal.

## Explore Mount Diablo Online

MDIA.org, the website of the Mount Diablo Interpretive Association, is your go-to resource for all things related to Mount Diablo State Park. Whether you're looking for great hikes, points of interest, or a list of seasonal wildflowers, you will find a variety of interactive online tools to help you better plan your visit and enjoy the park before, during, and after your stay. In addition to practical up-to-date information about emergency closures, camping, and visitor center hours, our newly expanded website also includes online guides to Mount Diablo's unique flora, fauna, and geology. For those looking for park souvenirs, clothing, or printed books and field guides, our online shop is quick and easy to use. And if you're interested in volunteering in the park or becoming a member of MDIA, we've got a tab for that too.

Visit MDIA.org today to learn more!

- Videos and podcasts about the park, <https://www.mdia.org/events/archiveall>
- Directions, admission fees, and park information
- Campground, picnic, and visitor center information
- Guide to popular hikes (by level of difficulty)
- Schedule of events and activities
- Guide to butterflies of Mount Diablo
- Guide to wildflowers of Mount Diablo
- Guide to birds of Mount Diablo
- Natural history webinars
- Convenient search feature
- Online store and membership information
- Learn about volunteer opportunities



For more information about volunteering, email [volunteer@mdia.org](mailto:volunteer@mdia.org) or leave a phone message at 925-927-7222.

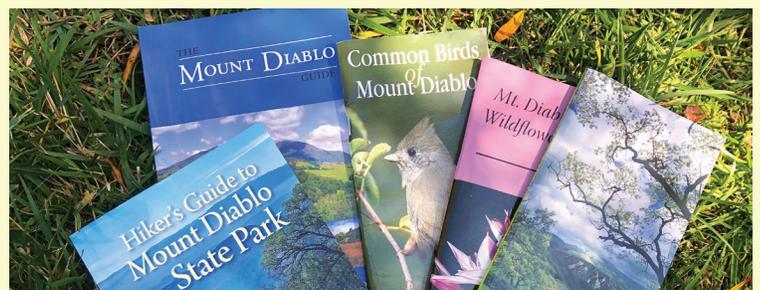
## Become an MDIA member today!



Use your smart phone to join now or shop online.

<https://mount-diablo-interpretive-association.square.site/>

SIX LEVELS OF MEMBERSHIP:		PRODUCTS:
Senior (55+)	\$15	• Maps
Student	\$15	• Nature Guides
Individual	\$25	• Hiking and History Guides
Family	\$40	• Clothing
Contributing	\$100	• Bicycle Jerseys
Lifetime	\$500	



# Park Rules

You are responsible for obeying these and other Park rules

- **All Features of the Park Are Protected!** Do not remove or disturb plants, animals, or geological features.
- **Park Hours:** Opens at 8 a.m. and closes at sunset. Visitors should be in their vehicles heading out at sunset to avoid being locked in.
- **No Alcohol:** All alcoholic beverages are prohibited in the park.
- **Vehicles/Bicycles Speed Limit:** 15 to 25 mph on park roads, 15 mph in campgrounds and picnic areas. All vehicles must stay on the pavement and are prohibited on trails and fire roads.
- **Bicycles** are allowed only on paved roads, fire roads, and designated trails. Check at the Ranger Station for current regulations.
- **Drones or Unmanned Aircraft Systems (UAS)** are prohibited.
- **Skateboards**, rollerblades, rollerskates, and gravity-propelled devices are prohibited.
- **Dogs:** Must be on leash at all times when out of your car; must be in tent or a vehicle at night; and must stay in developed areas—they are not allowed on trails or fire roads.
- **Fires:** Restrictions in effect during season. Check with a Ranger. Fires must be in fire pits or barbecues provided—no ground fires.
- **Emergencies:** Dial 911.
- **Fireworks** are prohibited.
- **Firearms**/airguns and hunting are prohibited.

## Mount Diablo State Park Phone Numbers

General information.....	925-837-2525
Summit Museum .....	925-837-6119
Junction Ranger .....	925-837-6129
TTY Relay Service.....	711

MAILING ADDRESS:  
(NOT FOR VEHICLE ACCESS)

**Mount Diablo State Park**  
96 Mitchell Canyon Road  
Clayton, CA 94517-1500



California State Parks supports equal access. Prior to arrival, visitors with disabilities who need assistance should contact the Contra Solano Sector Office, 925-673-2891. This newsletter is available in alternate formats by contacting 925-673-2891.

## Rules of the Road for Motorists and Cyclists



Share the roadway with all Park users.

- Drive at or below the posted Park speed limits. CALIFORNIA VEHICLE CODE 22350\*
- Pass with sufficient visual clearance CALIFORNIA VEHICLE CODE 21751 \*
- Do not pass on blind curves. CALIFORNIA VEHICLE CODE 21752(A)\*
- Give bicyclists 3 feet clearance. CALIFORNIA VEHICLE CODE 21760(b)\*
- Yield to equestrians. CALIFORNIA VEHICLE CODE 21759\*

\*MINIMUM FINE: \$238

## Understanding Trail Signs



**TRAIL SIGNS IN THE PARK FOLLOW** California State Parks' uniform format. The name of the trail you are on is specified in relatively small horizontal type near the top of the sign. The name that appears vertically in large type (another trail but sometimes a destination or park boundary) identifies the termination of that particular trail; note the word "TO" in small letters. The mileage to that end point is specified at the bottom.