# Mount Diablo State Park
# Road and Trail Management Plan

FINAL DRAFT
January 2016

California State Parks
Bay Area District
Mount Diablo State Park

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## California State Parks Mission

The mission of the California Department of Parks and Recreation is to provide for the health, inspiration and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high quality outdoor recreation.

## Mount Diablo State Park Purpose Statement

The purpose of Mount Diablo State Park is to make available to the people for their inspiration, enlightenment, and enjoyment, in essentially natural condition, the outstanding scenic features including the summit peaks and surrounding landscape; the outstanding natural values including geology and plant and animal life; the significant historical and archeological resources; and the scientific values therein.

The department shall define and execute a program of management to perpetuate the unit's declared values, and provide recreational facilities and interpretation that make these values available in a manner consistent with their perpetuation.

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# EXECUTIVE SUMMARY

Trails are fundamental to fulfilling the Department's mission to create opportunities for high-quality outdoor recreation. This Road and Trails Management Plan (RTMP) for Mount Diablo State Park (MDSP) describes the existing roads and trails of the park and provides specific direction for management and operations in the future. The goal is to ensure that recreational trail opportunities are made available at their fullest potential, while protecting the park's cultural and natural resources.

Set aside by the State in 1931, MDSP has an extensive system of roads and trails including nearly 200 miles of non-motorized trails set in a variety of habitats, including grasslands, woodlands, chaparral, creeks, ponds, and seasonal water falls. The park holds numerous Native American sites and a collection of 1930s buildings constructed by the Civilian Conservation Corps.

The RTMP was prepared in accordance with DPR Notice 2012-06 and applicable state and federal regulations for resource protection and public participation. The planning team consisted of multi-disciplinary staff from the park sector, district and headquarters. A base map was developed and attributes assigned to all routes per the Department's guidelines. Data was gathered through field studies, park user surveys, and stakeholder meetings.

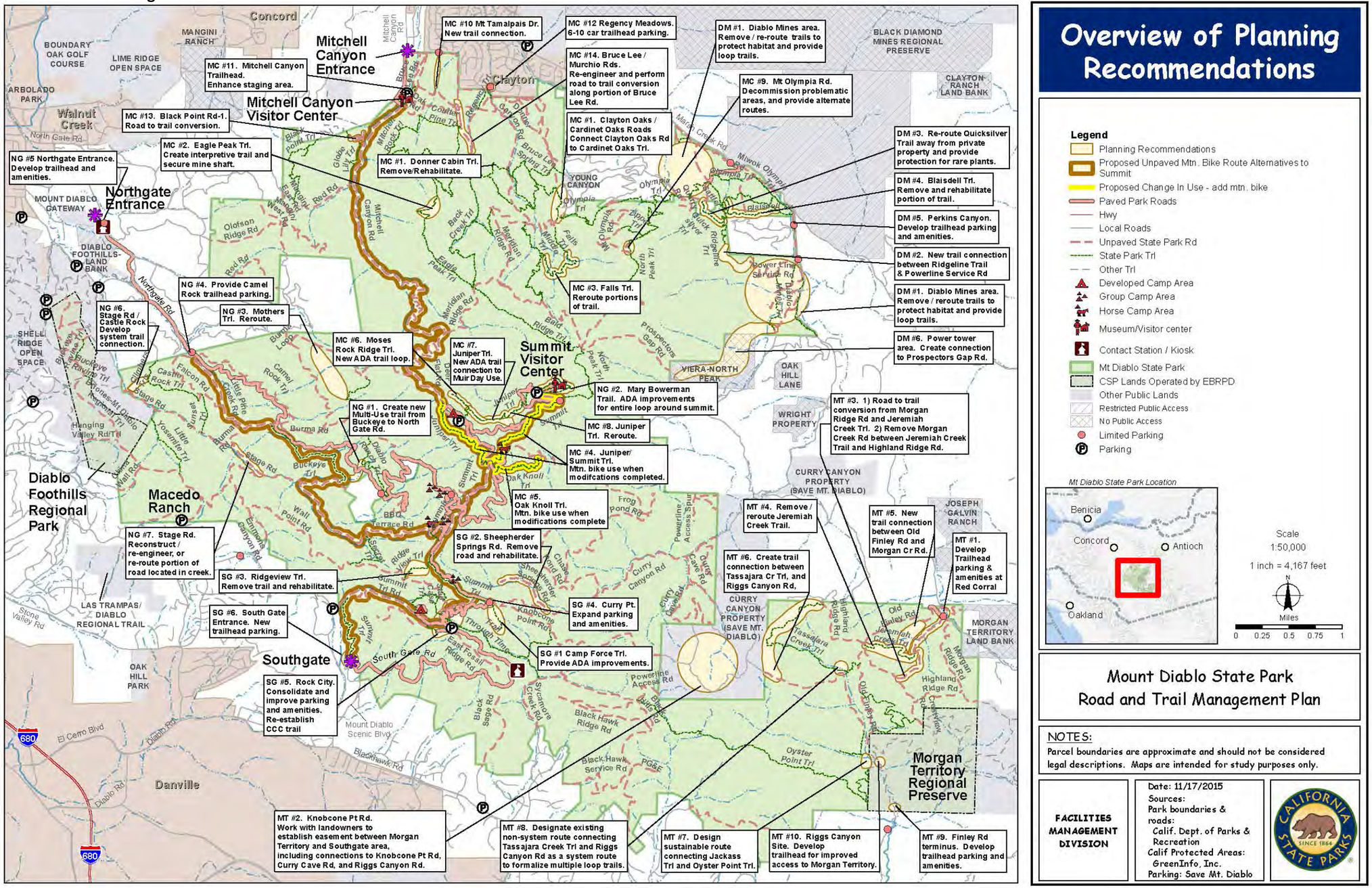
Issues such as trail sustainability, safety, adequate infrastructure, connectivity, land use compatibility, and potential user conflicts were identified. Various plan alternatives were considered and a preferred plan identified. The preferred plan was publicly reviewed and modified, as necessary, to incorporate public comments. The final RTMP and related Negative Declaration are included herein.

The final plan includes over-arching recommendations that apply to the park's entire trail system, such as the need to make all new trails and trail alterations accessible to the extent possible, remove all non-system trails, and maintain all trails to the appropriate standard.

Area-specific recommendations were made for five identified areas of the park - Mitchell Canyon, North Gate, South Gate, Diablo Mines, and Morgan Territory. Within these areas, specific trails were identified for conversion (removal), realignment, and reconstruction to address sustainability and accessibility concerns. Other trails were identified for potential change-in-use to expand recreational opportunities or limit resource impacts. New and upgraded trail amenities, such as restrooms and parking lots, were also recommended where needed.

Maps that illustrate the existing conditions as well as recommendations for planning and maintenance are included.

**Map: Overview of Planning Recommendations**



# Section 1 INTRODUCTION

Trails are a key component of public recreation and, therefore, are critical to fulfilling the mission of the California Department of Parks and Recreation (DPR). DPR is committed to providing the highest quality trails for a diverse user group by planning and developing trails pursuant to the DPR Trails Policy:

> *The Department, through a public planning process, will strive to meet the recreational, educational, and interpretation needs of its diverse trail users by developing trails within state park units, consistent with unit classification, general plan directives, cultural and natural resource protection, public safety, accessibility, use compatibility, and other legal and policy mandates. Multi-use trails and trail connectivity with adjacent public trail systems will be considered in the development of trail plans or individual trails.*

## 1.1 Purpose

The purpose of a Road and Trails Management Plan (RTMP) is to provide specific guidance and direction for implementing the goals and objectives of the park's approved General Plan. It should describe the existing road and trail conditions in a park and provide a roadmap for future management including specific actions for individual roads and trails. It must take into consideration the park's values and mission to achieve the following goals.

- Maximize visitor use and experiences;
- Reduce potential safety issues;
- Minimize impacts to natural and cultural resources;
- Coordinate with local and regional planning efforts;
- Provide access to surrounding public lands;
- Reduce maintenance and management costs;
- Provide an appropriate range of recreational opportunities and associated infrastructure;
- Limit impacts on the natural environment to a level acceptable under CEQA;
- Prioritize roads and trails projects.

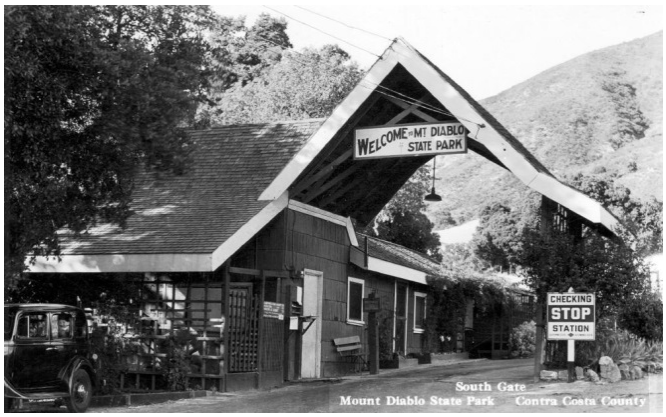
Developing a comprehensive RTMP is paramount to ensuring that recreational trail opportunities are made available at their fullest potential, while providing sufficient and often enhanced protection for cultural and natural resources. Although planning can be implemented on a single trail basis, park-wide and regional trail system planning remain the preferred and the most effective methods for identifying and establishing linked recreational trail corridors. Comprehensive planning also reduces construction and maintenance costs.

## 1.2 Planning Need

In most parks, roads and trails are the primary avenue for park visitors to access park features and facilities. Properly sited, designed, constructed, maintained, and managed, roads and trails can provide quality recreational opportunities while also protecting sensitive natural and cultural resources by focusing recreational activity on less sensitive park lands.

Frequently, a park's trail system has evolved from trails and unpaved roads that were on the property when it was acquired. They were constructed to meet the needs of the original property owners, and seldom serve the needs of the park unit adequately or meet trail standards currently identified in the DPR Trails Handbook. Old trails are often improperly sited, poorly designed and constructed, or inadequately maintained. Additionally, older trails may have limited accessibility or other deficiencies. Trails also may fail to adequately protect the park's natural or cultural resources.

This RTMP provides an opportunity for DPR managers to address concerns regarding old roads and trails, propose new trails for development, and revisit, refine, and prioritize previous road and trail management recommendations.



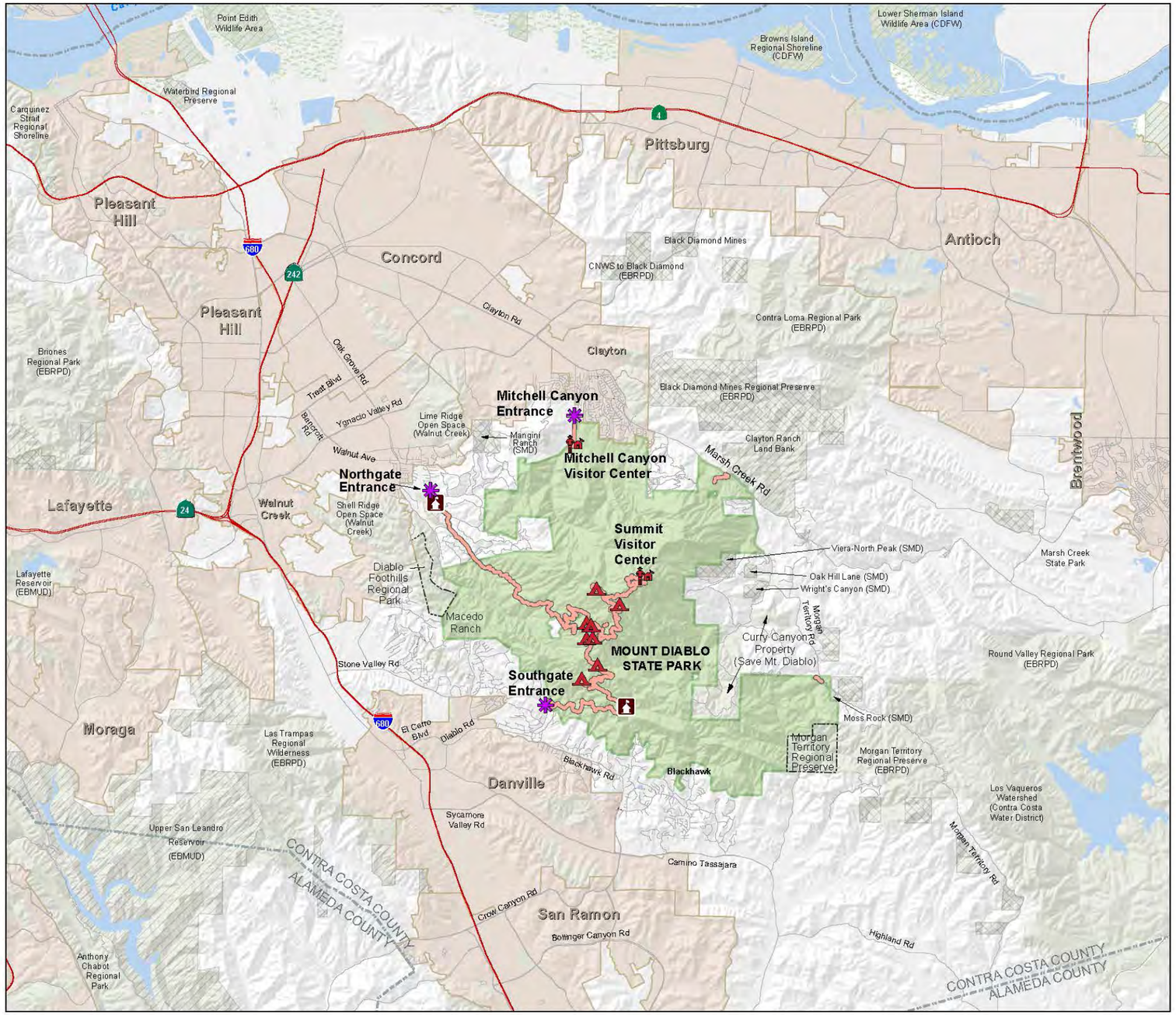

## 1.3 Project Setting

Located in Contra Costa County in Northern California, MDSP is rich in both natural and cultural history. The 20,124-acre complex has an extensive system of roads and trails including nearly 200 miles of non-motorized trails. Its 3,849-foot mountain offers a 360-degree view of the surrounding suburban development and is home to a variety of habitats and natural features, including grasslands, woodlands, chaparral, creeks, ponds, and seasonal falls. Primary access to the park is from Highway 24 from the west, State Highway 4 from the west and east, and Interstate 680 from the north and south. Two entrance roads, North Gate and South Gate, link the park with the nearby communities of Walnut Creek and Danville, respectively.

Before the establishment of the state park system in 1927, the State Legislature created a "State Park and Game Refuge" in 1921 for the purpose of preserving the spacious and scenic character of the natural features of Mount Diablo. During the 1930s, the Civilian Conservation Corps built several facilities at Mount Diablo, including the Summit Building, as well as realigned park roads, constructed hiking trails, and developed campground and picnic areas.

MDSP was designated as a unit of the state park system on April 20, 1931, and was officially classified as a "state park" by the State Park and Recreation Commission in 1963. The 640-acre Civilian Conservation Corps Cultural Preserve was designated as a sub-unit in 1989. This RTMP shall apply to all of MDSP and its sub-unit, the California Conservation Corps Cultural Preserve.

**Map: Mount Diablo Region**




# Vicinity Map

**Legend**

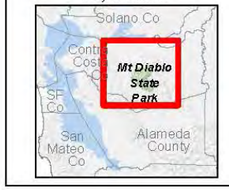
- Mt Diablo State Park
- CSP Lands Operated by East Bay Regional Park District (EBRPD)
- Campgrounds (Points)
- Museum/Visitor center
- Contact station/Kiosk

**California Public Lands**

- Other Public Lands
- Restricted Access
- No Public Access
- Highways
- Local Roads
- Paved Park Roads
- Cities
- Lake/Pond; Reservoir
- Marsh
- Main Park Entrance

Scale
1:125,000
Miles
0 0.5 1 1.5 2

*Project Location*




*Project Location*

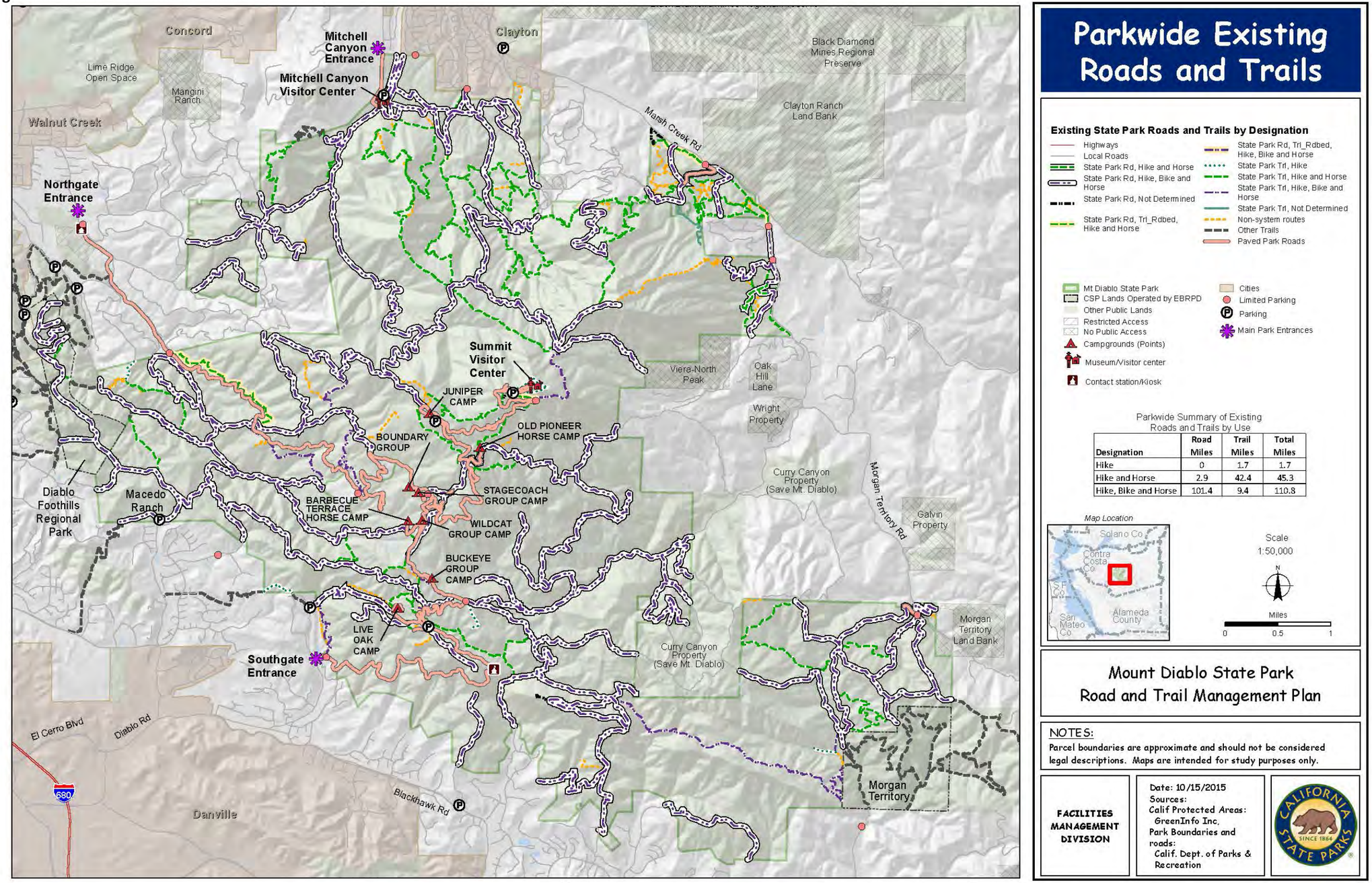
Mount Diablo State Park
Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

FACILITIES MANAGEMENT DIVISION

Date: 11/17/2015
Sources:
Calif Public Lands: GreenInfo Inc,
Park Boundaries and roads: Calif. Dept. of Parks & Recreation

**Map: Existing Roads and Trails at Mount Diablo State Park**



# Section 2 THE PLANNING PROCESS

Developing an RTMP is a dynamic process that can take several years to complete. Per DPR's Trails Policy, opportunities for public participation in the planning process must be provided. Specifically, an RTMP should:

- Meet guidelines provided by the unit's general plan;
- Address stakeholder needs;
- Incorporate and coordinate with local and regional planning documents;
- Adhere to existing laws and regulations;
- Include the public and all potential user groups in the planning process;
- Provide user accessibility;
- Protect resources; and
- Provide a mechanism to monitor outcomes.

## 2.1 RTMP Planning Process

Preparation of this RTMP followed the process outlined below and was in compliance with DPR Notice 2012-06 regarding the review and approval of management plans, as well as applicable state and federal regulations for resource protection and public participation.

**1. Develop the planning team.** The planning team consisted of multi-disciplinary staff from the park sector, district and headquarters.

**2. Inventory and Mapping.** A road and trail inventory is conducted and a base map with associated attributes is created. This inventory and assessment process was developed to provide an objective and consistent method for determining road and trail infrastructural problems and associated solutions as well as to officially record road and trail information such as physical characteristics and allowed uses. The data collection process relies on easily repeatable and non-controversial measurements of features and conditions. Terminology and methods are standardized and applicable throughout the state and across various environments to provide reliable comparisons between watersheds, parks, or other geographic areas of interest. The base map and route attributes conforms to DPR's established guidelines for categorization, segmentation, and classification of roads and trails.

**3. Stakeholder Input.** As appropriate to the park, data is gathered from park users and other stakeholders. Typically, data includes information on issues pertinent to road and trail use and sustainability. Public or stakeholder workshops are held to allow those people to assist in identifying needs, suggest routes and restoration opportunities, and provide general comments. Trails use surveys are conducted during different seasons and times to solicit input from trail users.

**4. Evaluate and synthesize data.** Data is collated, compared, and assessed. Issues such as trail sustainability, safety, adequate infrastructure, connectivity, land use compatibility, and potential user conflicts are identified.

**5. Development of proposal and alternatives.** To develop alternatives, staff considers stakeholder input, accessibility needs, resource issues, National Historic or Recreation Trail certification and/or nomination, and linkages to transit and other recreational trails and facilities outside the park. Recommendations for plan alternatives may include maintenance strategies, new routes, new or alterations to trailhead facilities, or change-in-use designations.

**6. Administrative Draft RTMP**. A preferred plan is developed for review by departmental staff.

**7. Draft RTMP.** Following review, and necessary revisions, of the Administrative Draft, a Draft RTMP is developed. A public meeting, as determined by plan specifics, may be initiated to solicit comments related to the plan.

**8. Final Draft RTMP/Environmental Document**. The Final Draft Plan is developed to include the appropriate Draft Environmental Document as required by law. Public comments are solicited through the required environmental review process.

**9. Public Review.** Department staff receive and evaluate public comments and respond as appropriate per CEQA guidelines. The draft may be modified, as necessary, to incorporate public comments or concerns.

**10. Final RTMP/Environmental Document.**
The final RTMP and associated environmental document, including changes resulting from public comments as required, is produced and recommended for adoption.

**MDSP Planning Specifics**
For this RTMP, the California Geologic Survey conducted the road and trail inventory, including components, condition assessment, and preliminary recommendations, in 2011 and 2012. The purpose of this assessment was to:

- Integrate field data into the management process;
- Provide the current status of the roads and trails for decision making purposes; and
- Provide a knowledge-base for ongoing assessment, monitoring, and planning.

The park's roads and trails were evaluated to determine: 1) legacy roads and trails to be decommissioned; 2) roads and trails that have been adopted by DPR for maintenance; and 3) roads and trails that are adopted by DPR but require redesign or reconstruction to meet DPR standards. Information was also gathered through an existing conditions assessment in which existing uses of each road and trail were identified.

A thorough, inclusive, and transparent public process was initiated to gather data regarding public perception of the appropriate types and locations of roads and trails, and to analyze the relative impacts of proposals. A series of 11 stakeholder meetings were held between 2008 and 2012 in the local community to receive comments and recommendations about the park's roads and trails.

Meetings were held with representatives of user groups, adjoining land management agencies, permitting agencies, cooperating associations, and other stakeholders, including East Bay Regional Park District, Mount Diablo Interpretive Association, East Bay Area Trails Council Board, Save Mount Diablo, East Bay Trail Dogs, Concord Mount Diablo Trail Riders Association, Bicycle Trails Council of the East Bay, and Wings of Rogallo Hang Gliding Club.

In addition, trail users at the park were surveyed throughout the year on both weekdays and weekends to capture as many users as possible. Nearly 500 recreational users, including hikers, equestrians, and mountain bikers were surveyed about the roads and trails in the park.

## 2.2 Change-in-Use Evaluation

DPR has developed a process to facilitate and make consistent the review of change-in-use proposals resulting from this planning process that would add or remove uses from existing recreational roads and trails in the state park system. This process is intended to identify those changes that best accommodate accessibility and recreational activities appropriate for each road or trail. Specifically, the process is intended to achieve the following objectives:

- Implement the DPR Trail Policy, including consideration of multi-use trails and trail connectivity;
- Ensure that projects can be implemented in a manner that avoids or mitigates significant impacts to the environment;
- Inform decision-making to include the diversity of resources and users at each park unit;
- Ensure that changes are considered in a transparent process; and
- Establish a process for decision making with objective criteria for evaluating proposed changes to trails.

A Change-in-Use Evaluation (see appendix) can provide the planning team with critical information, including:

- Existing conditions
- Compatibility with the park's classification and other trail uses
- Effects to trail circulation patterns
- Effects to trail safety
- Effects to trail sustainability
- Effects or impacts to natural and cultural resources
- Effects or impacts to facility maintenance and operational costs

Recommendations based on survey results typically fall into one of the following categories:

- Conditional approval that includes design modifications or repairs
- Conditional approval that includes management options
- Approval
- Disapproval
- Put on hold

When a change-in-use is conditionally approved, all proposed conditions need to be implemented, project specific environmental compliance completed, and funding secured prior to the change taking affect.

A process flow chart has been developed to assist staff in the evaluation process (see appendix). The principle steps are outlined below. The first four steps are completed as part of the RTMP process. The second half is conducted for each individual project.

1. Request for change-in-use submitted to district by a user group, DPR staff, neighboring agency, or other stakeholder.
2. Evaluation and trail log prepared
3. Change-in-Use Evaluation completed
4. Recommendation by evaluation team
5. Project Evaluation Form for CEQA prepared
6. Construction Work Log prepared
7. Construction cost estimate prepared
8. Work plan developed
9. Project implementation

## 2.3 Plan Consistency

Recommendations in this RTMP are consistent with California Public Resources Code Section 5019.53, which provides the overarching directive on the purpose of improvements, such as trails, in a state park. Specifically, the section stipulates that:

> *Improvements undertaken within state parks shall be for the purpose of making the areas available for public enjoyment and education in a manner consistent with the preservation of natural, scenic, cultural, and ecological values for present and future generations.*

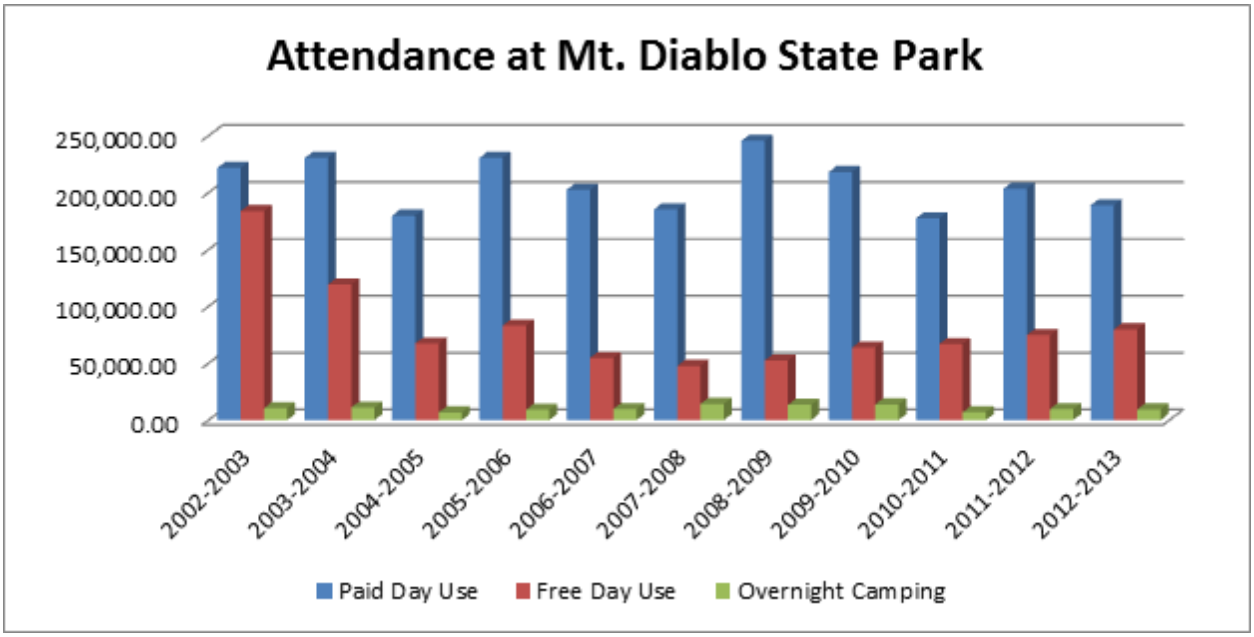
In addition, this RTMP is consistent with the park unit's classification and general plan and follows guidelines and policies established in other management and interpretive plans; departmental manuals; local, regional, and statewide plans; sensitive natural and cultural resources documents; deed restrictions; and control agency policies, including:

- Mount Diablo State Park General Plan (1989)
- The Final East Contra Costa County Habitat Conservation Plan/ Natural Community Conservation Plan (2005)
- Wildfire Management Plan, Mount Diablo State Park (2003)
- The Work of the Civilian Conservation Corps at Mount Diablo State Park: Road Drainage Features Constructed in the late 1930s (2004)
- Mount Diablo Roadway Evaluation (2001)
- Draft Recovery Plan for Chaparral and Scrub Community Species East of San Francisco Bay, California, US Fish and Wildlife Service (2002)
- California State Parks Trails Handbook (1991)
- California State Parks General Planning Handbook (2010)

# Section 3 PARK CONDITIONS

## 3.1 Park Visitation

Visitor attendance to the park from July 1, 2012, to June 30, 2013, was approximately 278,133 people with 188,919 paid day users, 79,824 free day users, and 9,390 campers (DPR System Statistical Report 2012/13 Fiscal Year). The heaviest recreational use occurs from March through September annually. Since there are many ways to enter the park, annual visitation numbers are likely to be underestimated. In addition, Contra Costa County's population is predicted to grow by 127,000 people by 2025 (The Final East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan), suggesting that park use will continue to increase.




## 3.2 Existing Recreational Resources

Because of its diverse resources and proximity to a large urban area, MDSP provides a variety of recreational opportunities. Most use takes place on the summit and in the developed areas along North Gate, South Gate, and Summit Roads. Public facilities include 64 individual campsites, 13 picnic areas, five group camp sites, 114 individual picnic sites, three group picnic sites, and two horse camps. MDSP serves different user groups, including hikers, equestrians, and bicyclists, and provides a variety of trail types for these groups. Other popular trail related activities include trail running, rock climbing, hang gliding, and paragliding.

**Popular Park Destinations**
Some of the more popular destinations in the park are described below.

**Mary Bowerman Trail**
This short, easy trail can accommodate hikers of all abilities and is located just below the summit, which is a top destination for most park visitors.

**Trail Through Time**
This interpretive trail is interconnected with a series of other trails, including Sycamore Creek, Devil's Slide, Madrone Canyon, Rock City, Staircase, Summit, Summit Road, and Juniper. It leads visitors through the 180 million-year geologic history of the area and can be accessed from several locations along its 6.25-mile length.

**Rock City**
This area hosts numerous trails through large sandstone formations and small caves, and has been impacted by heavy visitor use. Graffiti has been carved into the sandstone rock formations; sandstone has been smoothed out due to repetitive use by people hiking and rock climbing; and "volunteer" trails have emerged.

**Falls Trail**
This trail can be accessed via Mitchell Canyon Day Use Area and via the summit. The most commonly used trailheads for accessing the Falls Trail are on Regency Drive or Mountaire Parkway. This area has been impacted by heavy use during the rainy season.

**Boy Scout Rocks and Sentinel Rock**
These areas are subsections of Rock City that are often used for rock climbing.

**Fossil Ridge**
Evidence of previous residents (clams and oysters) is embedded in these Miocene-era sandstone rock formations, which were quarried to construct the Summit Museum and Visitor Center. The rocks have tilted upward from their original horizontal orientation, creating prominent "hogback" formations.

**Deer Flat**
Deer Flat is located at the intersection of Deer Flat Road, Mitchell Canyon Road, and Meridian Ridge Road, and can be accessed by a moderately strenuous 1.6-mile hike from Juniper Campground, or a moderately strenuous 3.7 mile hike from the Mitchell Canyon staging area. There is a picnic site and spring-fed horse trough.

**Mitchell Canyon Staging Area**
This area provides the main access point to trails on the mountain's north side. From here you can hike to Deer Flat (3.7 miles) or all the way to the summit (6.8 miles) via Juniper Campground.

**Diablo Valley Overlook**
Located 3,200 feet above sea level, this overlook offers views of the Golden Gate to the west.

**Summit Area**
The summit is the most popular destination in the park. The spectacular views are ideal for photography and sightseeing. Many people explore the area surrounding the summit for photo opportunities.

**Popular Trail Routes**

Popular trail routes not listed above as a destination in itself are listed below. A complete list of park trails and their designated uses is included in the appendix. Many of the trails below are popular because they are part of a larger loop or they lead to a visitor or scenic destination.

- Mitchell Canyon Road
- Stage Road in Pine Canyon
- Cardinet Oaks Road
- Wall Point Road
- Summit Road
- North Peak Trail (from Summit Road to Prospectors Gap Road)
- Deer Flat Road
- Prospectors Gap Road
- Barbecue Terrace Road
- Donner Canyon Road
- Back Creek Trail
- Middle Trail
- Eagle Peak Trail
- Juniper Trail
- Curry Canyon Road
- Knobcone Point Road
- Madrone Canyon Trail
- Ray Morgan Road
- Dusty Road

**Popular Trailheads**

- Mitchell Canyon (entrance fee revenues in 2013 were $56,119[*])
- Macedo Ranch (entrance fee revenues in 2013 were $12,517[*])

[*] Revenues reflect day use passes purchased by visitors arriving by vehicle and parking in the park. They do not reflect use by annual pass holders or visitors who enter without a vehicle.

**Trail Access Outside of the Park Boundary**

- Regency Drive and Mountaire Parkway Red Corral, Morgan Territory Road, Morgan Territory Road south of the reservoir
- Morgan Territory Road near intersection with Marsh Creek Road
- 10050/10030 Marsh Creek Road
- Marsh Creek Road, three-quarters of a mile west of 10050/10030 Marsh Creek Road (access to Sharkey Road)
- Rialto Drive, Clayton (access to Clayton Oaks Road)
- Regency Drive, Clayton (access to Donner Canyon Road)
- Mountaire Parkway, Clayton (access to Donner Canyon Road)
- Mount Tamalpais Drive, Clayton (access to Bruce Lee Road)

**Road Biking**

Over the last decade there has been a dramatic increase in the numbers of cyclists using the park. The park has three 2-lane mountainous roads (South Gate, North Gate and Summit) separated by a single broken yellow line (16.5 miles of roadway). The roads have over 369 curves with limited visibility for safe passing.

The increase in cyclists coupled with regular vehicle traffic has resulted in increased vehicle-bicycle safety concerns. A road safety study is necessary to determine appropriate road and signage improvements to enhance visitor safety for both cyclists and vehicles.

## 3.3 Adjacent Recreational Opportunities and Connections

Four public agencies and one non-profit own and/or manage lands for preservation and recreation near or adjacent to MDSP (See Vicinity Map).

**East Bay Regional Parks District (EBRPD)**

There are existing and proposed regional and local trail connections into MDSP from EBRPD properties, including Diablo Foothills Regional Park, Round Valley Regional Preserve, Central Loma Regional Park, Castle Rock Recreation Area, Las Trampas Regional Wilderness, and Morgan Territory Regional Preserve. In addition, EBRPD manages the California Riding and Hiking Trail in this region, which is planned to end near the Mitchell Canyon area of MDSP, pending acquisition of appropriate easements. Existing connecting trails include:

- Stage Road
- Little Yosemite Trail
- Briones to Mount Diablo Regional Trail
- Las Trampas to Mount Diablo Regional Trail
- Black Diamond Mines to Mount Diablo Regional Trail
- Crestview Road
- Morgan Ridge Road
- Old Finley Road

**City of Walnut Creek**

The City of Walnut Creek, Open Space and Trails Division, also owns and/or manages several properties for public recreation in the area. Lime Ridge, Sugar Loaf, and Shell Ridge Open Spaces both offer trail recreation with existing and potential links to MDSP including Hanging Valley Road/Trail.

**City of Concord**

The City of Concord, Parks and Recreation Division, also owns and/or manages several properties for public recreation in the area including portions of the Lime Ridge Open Space, which offers trail recreation with existing and potential links to MDSP planned portions of the California Riding and Hiking Trail.

**Contra Costa Water District (CCWD)**

CCWD owns and/or manages the Los Vaqueros property, which offers trail recreation with existing and potential links to MDSP.

**Save Mount Diablo (SMD)**

SMD owns several properties around MDSP, which offer trail recreation and resource preservation opportunities with existing and potential links to MDSP. SMD properties include.

- Viera North Peak
- Wright Canyon
- Moss Rock
- Oak Hill
- Mangini Ranch
- Curry Canyon Ranch
- Joseph Galvin Ranch

## 3.4 Natural and Cultural Resources

A complete discussion of the natural and cultural history of the park, including topography, meteorology, hydrology, geology, ecology, and Native American and Euro-American sites, is included in the park's General Plan, 1989. In addition, the habitat types and associated sensitive species for each region of the park are discussed within the area-specific recommendations herein.

A Negative Declaration (ND) has been prepared for this plan and is included in the appendix of this document. Additional information about the project location and the natural and cultural resources of the area is included in the Project Description and Environmental Checklist sections of the ND.

## 3.5 General Plan

The RTMP is intended to be a sub-component of a park's general plan, addressing the specific transportation management issues of the unit within the goals and objectives of the General Plan. The MDSP General Plan (November 1989) lists the following goals related to roads and trails as top priorities for the park:

- improve the existing trail system, including signage,
- develop perimeter trailheads, staging areas, and access points, and
- develop a trailhead, staging area, and parking near Camel Rock, and at Curry Point.

Specific transportation-related recommendations made in the General Plan are identified and included herein.

# Section 4 DESIGNATIONS AND CLASSIFICATIONS

The following is a summary of guidelines pertaining to the planning, design, layout, and maintenance of roads and trails in the state park system.

## 4.1 Road and Trail Designations

As part of this planning effort, existing roads and trails and their uses were identified in a geographic information system (GIS) database. Roads and trails were identified using the best available information from topographic and road and trail maps, existing GIS data, global positioning system data, aerial photography, light detection and ranging technology, ground surveys, staff institutional knowledge, and records searches. This information was used to develop a base map that included all system and non-system roads and trails.

All roads and trails were identified as either a "system" or "non-system" route. If the alignment was a system route, then the route was further designated as either a "road" or "trail". System roads and trails are included in the park's facilities inventory. "Non-system" routes (e.g. user-created or volunteer trails) or system routes maintained by another agency are not included in the park's facilities inventory.

"Non-system roads" are located on state park property, but operated or maintained by other agencies, such as county roads and highways. Management and maintenance of these roads may be determined by an easement and legal agreement with the outside agency. "Non-system trails" occur in most parks and often result from visitor or historic uses. Non-system trails are not maintained by the park and are not recognized as part of the park's trails system. Non-system routes at MDSP were identified and recommended for removal.

If the route currently accommodates street-legal vehicles or was initially constructed to allow street-legal vehicle access, then it is designated a "road". Roads include highways, local, service, and fire roads. Roads also include routes that were initially constructed as roads and topographically display a road prism profile, but may no longer accommodate vehicles due to erosion, vegetation growth, physical barriers, or use designation. Roads may have trail uses such as hiking, biking, or horseback riding, in addition to vehicle use. Old roads may be difficult to detect due to vegetation or geological movement. At first observation, a route may look like a trail (e.g. single-track, three feet wide), but is actually located in the middle of a twelve-foot-wide road prism profile.

Trails on road beds that are no longer passable by vehicles are considered a road in the sub-category of "Trail on Roadbed". This sub-categorization is useful to track the location and condition of old or abandoned roads. This information can then be used to determine if the route should be maintained as a road, converted to a trail, or removed. Work to remove or maintain this type of road requires heavy equipment, not hand labor typically associated with the removal or maintenance of trails.

The route is a “trail” if it was not initially constructed to allow street-legal vehicle access and currently does not accommodate street-legal vehicles. Unconstructed, informal routes of travel that accommodate recreational and/or vehicle uses may be designated as “routes”. Routes include desert washes utilized as roads, paths across beaches or through sand dunes, or peak ascent paths in authorized climbing areas. They are often inherited from past land use practices. In some situations, they are designated by staff as the most appropriate place to put roads and trails in dynamic and/or sensitive environments.

## 4.2 Designated Uses

All trails in California’s state parks allow for pedestrian use, although pedestrian access may not be considered the primary use. Once the route is designated as a road or trail, the type of use is assigned. All roads and trails are assigned one of the following uses:

- Hike Only
- Bike
- Horse
- Bike and Horse (“multi-use”)
- None/Controlled Access (e.g. residence areas, administrative facilities)
- Road with Bike Lane

A trail designated for hiking only has a much different design than roads and trails designated for bikes or horses. For example, sight distances, abrupt grade changes, turning radii, and linear grades are much more flexible with pedestrian trails than for other types of trails and roads.

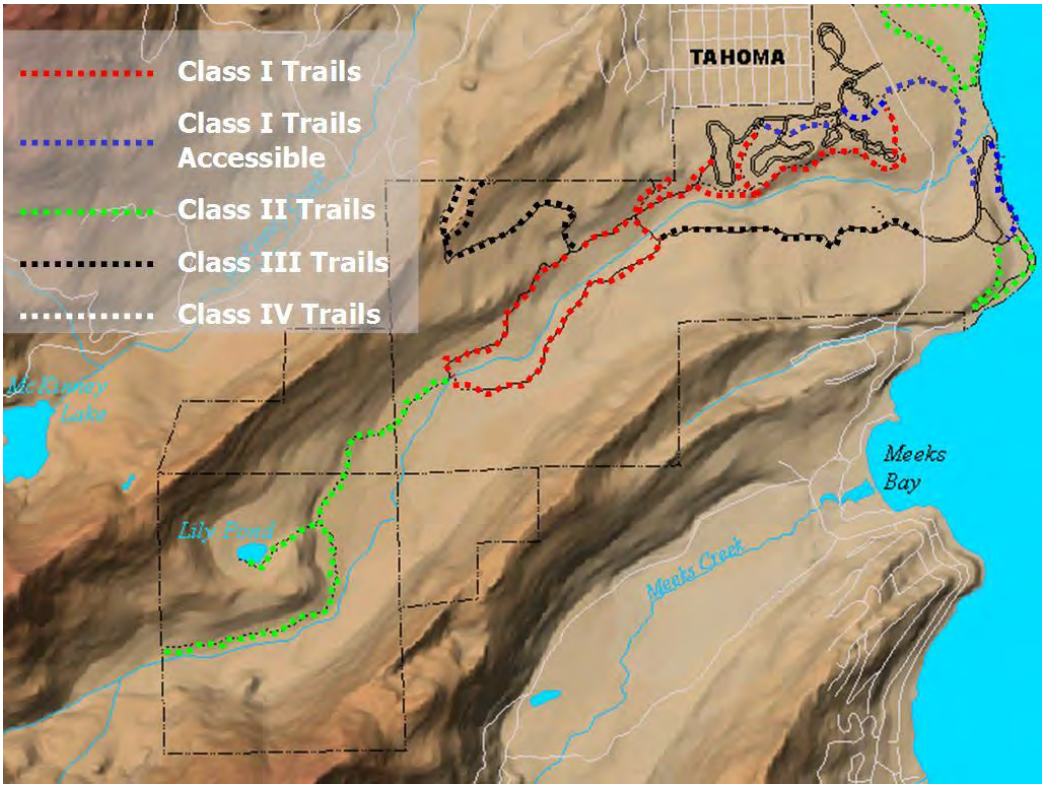
A “multi-use” trail is one that allows two or more uses in addition to pedestrian. Thus, a bike trail, which by default allows for pedestrian use, is not considered “multi-use”, but a bike and horse trail is considered “multi-use.” A multi-use trail designation dictates the most sustainable and least resource-damaging design, which is blended from both horse and bike trail standards.

## 4.3 Classification of Trails

Once identified, trails are further classified based on intensity of use and location within the park. Classifying trails allows a manager to objectively assign design standards and work priorities that are consistent with the primary function of the trail, environmental sensitivity of the habitat, relationship to developed facilities, and visitor use. Class I trails require the highest trail construction and maintenance standards. The standards for Classes II, III and IV diminish consecutively. The selection of trails to receive maintenance and rehabilitation is also influenced by their classification. Assuming visitor safety, resource protection, and trail investment concerns are equal; those trails with the highest classifications ("Class I" being the highest) will receive the highest maintenance and rehabilitation priority.

The Trail Classification Matrices for MDSP are located in the appendix.

- **Class I** - Includes accessible, bicycle, equestrian, interpretive, and hiking trails within close proximity to developed facilities. Gravel, turnpikes, puncheons or other drainage structures are required for resource protection and visitor safety in areas of trail trenching, trampling, multiple trails, or saturated trail beds.
- **Class II** - Includes hiking, bicycle, and equestrian trails that lead away from developed facilities. Primarily native materials are used for trail tread.
- **Class III** - Includes lightly used hiking trails. Native materials are used for trail tread.
- **Class IV** - Includes special use and access trails. The minimal trail tread necessary to provide safe footing is used.



# Section 5 BEST MANAGEMENT PRACTICES

This section provides a summary of the best management practices used by DPR to plan, design, construct, and maintain sustainable roads and trails within the state park system. Additional and more detailed information can be found in DPR's Project Implementation and Best Management Practices, 2009, and DPR's Trails Handbook, 1991. This section is meant to supplement but not replace avoidance, minimization, and mitigation measures located in the environmental document for this plan.

General road and trail design and layout practices include:

- Establish trail user type(s) and identify appropriate design standards.
- Maintain system connectivity and circulation patterns.
- Provide for long-lasting, low-maintenance, and low-erosion (i.e., "sustainable") roads and trails.
- Do not disrupt or alter the natural hydraulic flow of the landform.
- Avoid, minimize, or mitigate significant impacts to natural and cultural resources.
- Use inherent aesthetic resources to enhance new trail alignments.
- Design roads and trails so that they meet the needs of the intended user group(s).
- Use standard DPR project requirements as described in the plan's environmental document.

## 5.1 Sustainability

A "sustainable" road or trail has been designed, constructed, or re-constructed such that it:

- does not adversely impact natural and cultural resources;
- can withstand the impacts of the intended user groups;
- meets the needs of the intended user to a degree that the user does not deviate from the established road or trail alignment; and
- survives the natural elements while receiving only routine cyclical maintenance.

To design, construct, and maintain sustainable roads and trails requires a thorough understanding of the landform that the road or trail is or will be traversing. It also requires an understanding of the user groups being served, and the needs and design standards that are specific to each user group. Combining this information with high-quality construction materials, results in a sustainable road or trail. Roads or trails that do not meet the "sustainable" definition but are considered integral to park operations may be constructed with specific trail structures added to help address the problems that lead to the lack of sustainability.

## 5.2 Resource Considerations

Roads and trails can be considered as park facilities similar to restrooms, campsites, and parking lots. They are developed to provide access to the natural and cultural resources of a park and to enhance the visitor's enjoyment of those resources. Thus, the resources of a park should live in harmony with its facilities and decisions regarding design, layout, and construction of roads and trails should be balanced with what is best for the park's resources. No road or trail shall compromise the integrity of park resources.

If a road or trail cannot be constructed without significantly impacting resources, or if it becomes too costly to construct or maintain a road or trail to avoid impacts to resources, an alternative corridor should be considered or the need for the trail should be reassessed.

## 5.3 Maintenance Activities

A thorough maintenance program will prevent deferred maintenance problems and reconstruction projects. Maintenance activities can be broken into three types:

1. Annual/Cyclical – Includes drainage maintenance, vegetation clearing, tread maintenance, and brushing performed on a re-occurring basis. Typically, annual trail maintenance tasks require minimal supervision and can be conducted by maintenance staff, a conservation corps, or volunteer crews. Typically, cyclical maintenance is planned for the average life span of a facility. However, weather, vandalism, and other unpredictable events can greatly affect the life span and periodic trail inspections are necessary to keep staff abreast of current conditions.
2. Pro-rated/Deferred – Includes construction, re-construction, re-engineering, and restoration activities performed on a periodic basis and necessary to address road and trail infrastructure deterioration due to age and/or improper initial design.
3. Incident-Related/One-time Repair – Includes construction, re-construction, re-engineering, and restoration activities performed on a project basis to address road and trail infrastructure damaged caused by natural or man-made events such a major storm, wildfire, or vandalism.

## 5.4 Monitoring

A comprehensive monitoring program is required for all road and trail projects. The purpose of a monitoring program is to evaluate the effectiveness of the project and to adapt management of a project to improve its success over time. In addition, monitoring provides valuable data that can be used to improve the success of future road and trail projects, as well as further assess problem areas. Monitoring protocols are described in DPR's Field Guide for Road and Trail Assessment and the Official Guide for Road and Trail Assessment.

## 5.5 Prioritization Matrix

Usually there are more trail project proposals than there are funds and time to complete them and the project selection process can be contentious. Setting maintenance priorities facilitates allocation of limited resources and provides a focus for fund raising efforts. To make the prioritization of trail projects less subjective, trail projects should be categorized based on the trail's deficiencies. The five categories of projects are:

| Priority | Type of Project | Example |
|---|---|---|
| Essential | Visitor Safety | Trail conditions that represent a threat to the safety of park visitors, usually severe enough to warrant barricades, warning signs, or temporary to permanent trail closures. |
| | Resource Protection | Trail conditions that represent a threat to the park's natural or cultural resources, usually severe enough that critical resources are being damaged. |
| | Preservation of Investment | Trail structure conditions that, if not repaired, will result in total loss of the structure. |
| Non-Essential | Visitor Convenience | Trail conditions that make it uncomfortable to use the trail. |
| | New Trail Construction | The development of an entirely new trail. |

Thus, projects that ensure visitor safety, resource protection, or protection of the facility itself take priority over projects that provide a visitor convenience. For example, failing to maintain trail drainage can result in unsafe trail conditions and eventually the loss of the entire facility, while a trail that receives no brush removal could become over-grown to the point of physical closure but without loss of the investment or creating a threat to visitor safety.

The following charts list the priority and frequency of essential trail project types.

| ANNUAL TRAIL MAINTENANCE | PRIORITY | EXAMPLE MAINTENANCE OCCURRENCE |
|---|---|---|
| Emergency drainage | 1 | Major Water Runoff |
| Structure repair | 2 | Annual |
| Drainage repair | 3 | Annual |
| Clearing | 4 | Annual |
| Tread repair | 5 | Annual |
| Brushing | 6 | Annual |

| PRO-RATED OR INCIDENT-RELATED TRAIL MAINTENANCE | PRIORITY | EXAMPLE REPLACEMENTS |
|---|---|---|
| Structure construction/re-construction<br>- Bridges<br>- Puncheon<br>- Steps<br>- Retaining walls | 1 | As Needed<br>15-20 years<br>10-15 years<br>10% of total yearly<br>As Needed |
| Drainage facility construction/re-construction | 2 | As Needed |
| Trio rehabilitation | 3 | Every 5 years |
| Turnpike construction/re-construction | 4 | Every 10 years |
| Trail re-route | 5 | As Needed |

## 5.6 Reconstruction

"Reconstruction" is construction work on an existing road or trail to bring it back to its original design. Reconstruction can be used to re-establish trail sustainability if the original design was sustainable, or to re-establish an "unsustainable but maintainable" trail. Trail reconstruction also may reshape the backslope of the trail, remove the berm, scarify the tread, and restore tread elevations and drainage structures. Typically, work of this scope also involves repair or reconstruction of other trail structures, such as switchbacks, climbing turns, retaining walls, steps, bridges, and puncheons.

## 5.7 Re-engineering/Redesign

The term "redesign" can be used interchangeably with the term "re-engineer". Reengineering/redesign can be used to create a sustainable trail when the existing trail alignment can be sustainable, but improperly designed structures and elements along the trail have created an unsustainable situation. Reengineering/redesign can also be implemented to create an "unsustainable but maintainable" trail when political, cultural, or environmental issues require retaining a sub-standard alignment. Minor re-routes may occur within the original trail corridor. Curvilinear techniques can reduce the linear grade and improve drainage by lengthening the trail and decoupling it from natural drainage features. Linear grades also can also be reduced by cut-and-fill techniques, where appropriate.

## 5.8 Road-to-Trail Conversion

Road-to-trail conversion is a re-engineering technique used for transforming an existing road, originally constructed for vehicles or currently used by vehicles, into a recreational trail. Similar to road removal, road-to-trail conversion involves excavating road fill from the embankment and placing it against the cutbank to match the slope above. A four- to six- foot wide portion of the original road bench must be retained to serve as the new trail tread.

## 5.9 Removal

Road and trail removal and site restoration should correct damage or disturbance to natural and cultural resources created by road and trail construction, maintenance, and/or visitor use. When a trail or section of trail is abandoned, steps should immediately be taken to restore the habitat. Typically, the re-route or replacement trail is constructed before the old trail is removed and the site rehabilitated.

During site restoration, the cutbank and bench are de-compacted and the soil aerated to promote re-vegetation of the trail bench and bonding of imported soil. Soil from the fillslope is excavated and placed against the cutbank to restore the natural slope or contour and facilitate natural sheet flow drainage. Once the trail bench is re-contoured and gullies are stabilized, vegetation is re-established through encouragement, management of existing native seed banks, or active transplanting of native species.

## 5.10 Re-Route

A trail should be "re-routed" outside of its original corridor when the current corridor is determined to be unsustainable. A re-route can be used to by-pass environmentally or culturally sensitive areas, provide a sustainable grade, expand trail width, or improve system connections.

# Section 6 THE PLAN

This RTMP includes system-wide and area-specific recommendations. These recommendations shall be implemented in accordance with the Department's Best Management Practices as outlined in Section 5 above to minimize and avoid impacts to resources as well as ensure road and trail sustainability. Standard Project Requirements as outlined in the RTMP's environmental document will also be required if Best Management Practices are insufficient to minimize and avoid impacts to resources and ensure road and trail sustainability. Additional mitigation measures may also result from subsequent environmental review during specific project implementation.

## 6.1 Parkwide Recommendations

- All new trails and alterations to existing trails shall follow DPR's Accessibilities Guidelines and the federal accessibility guidelines for outdoor developed areas.
- Within park boundaries, every non-system trail shall be removed and rehabilitated, unless otherwise specified in the RTMP. Non-system roads determined to be necessary for legal access will not be removed.
- Every system road and trail shall be on a park maintenance plan and receive cyclical and pro-rated maintenance.
- Service roads shall be a maximum of 12 feet and limited to those needed to ensure public safety, perform required maintenance, or provide access per a utility easement.
- Trail width shall be limited to that required for the type of use and classification of the specific trail. Trail layout, design, and maintenance shall follow the DPR's Trails Handbook.
- Provide adequate staffing to properly maintain, plan, budget, design, and construct the unit's roads and trails system.
- Roads and trails shall be designed, constructed, re-engineered, re-constructed, or re-routed to improve sustainability and drainage, prevent erosion, and reduce future maintenance needs.
- Roads and trails shall provide public access to the park's most popular features.
- Roads and trails shall not fragment large areas of open space or viewsheds. The overall aesthetic quality of the park, including human sounds carried from one road or trail to another, should be a primary consideration of road and trail design and management.
- Loops and connections to regional trail systems are preferred, to give users more choices for the length and duration, as well as a greater diversity of terrain and experiences.
- For route connections and directional and interpretive signage, coordinate with regional, state, and national trail systems and organizations recognized under the California Recreational Trails Plan, such as the Mokelumne Coast to Crest Trail and the American Discovery Trail, as well as with private property owners.
- Connections to parking areas and pedestrian access points shall be provided and/or improved.
- Multi-use trails shall be considered in accordance with DPR's Trails Policy.

- Consider providing non-paved, multi-use routes to the summit.
- Improve road and trail signage to better facilitate way-finding and interpretive opportunities.
- On a project basis, re-engineer all drainage crossings identified in the Drainage Structure Condition Index Assessment and associated maps contained in this document. Implementation shall address the most significantly affected drainage structures first.
- Consider acquisition of land and/or easements to support local, regional, state, and national trail connections.
- Interpretive roads and trails, including the Mitchell Canyon Road and the Mary Bowerman Trail at the summit, require special maintenance. Both of these routes have interpretive guides with numbered stops that highlight unique features, including specific plants and vegetation assemblages. Road and trailside brushing work must take into consideration this type of interpretive experience and prevent inadvertent removal of features identified in the interpretive guides.
- Maintenance activities shall be coordinated with the district environmental staff prior to being scheduled, to avoid adversely impacting rare plants. Conservation measures may include flagging individual rare plants for avoidance, scheduling work for a time of year when annual rare plants have already set seed, and carefully pruning rare shrubs instead of full removal. Some service roads with known rare plant occurrences along them include Mitchell Canyon and Knobcone Point.
- Improve data collection regarding trail use and visitation to the park.
- Complete a road safety study to determine facility improvements, policies, and practices to improve visitor safety for both cyclists and vehicles, particularly in the areas of North Gate, South Gate, and Summit roads.
- Work with cooperating organizations to develop a bell box system for mountain bikes. This bell box system will provide free bells to be mounted on bikes for the purpose of audible awareness for other users.
- Develop new technologies to improve public access and information.
- Improve interpretive, regulatory, and way finding signage as resources allow.
- Volunteers from organizations such as the Mount Diablo Interpretive Association, East Bay Trails Dogs, and Save Mount Diablo have been critical partners in the development and maintenance of the park's trails. Continue to work with these organizations to develop volunteer resources.
- If invasive plant species or other concerns warrant, park managers should consider management actions to restrict the introduction of (contaminated) horse feces, such as the required use of weed-free feed for stock or feces collection devices such as "bun bags" on short trails.

## 6.2 Area-Specific Recommendations and Maps

Five areas of the park were identified for area-specific recommendations. Each area has unique recommendations and accompanying maps. Additional maps are also available in the appendix.

- Mitchell Canyon to Summit
- North Gate to Summit
- South Gate to Summit
- Diablo Mines
- Morgan Territory

**Existing Roads and Trails Maps**
These maps show existing road and trail conditions at the time of planning and include:

- System paved and non-paved roads and their designated uses. Non-paved roads are divided into segments and identified with a unique segment identification number.
- Non-system roads owned and operated by other agencies.
- System trails and their designated uses. These trails are divided into segments and identified with a unique segment identification number.
- Non-system trails.
- Mileage total per area for each designated use.

**Maintenance Recommendations Maps**
These maps show the recommended maintenance for exiting roads and trails, including the following:

- **Reconstruction:** Rebuild existing roads and trails to return them to the original design. These trails typically can be sustainable if annual or cyclical maintenance occurs.
- **Re-engineering:** Apply new or additional structures, design techniques, or modifications to an existing road or trail corridor to improve sustainability.
- **Rerouting:** New sustainable road or trail sections that originate from and return to an existing road or trail. The abandoned, unsustainable section of trail is removed and the site is rehabilitated.
- **Annual or Cyclical Maintenance:** Routine periodic maintenance of existing roads and trails, including brushing, logging out, slough and berm removal, and drainage maintenance. By default, roads and trails that are not designated for reconstruction, re-engineering, or rerouting fall into this category.
- **Road-to-Trail Conversion:** Re-engineer to transform an existing road into a recreational trail. Similar to road removal, road fill is excavated from the embankment and placed against the cutbank to match the slope above. A four- to six- foot wide portion of the original road bench serves as the new trail tread.

**Planning Recommendations Maps**
Maps show recommendations for roads, trails, and associated infrastructure including:

- New trails or routes that extend or re-route existing trails to a new destination.
- Access for administration or easements along exiting roads and trails.
- Improvements to existing trailheads or new trailhead locations.
- Resource protection related to road and trail use.
- Removal of existing road or trail routes.
- Road and trail safety improvements.
- Public or administrative road and trail access improvements.
- Interpretative improvements along roads and trails.
- Change-in-use designations.

## Mitchell Canyon to Summit Area

**Significant natural resources:**
Mitchell Creek is one of the most important waterways in the park. Located in a keystone watershed, it supports special-status species such as the California red-legged frog (*Rana draytonii)*. Historically, native rainbow trout were also present. Drainages on this side of the mountain, including Mitchell Creek and Donner Creek, are tributaries to Mount Diablo Creek, a regional watershed important because of its relatively natural condition. The Mount Diablo fairy lantern (*Calochortus pulchellus*), a rare plant, grows along Mitchell Canyon Road and other roads and trails in this section of the park. Bruce Lee Pond supports a breeding population of red-legged frogs (*Rana draytonii*), as well as numerous other native amphibian species. The Meridian Ridge area contains serpentine chaparral that supports an extremely rare and endemic plant, Mount Diablo bird's beak (*Cordylanthus nidularis*). Other rare plant species found in this area include the Mount Diablo phacelia (*Phacelia phacelioides*) and Mount Diablo jewel-flower (*Streptanthus hispidus*). Chaparral in this area of the park provides critical habitat for the Alameda striped racer (formerly known as Alameda whipsnake, *Masticophis lateralis euryxanthus*).

**Significant cultural resources:**
Archaeological: There are some historic archaeological sites in this area, mostly associated with earlier homesteads. A few prehistoric sites have been recorded.

Paleontological: The area has not been thoroughly surveyed for paleontological resources, which potentially exist throughout the park.

**Existing Area Trail Mileage:**
There are 70.4 miles of trails, including almost five miles of non-system trails, 0.8 miles of hiking trails, 26.3 miles of hiking and equestrian trails, and 38.4 miles of hiking, biking, and equestrian trails ("multi-use").

**RECOMMENDATIONS**

**TRAIL AREA: MC #1; CLAYTON OAKS ROAD AND CARDINET OAKS ROAD CONNECTION**
**Issue:** Unconnected routes and access improvements.
**Recommendation:** Provide a new, multi-use trail connection between Clayton Oaks Road-5 and Wasserman Trail-1. Prior to development of new multi-use trail, conduct change-in-use evaluation along the section of Wasserman Trail-1 paralleling the park boundary to determine multi-use compatibility. If change-in-use is recommended, the new trail connection to Wasserman Trail-1 and the re-routed section of Wasserman Trail-1 for multi-use will provide a multi-use connection between Clayton Oaks Road-5 and Cardinet Oaks Road-2.

**TRAIL AREA: MC #2, EAGLE PEAK TRAIL-1**
**Issues:** Potential safety issues associated with visitation to unprotected Eagle Peak Mine, as well as a need to interpret regional mining activities.
**Recommendation:** Obtain funding to close all open mine shafts. Create a designated interpretive trail once mine shafts have been closed.

**TRAIL AREA: MC #3, FALLS TRAIL-1**
**Issue:** This highly used trail has many abrupt grade changes and poor trail alignment causing trail erosion, trail instability, reduced accessibility, and potential safety issues.
**Recommendation:** Re-route portions of the trail to a sustainable alignment.

**TRAIL AREA: MC #4, PORTIONS OF JUNIPER AND SUMMIT TRAIL (CHANGE-IN-USE)**
**Issue:** Additional non-paved mountain bike route from the Mitchell Canyon Trailhead to the summit.
**Recommendation:** Change the use of Juniper Trail-7, Juniper Trail-6, Juniper Trail-3, Summit Trail-7, Summit Trail-14, Summit Trail Road-1, Summit Trail-8, and Summit Trail-5 to allow mountain bike use.
**Prescribed Modifications:** Design and management modifications shall be performed prior to implementation of the change-in- use. Final modifications will be determined by project-specific design and management recommendations and shall include the following modifications determined to be necessary to ensure trail safety and sustainability:

1. Widen portions of the trail per departmental standards to create safe passing spaces.
2. Brush portions the trail beyond standard cyclic brushing standards to provide and maintain the proper sight distance and trail width necessary for trail safety per the Department's Trails Handbook.
3. As necessary for trail safety and sustainability, determine management actions such as trail signage, one way travel, alternating days of use, seasonal closures, and increased patrols.
4. Re-engineer or re-route portions of the trail to reduce steep slopes, minimize mechanical wear and erosion, and improve trail safety and sustainability. If re-engineering is determined to be inadequate, then re-route the Juniper Trail sections located between Summit Trail and the old burn pile landing to reduce the number of tight switchbacks and improve sight distances.
5. Re-engineer or re-route drainage crossings to slow user speeds and reduce erosion from mechanical wear and water run-off.
6. Install speed control devices, such as pinch points and textured surfacing, to provide trail safety and minimize mechanical wear.
7. Summit Trail-7 is steep with loose trail surfacing. Re-route this section of trail to use Green Ranch Road-3 as an alternate to Summit Trail-7.

**TRAIL AREA: MC #5, OAK KNOLL TRAIL (CHANGE-IN-USE)**

**Issue:** Desire for increased mountain biking opportunities and route connections.

**Recommendation:** Modify trail to create sustainability and change the use of the Oak Knoll Trail to allow mountain bikes.

**Prescribed Modifications:** Design and management modifications shall be performed prior to implementation of the change-in-use. Final modifications will be determined by project-specific design and management recommendations and shall include the following modifications determined to be necessary to ensure trail safety and sustainability.

1. Widen portions of the trail per departmental standards to create safe passing spaces.
2. Brush portions the trail beyond standard cyclic brushing standards to provide and maintain the proper sight distance and trail width necessary for trail safety per the Department's Trails Handbook.
3. As necessary for trail safety and sustainability, determine management actions, such as trail signage, one way travel, alternating days of use, seasonal closures, and increased patrols.
4. Re-engineer or re-route portions of the trail to reduce steep slopes, minimize mechanical wear and erosion, and improve trail safety and sustainability.
5. Re-engineer or re-route drainage crossings to slow user speeds and reduce erosion through mechanical wear and water run-off.
6. Install speed control devices such as pinch points and textured surfacing to provide trail safety and minimize mechanical wear.

**TRAIL AREA: MC #6, MOSES ROCK RIDGE TRAIL-1**

**Issue:** Moses Rock Ridge is a dead-end ridgeline trail. Visitors are creating non-system trails in an attempt to create a loop or connection to other trails.

**Recommendation:** Re-route Moses Ridge Trail to provide an ADA-compliant loop along the hill slope surrounding the ridge with associated overlook opportunities. Consider re-routing the Juniper Trail-8 to provide a more direct, less steep, and more sustainable connection to Juniper Trail-7 and the Moses Ridge Trail.

**TRAIL AREA: MC #7, MUIR DAY USE-JUNIPER TRAIL-8 CONNECTION**

**Issue:** Increase opportunities for visitors with disabilities

**Recommendation:** Provide a new ADA-compliant connection from Muir Day Use Area to Juniper Trail-8. Provide ADA-compliant parking at Muir Trailhead and re-route or reconstruct sections of Juniper Trail-8 to meet ADA standards as necessary to connect to proposed ADA-compliant Moses Rock Ridge Loop Trail.

**TRAIL AREA: MC #8, JUNIPER TRAIL-2 RE-ROUTE**
**Issue:** Trail sustainability issues associated with the steep section from Summit Road to the intersection with Juniper Trail-8.
**Recommendation:** Re-route trail from the ridgeline to the hillside to reduce the slope and provide improved sheet flow drainage across trail.

**TRAIL AREA: MC #9, MOUNT OLYMPIA ROAD-5**
**Issue:** The end of Mount Olympia Road-5 is very steep, unstable, and occasionally impassible.
**Recommendation:** Remove the problematic section of road and provide alternative trail connections to East Trail and North Peak Trail.

**TRAIL AREA: MC #10, MOUNT TAMALPAIS DRIVE**
**Issue:** Improve trail connections from Mount Tamalpais Drive.
**Recommendation:** Provide new trail to connect Mount Tamalpais Drive to Bruce Lee Rd-6. It has been recommended that the new trail be named Lone Oak Trail. Work with the City of Clayton and potentially affected residents to evaluate potential impacts from implementation of this recommendation and appropriate methods to minimize impacts.

**TRAIL AREA: MC #11, MITCHELL CANYON TRAILHEAD***
**Issue:** Improve visitor facilities with enhanced ADA and vehicle access in the staging area.
**Recommendation:** Upgrade existing facilities to include improved ADA access and re-engineer bridges to connect parking locations. Work with the City of Clayton and potentially affected residents to evaluate potential impacts from implementation of this recommendation and appropriate methods to minimize impacts.

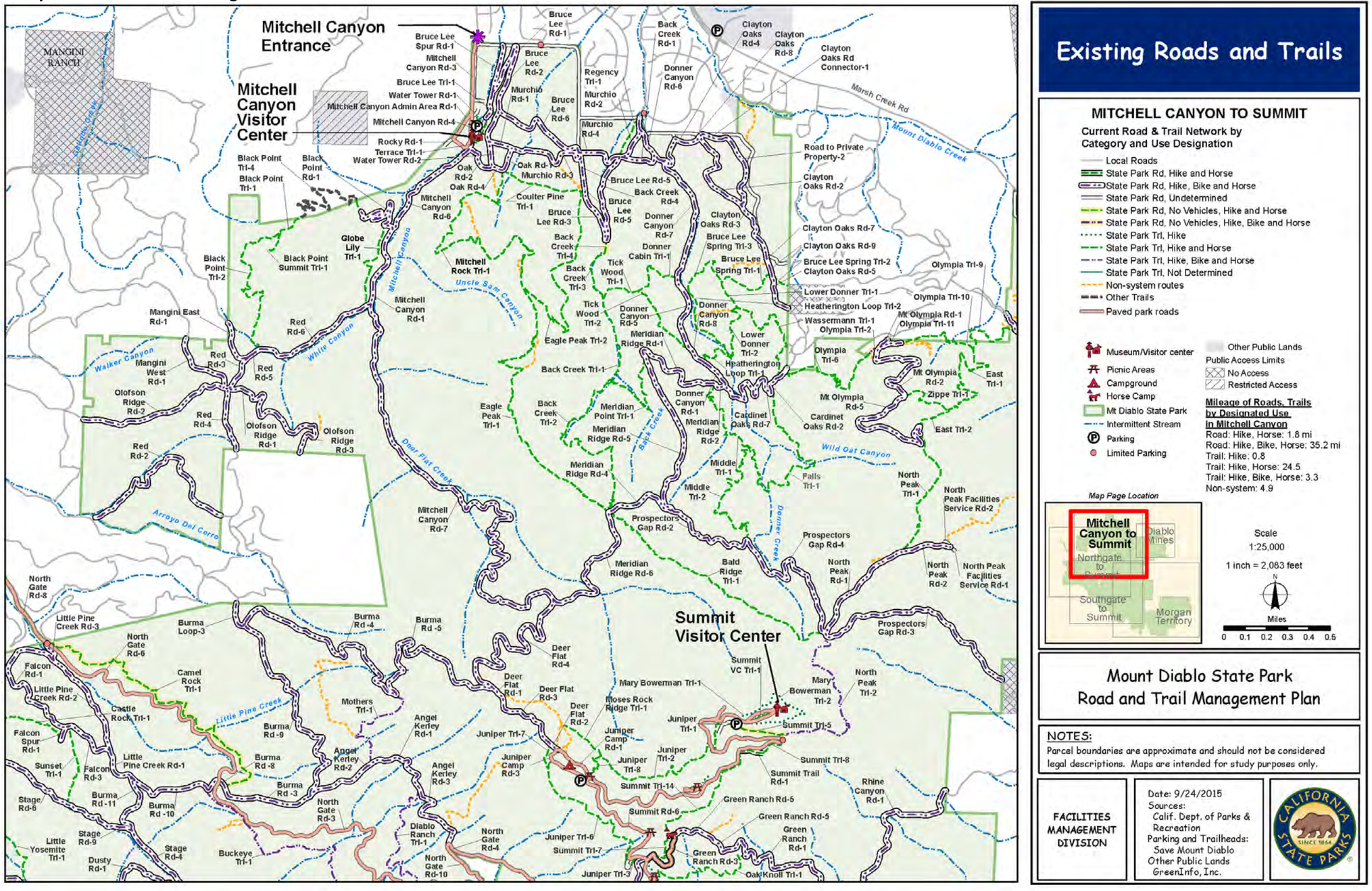
**TRAIL AREA: MC #12, REGENCY MEADOWS***
**Issue:** Improve visitor access.
**Recommendation:** Work with the City of Clayton to improve access via Regency Meadows in accordance with the MDSP General Plan and the City of Clayton's General Plan - Open Space and Conservation Element (Exhibit VI-1), while minimizing impacts to local residents.

**TRAIL AREA: MC #13, BLACK POINT ROAD-1**
**Issue:** The route transitions from road to trail and back to road. It is not appropriate as a road since it is narrow with tight switchbacks and a dead end that has no turnaround for emergency vehicles.
**Recommendation:** Re-engineer and perform road-to-trail conversion.

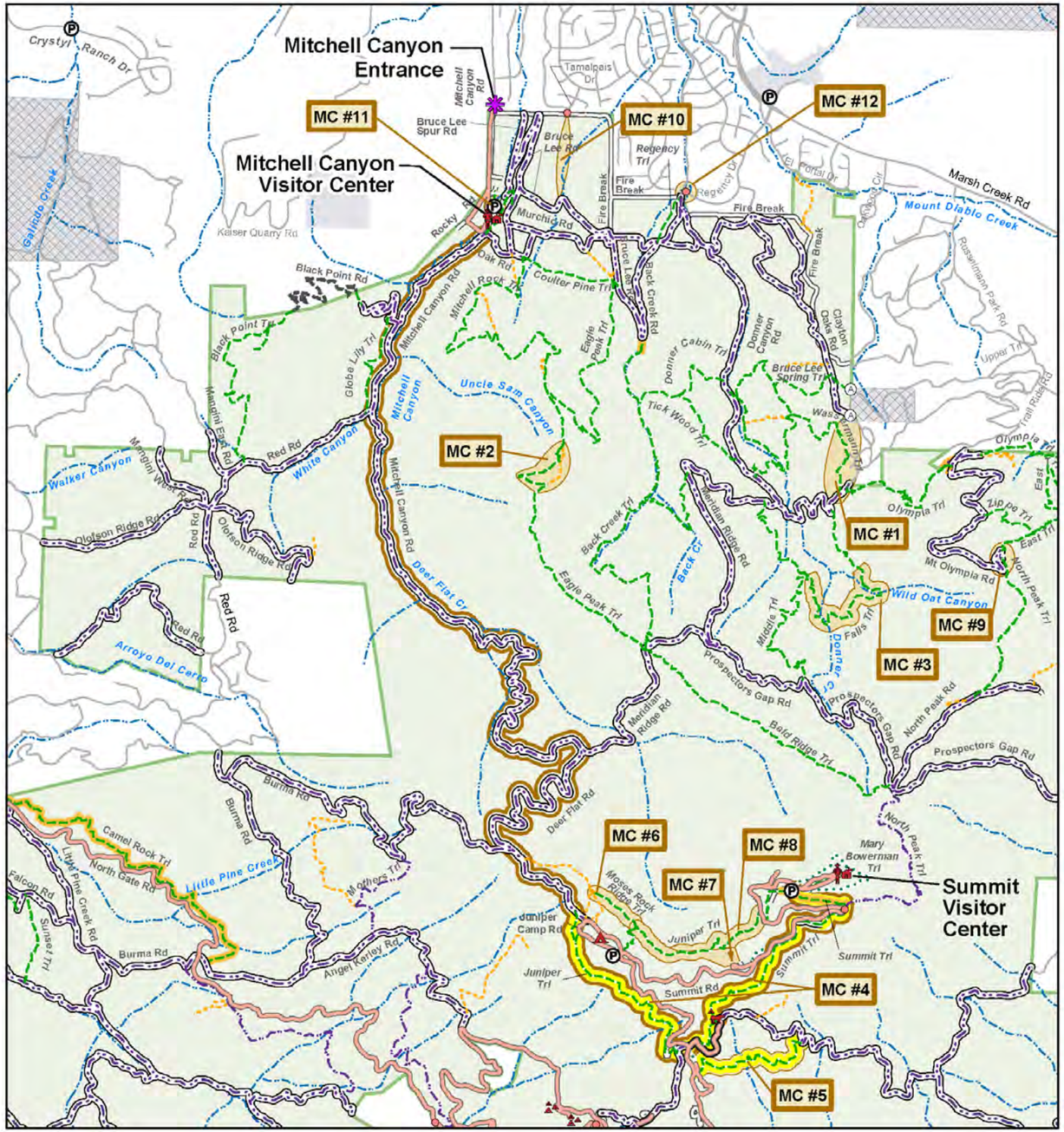
**TRAIL AREA: MC #14, BRUCE LEE/MURCHIO ROADS**
**Issue:** Concerns for tread wear, sustainability, and winter use.
**Recommendation:** Re-engineer and perform road-to-trail conversion of Bruce Lee Road-5.

* From the Mount Diablo General Plan, 1989

**Map: Mitchell Canyon to Summit Area Existing Roads and Trails**



**Map: Mitchell Canyon to Summit Area Planning Recommendations**




## Plan Recommendations

MC #1. Clayton Oaks / Cardinet Oaks Rd connection.
Issue: Improved public access.
Rec: Provide a new, multi-use trail connection between Clayon Oaks Rd-5 and Wasserman Trl-1. Prior to development of new multi-use trail conduct change-in-use evaluation along the section of Wasserman Trl-1 paralleling the park boundary to determine multi-use compatibility and required design modifications.

MC #2. Eagle Peak Trl.
Issue: Safety concerns, and improved interpretive experiences.
Rec: Create designated Interpretive Trail, and secure mine shaft.

MC #3. Falls Trl.
Issue: Highly used area, poor alignment, and potential safety concerns.
Rec: Reroute portions of trail.

MC #4. Portions of Juniper/Summit Trails.
Issue: Desire for non-paved mtn bike route from Mitchell Canyon trailhead to Summit.
Rec: Allow mtn bike use after required modifications are completed.

MC #5. Oak Knoll Trail
Issue: Desire for increased mtn biking.
Rec: Allow mtn bike use after required modifications are completed.

MC #6. Moses Rock Ridge Trail
Issue: Dead end trails creating user trails.
Rec: Provide new compliant ADA loop trail.

MC #7. Juniper Trl-8
Issue: Increased trail opportunities for visitors with disabilities.
Rec: Provide new ADA trail and parking from Muir Day Use.

MC #8. Juniper Trl-2
Issue: Steep, unsustainable trail.
Rec: Reroute trail.

MC #9. Mt Olympia Rd-5
Issue: Steep, unstable.
Rec: Decommission problematic sections, and provide alternate route to East and North Peak Trails.

MC #10. Mt Tamalpais Dr.
Issue: Improved trail connection from Mt Tamalpais Dr to park roads and trails.
Rec: New trail connecting Mt Tamalpais Dr to Bruce Lee Rd-6, avoiding sensitive habitat.

MC #11. Mitchell Canyon Trailhead.
Issue: Improve visitor facilities and ADA accessibility. Improve vehicular access.
Rec: Upgrade existing facilities to include improved ADA access and re-engineer bridges connecting parking locations.

MC #12. Regency Meadows.
Issue: Improve visitor access.
Rec: Develop trailhead, 6-10 car parking, staging area.

## Planning Recommendations

### MITCHELL CANYON TO SUMMIT

Proposed Change in Use - Add Mtn. Bike
Proposed unpaved mtn. bike route to Summit
Other Planning Recommendations

**Existing Roads and Trails**

- Local Roads
- State Park Rd, Hike and Horse
- State Park Rd, Hike, Bike and Horse
- State Park Rd, Undetermined
- State Park Rd, No Vehicles, Hike and Horse
- State Park Rd, No Vehicles, Hike, Bike and Horse
- State Park Trl, Hike
- State Park Trl, Hike and Horse
- State Park Trl, Hike, Bike and Horse
- State Park Trl, Not Determined
- Non-system routes
- Other Trails
- Paved park roads

- Museum/Visitor center
- Campground
- Group Camp
- Horse Camp
- Trailhead parking
- Limited parking
- Access Pts from Public Lands
- Paved park roads
- Mt Diablo State Park
- Intermittent Stream
- Other public lands
- No Public Access

*Map Page Location*

Scale
1:28,000
1 inch = 2,333 feet
N
Miles
0 0.1 0.2 0.3 0.4 0.5

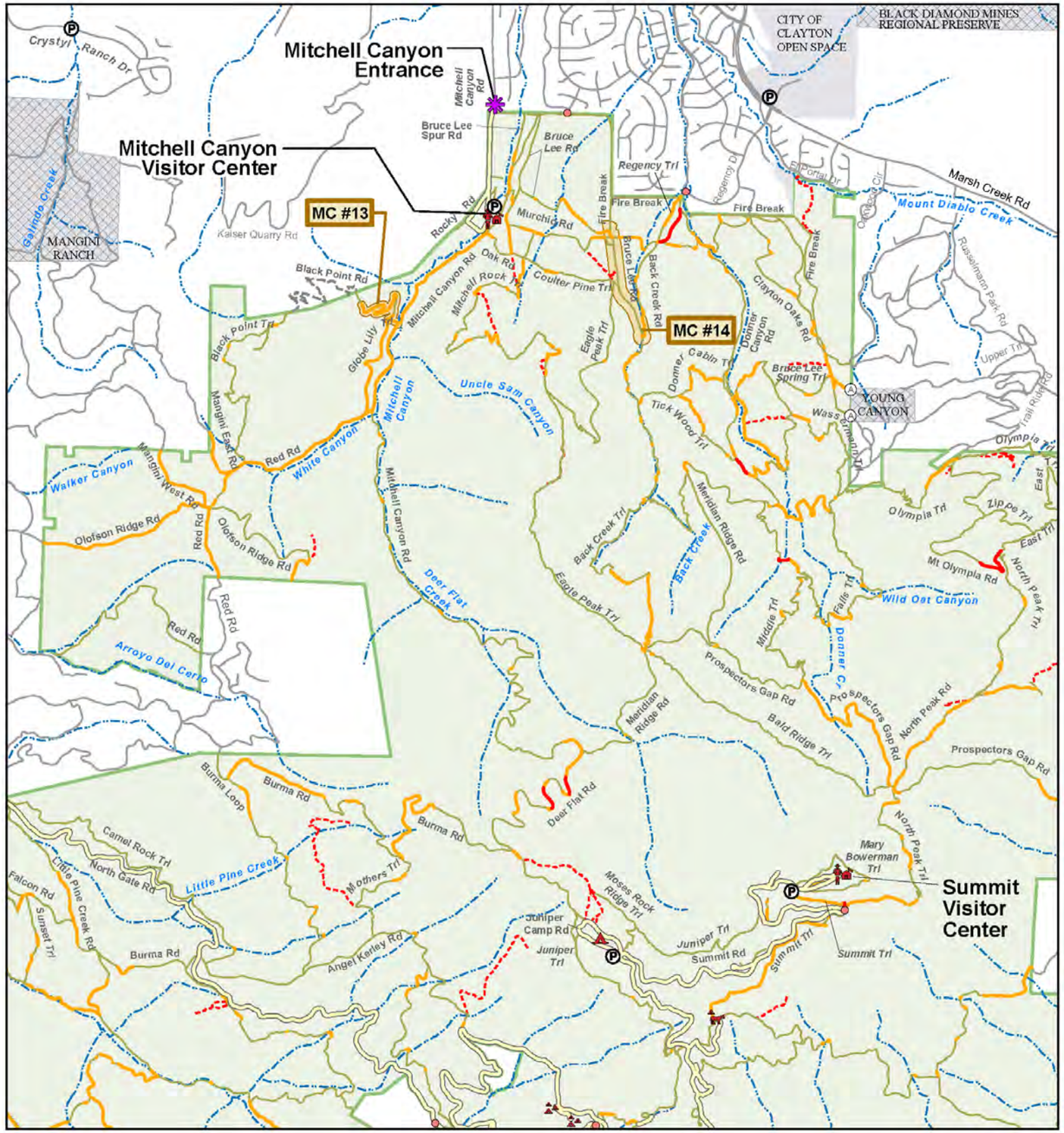
Mount Diablo State Park
Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

FACILITIES MANAGEMENT DIVISION

Date: 10/15/2015
Sources:
Calif. Dept. of Parks & Recreation,
Parking and Trailheads: Save Mount Diablo
Other Public Lands: GreenInfo, Inc.

**Map: Mitchell Canyon to Summit Area Maintenance Recommendations**




### *Maintenance Recommendations*

MC #13. Black Point Rd-1.
Issue: Road is narrow, tight switchbacks, dead end. No turn around for emergency vehicles.
Rec: Road to trail conversion.

MC #14. Bruce Lee / Murchio Rds.
Issue: Concerns for tread/road wear, sustainability, and winter use.
Rec: Re-engineer and perform road to trail conversion of Bruce Lee Rd-5.

## Maintenance Recommendations

**MITCHELL CANYON TO SUMMIT**

**Maintenance Recommendations**

- Reroute
- Reconstruct / re-engineer
- Maintain

**Maintenance Recommendations**

- Non-system routes to be removed

- Museum/Visitor center
- Campground
- Group Camp
- Horse Camp
- Trailhead parking
- Limited parking
- Access Pts from Public Lands
- Paved park roads
- Mt Diablo State Park
- Intermittent Stream
- Other public lands
- No Public Access

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Scale
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Mount Diablo State Park
Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

FACILITIES MANAGEMENT DIVISION

Date: 10/15/2015
Recommendation Sources:
- Calif. Dept. of Parks & Recreation,
- Calif. Geologic Survey, Road and Trail Inventory.

Parking and Trailheads: Save Mount Diablo
Other Public Lands: GreenInfo, Inc.

## North Gate to Summit Area

**Significant natural resources:**
A number of ponds in this portion of the park, including Pine Pond, support special-status species, such as the California red-legged frog (*Rana draytonii*) and Western pond turtle (*Actinemys marmorata*). Pine Canyon has several intermittent streams such as Pine Creek and Little Pine Creek, which are tributaries to Walnut Creek, the largest watershed in Contra Costa County. Its riparian habitat supports a diverse population of wildlife. Rocky outcrops in the Castle Rock area of lower Pine Canyon are used for nesting by peregrine falcons (*Falco peregrinus*). Oak woodlands in this region of the park, including those between North Gate Road and Burma Road, provide habitat for many wildlife species. Several rare plant species are found in this region of the park, including Halls' bush mallow (*Malacothamnus hallii*) and Mount Diablo sunflower (*Helianthella castanea*).

**Significant cultural resources:**
Archaeological: In this area there are some historic archaeological sites primarily associated with the old road to the summit. A few prehistoric sites have been recorded. Civilian Conservation Corps resources can be found throughout the park, particularly in association with the park's roads and other infrastructure. Stage Road is an historic route.

Paleontological: The area has not been thoroughly surveyed for paleontological resources, which potentially exist throughout the park. Fossils have been found on the north side of Mount Diablo in the Knoxville Formation.

**Area Trail Mileage:**
There are 72.8 miles of trails in this region of the park, including six miles of non-system trails, 0.7 miles of hiking trails, 26 miles of hiking and equestrian trails, and, 46.1 miles of hiking, biking, and equestrian trails ("multi-use").

Photo courtesy of Bill Karieva / exploredi ablo.com

## RECOMMENDATIONS

### TRAIL AREA: NG #1, BUCKEYE TRAIL TO DIABLO RANCH TRAIL CONNECTION

**Issue:** Multi-use trail connection from Buckeye Trail to North Gate Road and Diablo Ranch Trail.
**Recommendation:** Reconstruct and re-route the abandoned road to provide a new multi-use trail from Buckeye Trail to North Gate Road. North Gate Road can be used to provide access to the Diablo Ranch Trailhead.

### TRAIL AREA: NG #2, MARY BOWERMAN TRAIL-1

**Issue:** Increase access for visitors with disabilities.
**Recommendation:** Reconstruct and re-route the entirety of the Mary Bowerman Trail as needed to provide an ADA-compliant loop around the summit.

### TRAIL AREA: NG #3, MOTHERS TRAIL-1

**Issue:** Trail is unsustainable due to excessive slopes.
**Recommendation:** Re-route the trail to improve sustainability. Remove and rehabilitate the old trail alignment.

### TRAIL AREA: NG #4, CAMEL ROCK TRAIL (TRAILHEAD)*

**Issue:** Improve visitor access.
**Recommendation:** Establish a trailhead with parking for 10 to 15 vehicles and an associated staging area in the vicinity of Camel Rock. Provide interpretive signs regarding the area's natural values and trail opportunities.

### TRAIL AREA: NG #5, NORTH GATE ENTRANCE STATION*

**Issue:** Improve visitor access.
**Recommendation:** Work with the Contra Costa County Flood Control and Water Conservation District, Save Mount Diablo, East Bay Regional Parks, and other cooperating agencies as necessary to develop the Gateway property near the North Gate entrance station to develop a 40-car parking lot, staging area, and turn-around. Acquire a public easement for trails along North Gate Road from the entrance to the park boundary, if feasible.

### TRAIL AREA: NG #6, STAGE ROAD AND CASTLE ROCK

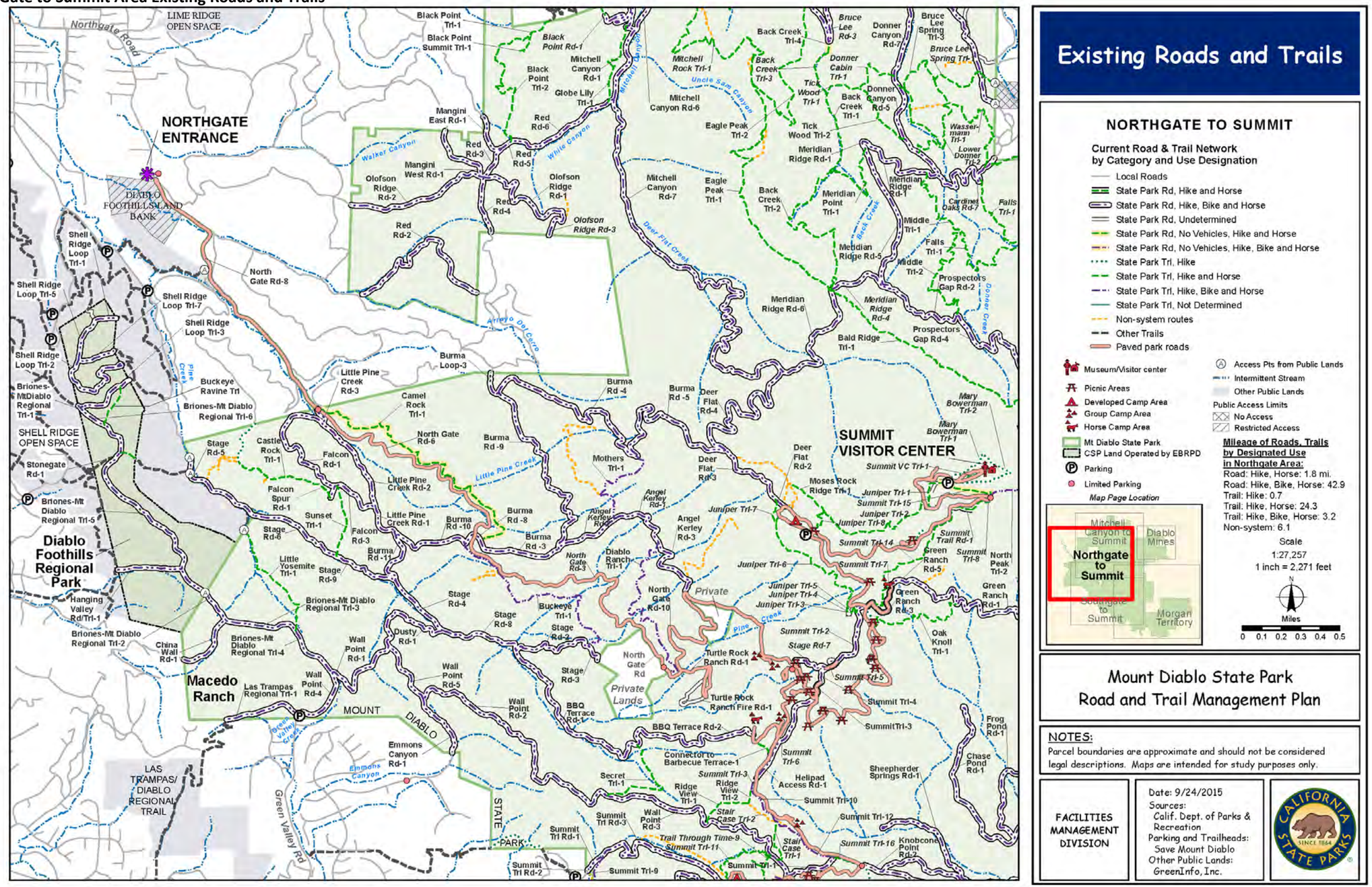
**Issue:** This area hosts numerous non-system trails created by visitors trying to access the sandstone rock formations through Pine Canyon or the Diablo Foothills Regional Park (managed by East Bay Regional Parks District). Recreational rock climbing is popular in this area and recent graffiti vandalism has greatly impacted the rock formations. The rock formations are a documented nesting site for sensitive raptor species.
**Recommendation**: Develop at least one system trail in partnership with East Bay Regional Parks District to provide access to the site. Remove all non-system trails and restore the habitat. Develop and implement management options, such as seasonal closures, to protect nesting raptor species. Remove graffiti as possible.

### TRAIL AREA: NG #7, STAGE ROAD-4

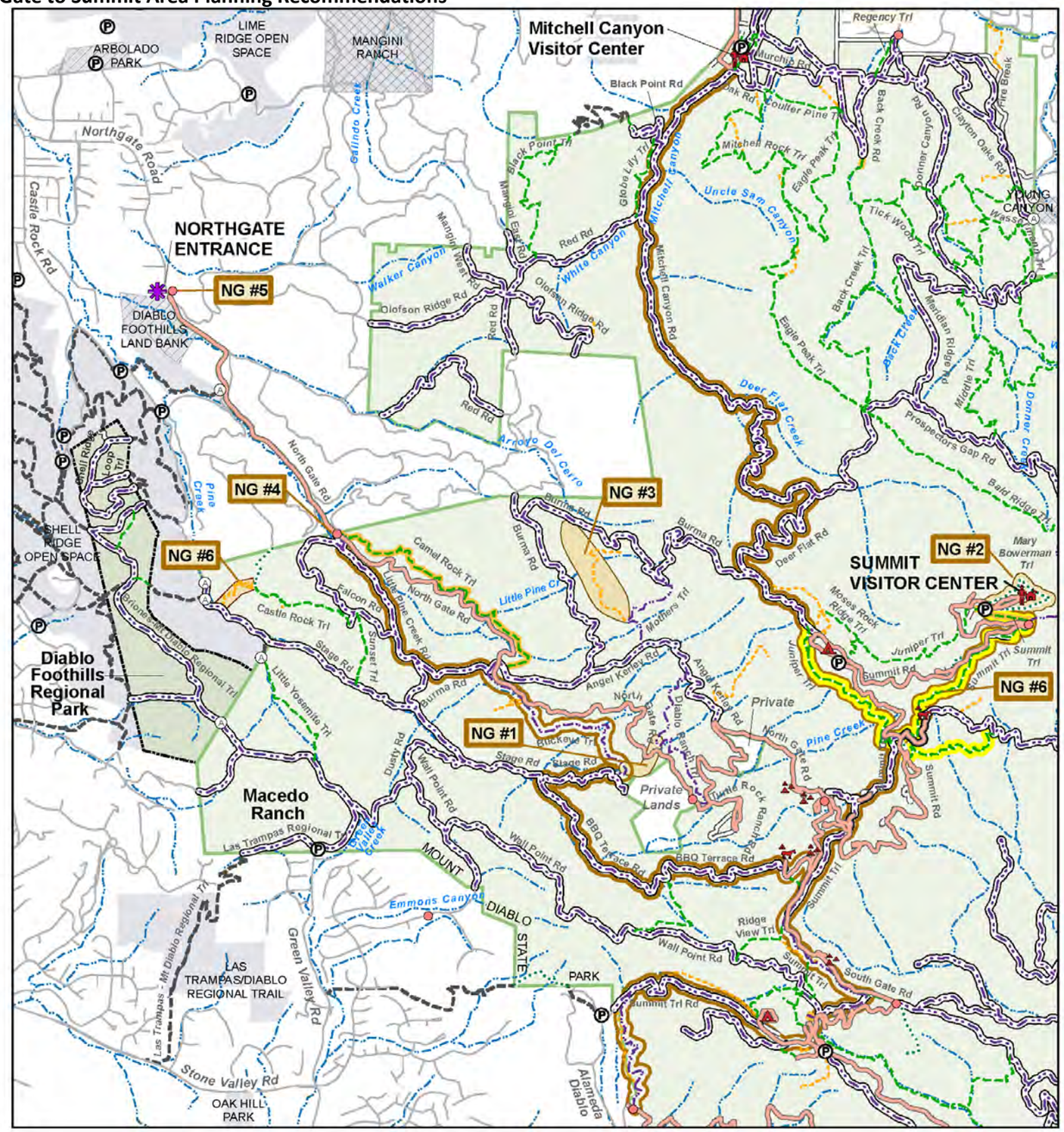
**Issue:** Section of road is within the drainage, causing erosion and creek sedimentation.
**Recommendation:** Re-route the road outside of the creek corridor.

* From the Mount Diablo General Plan, 1989

**Map: North Gate to Summit Area Existing Roads and Trails**



**Map: North Gate to Summit Area Planning Recommendations**




## *Plan Recommendations:*

NG #1. Connect Buckeye Trl to Diablo Ranch Trl.
Issue: Desire for multi-use trail connection from Buckeye Trl to Northgate Rd and Diablo Ranch Trl.
Rec: Reconstruct and Reroute existing abandoned road route to provide connection.

NG #2. Mary Bowerman Trl-1.
Issue: Increase access for visitors with disabilities.
Rec: Reconstruct and reroute existing trail as necessary to provide an ADA compliant loop trail around the summit.

NG #3. Mothers Trl-1
Issue: Usustainable trail due to excessive slopes.
Rec: Reroute trail to lessen trail slopes and improve sustainability. Remove and rehabilitate old trail alignment to natural conditions.

NG #4. Camel Rock Trailhead
Issue: Improved user access.
Rec: Establish a 10-15 car trailhead parking lot and staging area in the vicinity of Camel Rock.

NG #5 Northgate Entrance
Issue: Improved user access, and additonal interpretive displays.
Rec: Work with the Contra Costa County Flood Control and Water Conservation District, Save Mount Diablo, East Bay Regional Park District, and other cooperating agencies as necessary to develop the Gateway property near the North Gate entrance station to develop a 40-car parking lot, staging area, and turn-around. Acquire a public easement for trails along North Gate Rd from the entrance station if feasible.

NG#6 Stage Rd. And Castle Rock
Issue: Vandalism of rock formations on documented nesting sites.
Rec: Develop at least one-system trail in partnership with East Bay Regional Parks District to provide access to the site. Remove allnon-system trails and restore the habitat. Develop and implement management options, such as seasonal closures, to protect nesting raptor species.

# Planning Recommendations

### NORTHGATE TO SUMMIT

- Proposed Change in Use - Add Mtn. Bike
- Proposed unpaved mtn. bike route to Summit
- Other Planning Recommendations

**Existing Roads and Trails**

- Local Roads
- State Park Rd, Hike and Horse
- State Park Rd, Hike, Bike and Horse
- State Park Rd, Undetermined
- State Park Rd, No Vehicles, Hike and Horse
- State Park Rd, No Vehicles, Hike, Bike and Horse
- State Park Trl, Hike
- State Park Trl, Hike and Horse
- State Park Trl, Hike, Bike and Horse
- State Park Trl, Not Determined
- Non-system routes
- Other Trails

- Museum/Visitor center
- Developed Camp Area
- Group Camp Area
- Horse Camp Area
- Trailhead Parking
- Limited Parking
- Access Pts from Public Lands
- Mt Diablo State Park
- CSP Land Operated by EBRPD
- Other public lands
- No Access
- Restricted Access
- Intermittent Stream

*Map Page Location*

Scale
1:33,927
1 inch = 2,827 feet

Miles
0 0.1 0.2 0.3 0.4 0.5

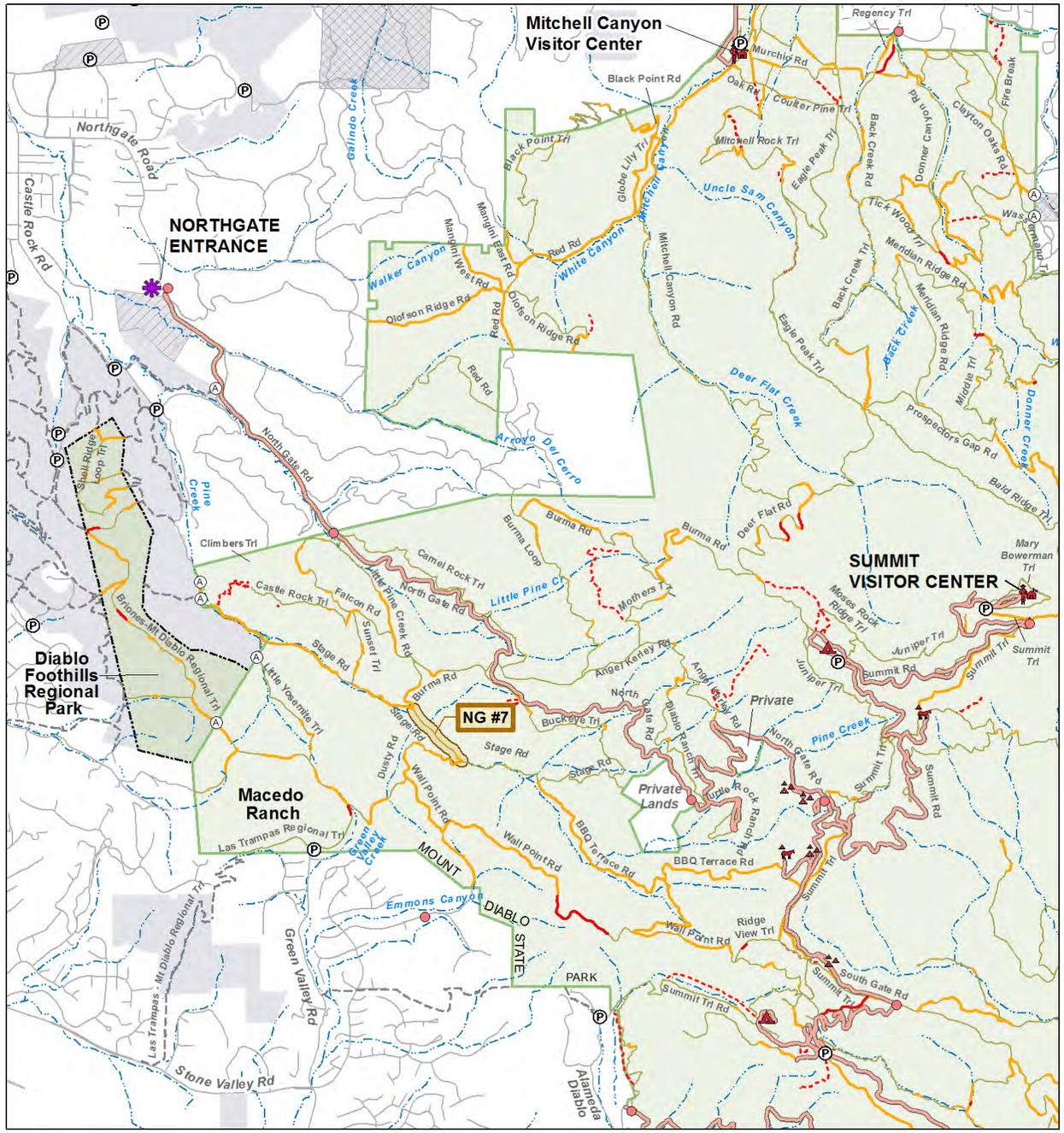
## Mount Diablo State Park Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

FACILITIES MANAGEMENT DIVISION

Date: 10/15/2015
Sources:
Calif. Geologic Survey Road and Trail Inventory
Calif. Dept. of Parks & Recreation
Parking and Trailheads: Save Mount Diablo

**Map: North Gate to Summit Area Maintenance Recommendations**




***Maintenance Recommendations:***

NG #7. Stage Rd.
Issue: Road in creek. Erosion and creek sedimentation.
Recommendation: Reconstruct / re-engineer, or re-route.

# Maintenance Recommendations

## NORTHGATE TO SUMMIT

**Maintenance Recommendations**

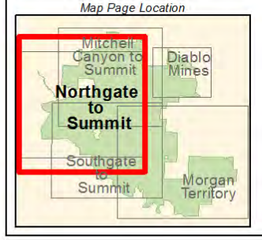
- Reroute
- Reconstruct / re-engineer
- Maintain

**Maintenance Recommendations**

- Remove non-system routes

- Museum/Visitor center
- Developed Camp Area
- Group Camp Area
- Horse Camp Area
- Parking
- Limited Parking
- Access Pts from Public Lands
- Paved park roads
- Local Roads
- Other Agency Trl
- Mt Diablo State Park
- CSP Land Operated by EBRPD
- Other public lands
- No Access
- Restricted Access
- Intermittent Stream

*Map Page Location*

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Miles
0 0.1 0.2 0.3 0.4 0.5

Mount Diablo State Park
Road and Trail Management Plan

NOTES:
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FACILITIES MANAGEMENT DIVISION

Date: 2/3/2015
Recommendation Sources:
Calif. Geologic Survey
Road and Trail Inventory
Calif. Dept. of Parks & Recreation
Parking and Trailheads:
Save Mount Diablo
Other Public Lands:
GreenInfo, Inc.

## South Gate to Summit Area

**Significant natural resources:**
Chaparral habitat in this portion of the park supports Alameda striped racer (*Masticophis lateralis euryxanthus,* formerly known as Alameda whipsnake), as well as a number of rare plant species. The rare Mount Diablo manzanita (*Arctostaphylos auriculata*) and Contra Costa manzanita (*Arctostaphylos manzanita* spp. *laevigata*) are both found in this region of the park, with some plants growing along South Gate Road and service roads such as Knobcone Point Road. The Mount Diablo sunflower (*Helianthella castanea*) is also found in numerous locations in this area of the park. There are several ponds, including Sheepherder Pond, Hidden Pond, Chase Pond, and Frog Pond. These aquatic habitats support special status species including California red-legged frog (*Rana draytonii*) and California tiger salamander (*Ambystoma californiense*), as well as other native amphibians like the California newt (*Taricha torosa*) and western toad (*Anaxyrus boreas*).

**Significant cultural resources:**
Archaeological: Numerous prehistoric archaeological sites are located in this area. Significant historic resources dating to the Civilian Conservation Corps are found in the Live Oak Camp area.

Paleontological: This area has not been thoroughly surveyed for paleontological resources, which potentially exist throughout the park. However, this area has the greatest potential due to nearby Blackhawk Quarry, a world-renowned paleontological site. Areas in the southern part of the park are known fossil locations. Trail construction in this area must avoid or mitigate potential impacts to these resources.

**Area Trail Mileage:**
There are 59.9 miles of trails, including 5.6 miles of non-system trails, 0.7 miles of hiking trails, 11.7 miles of hiking and equestrian trails, and 41.9 miles of hiking, biking, and equestrian trails ("multi-use") in this area.

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**RECOMMENDATIONS**

**TRAIL AREA: SG #1, CAMP FORCE ADA TRAIL**
**Issue**: Increase access for visitors with disabilities.
**Recommendation:** Reconstruct and/or re-engineer trail to be ADA-compliant.

**TRAIL AREA: SG #2, SHEEPHERDER SPRINGS ROAD**
**Issue:** Sheepherder Springs Road has an unsustainable creek crossing that is impacting natural resources through creek sedimentation and reduced water quality. In addition, Sheepherders Road, a dead end route, is no longer required for vehicle access and receives limited visitor use.
**Recommendation:** Remove Sheepherders Road and rehabilitate the site.

**TRAIL AREA: SG #3, RIDGE VIEW TRAIL**
**Issue:** Trail has a fall-line alignment that goes straight up a hillside with no reasonable re-route opportunities. The trail is entrenched, carries water and sediment, and is considered unsustainable and unmaintainable. Alternatives to this trail currently exist and the trail is not needed.
**Recommendation:** Remove trail and restore habitat.

**TRAIL AREA: SG #4, CURRY POINT***
**Issue:** Improve visitor access and trailhead amenities.
**Recommendation:** Redesign and expand the parking area to provide a trailhead, comfort station, staging area, and parking for 40 vehicles. Provide interpretive information illustrating the area's natural and recreational values, including trails.

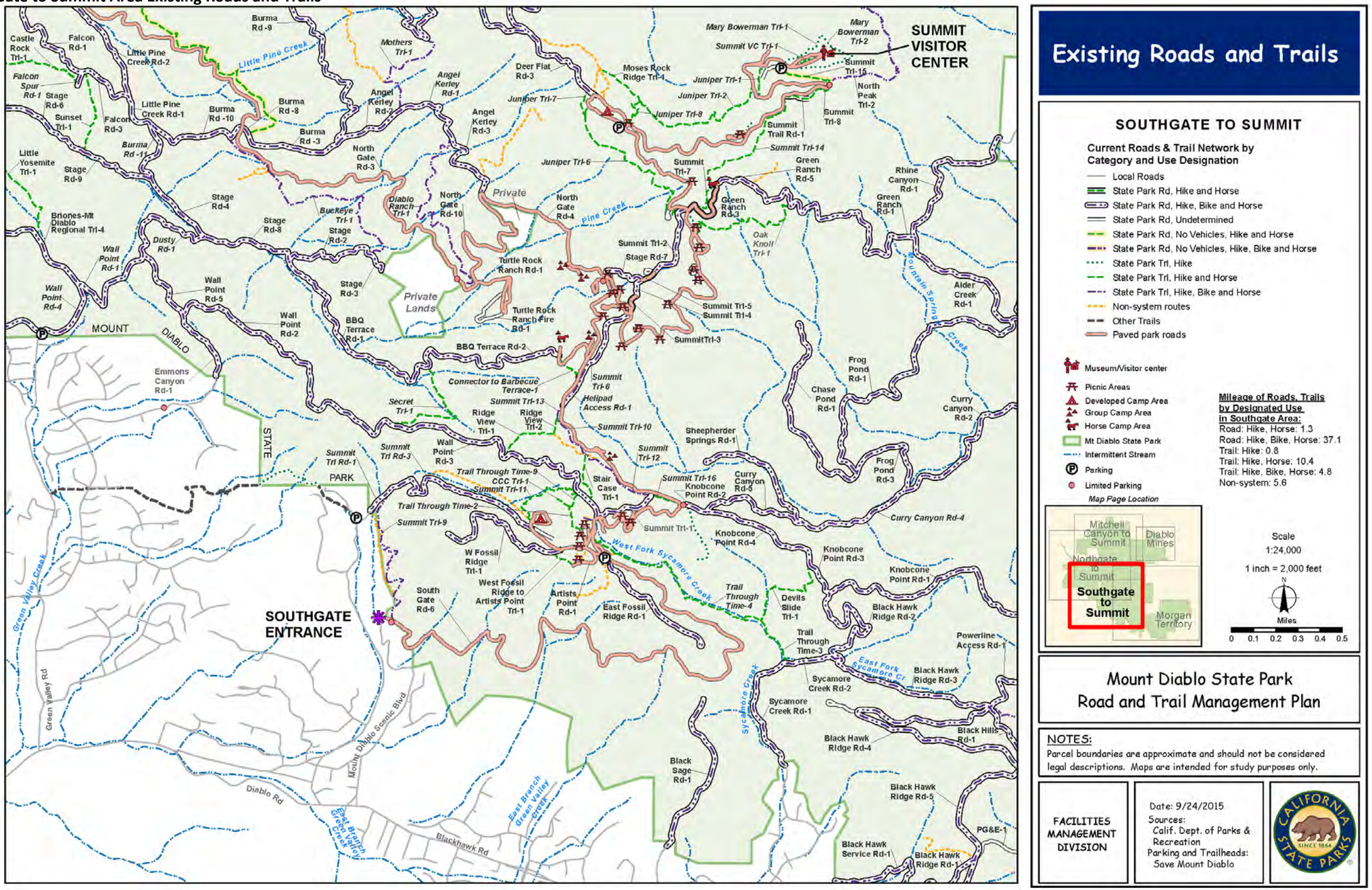
**TRAIL AREA: SG #5, ROCK CITY***
**Issue:** Improve visitor access, interpretive facilities, and trailhead amenities.
**Recommendation:** Develop a centralized parking plan for the upper and lower day use areas as a joint effort between field and headquarters staff. Upgrade or replace restrooms with a centrally located, modern unit. Develop trail signs from Rock City parking lots to the Sentinel and Gibraltar rock climbing areas, as well as signage directing visitors to rocks and caves. The General Plan recommendation to close small grottos to vehicles has already been completed. Re-establish the original Civilian Conservation Corp Trail. Remove and restore non-system trails and abandoned sections of re-routed trails in the area.

**TRAIL AREA: SG #6, SOUTH GATE ENTRANCE STATION***
**Issue:** Improve visitor access and trailhead amenities.
**Recommendation:** Once the park entrance station is relocated per the Mount Diablo General Plan, develop a new parking lot for 25-30 cars, and a new trailhead to provide access to the Summit Trail through Dan Cook Canyon.

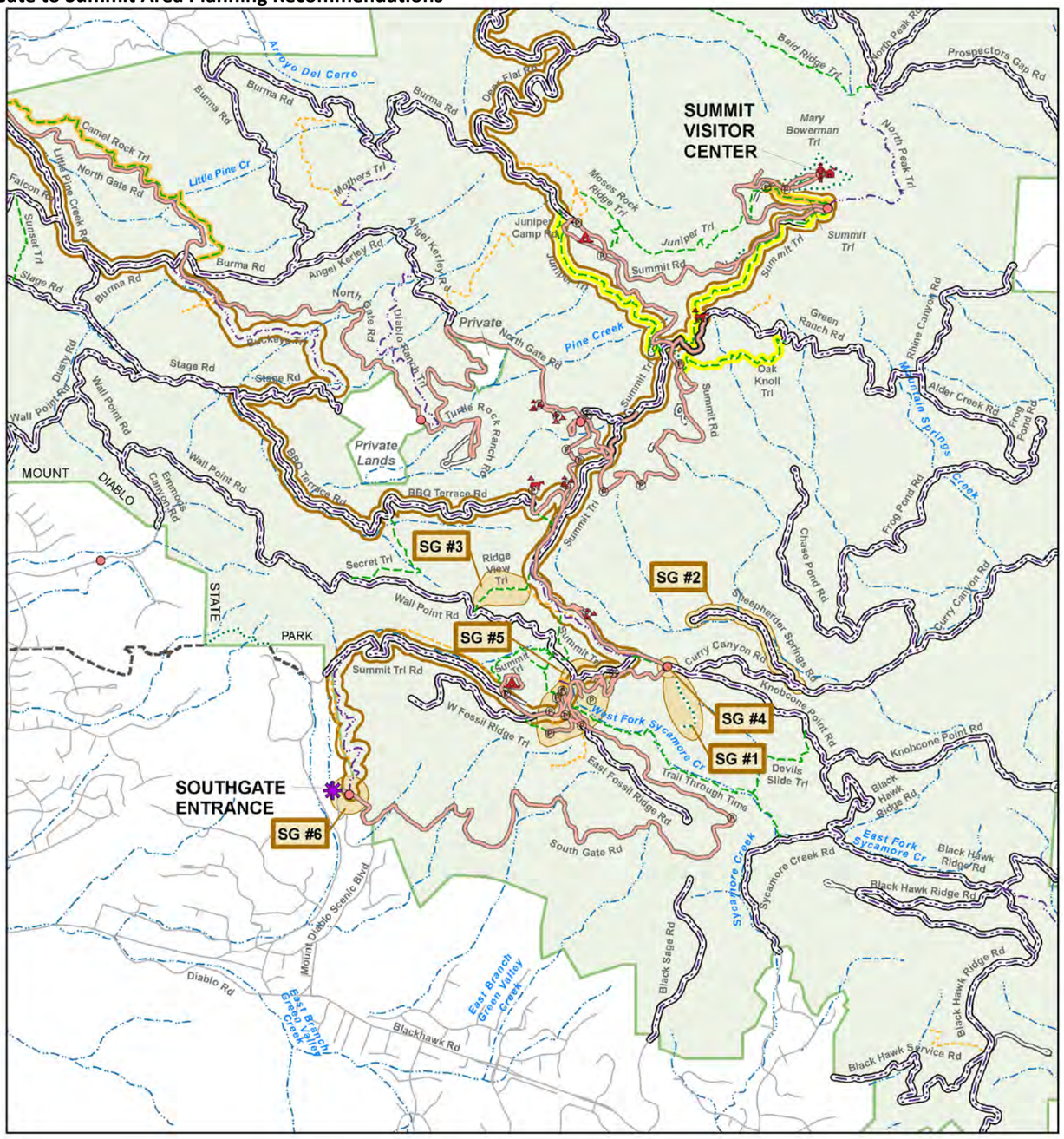
* From Mount Diablo State Park General Plan, 1989

Chronicle / Michael Macor

**Map: South Gate to Summit Area Existing Roads and Trails**



**Map: South Gate to Summit Area Planning Recommendations**




## Plan Recommendations

SG #1. Camp Force ADA Trail.
Issue: Increase access for visitors with disabilities.
Rec: Reconstruct / re-engineer as ADA Accessible Trail.

SG #2. Sheepherder Springs Rd,
Issue: Dead-end trails, and resource sensitivity.
Rec: Remove Sheepherder Road and rehabilitate the site.

SG #3. Ridge View Trail.
Issue: Trail has fall-line alignment, no reasonable reroutes. Alternative trails exist,
Rec: Remove and rehabilitate trail.

SG #4: Curry Point
Issue: Improved access and trailhead ammenities.
Rec: Redesign and expand parking to accomodate 40 vehicles. Provide interpretive kiosks, develop major trailhead, staging area, and comfort station.

SG #5: Rock City
Issue: Improved access, interpretive opportunities, and trailhead amenities.
Rec: Develop centralized parking plan, upgrade or replace restrooms with centrally located modern unit, add trail signs. Re-establish original CCC Trail.

SG #6. Southgate Entrance
Issue: Improved access and trailhead amenities.
Rec: Provide new trailhead parking lot for 25-30 cars after entrance station is relocated closer to park entrance.

# Planning Recommendations

### SOUTHGATE TO SUMMIT

- Proposed Change in Use - Add Mtn. Bike
- Proposed Unpaved Mtn. Bike Route to Summit
- Other Planning Recommendations

**Existing Roads and Trails**

- Local Roads
- State Park Rd, Hike and Horse
- State Park Rd, Hike, Bike and Horse
- State Park Rd, Undetermined
- State Park Rd, No Vehicles, Hike and Horse
- State Park Rd, No Vehicles, Hike, Bike and Horse
- State Park Trl, Hike
- State Park Trl, Hike and Horse
- State Park Trl, Hike, Bike and Horse
- Non-system routes
- Other Trails
- Paved park roads

- Museum/Visitor center
- Developed Camp Area
- Group Camp Area
- Horse Camp Area
- Limited Parking
- Access Pts from Public Lands
- Parking
- Mt Diablo State Park
- Intermittent Stream

*Map Page Location*

Scale
1:28,186
1 inch = 2,349 feet

Miles
0 0.1 0.2 0.3 0.4 0.5

## Mount Diablo State Park Road and Trail Management Plan

NOTES:
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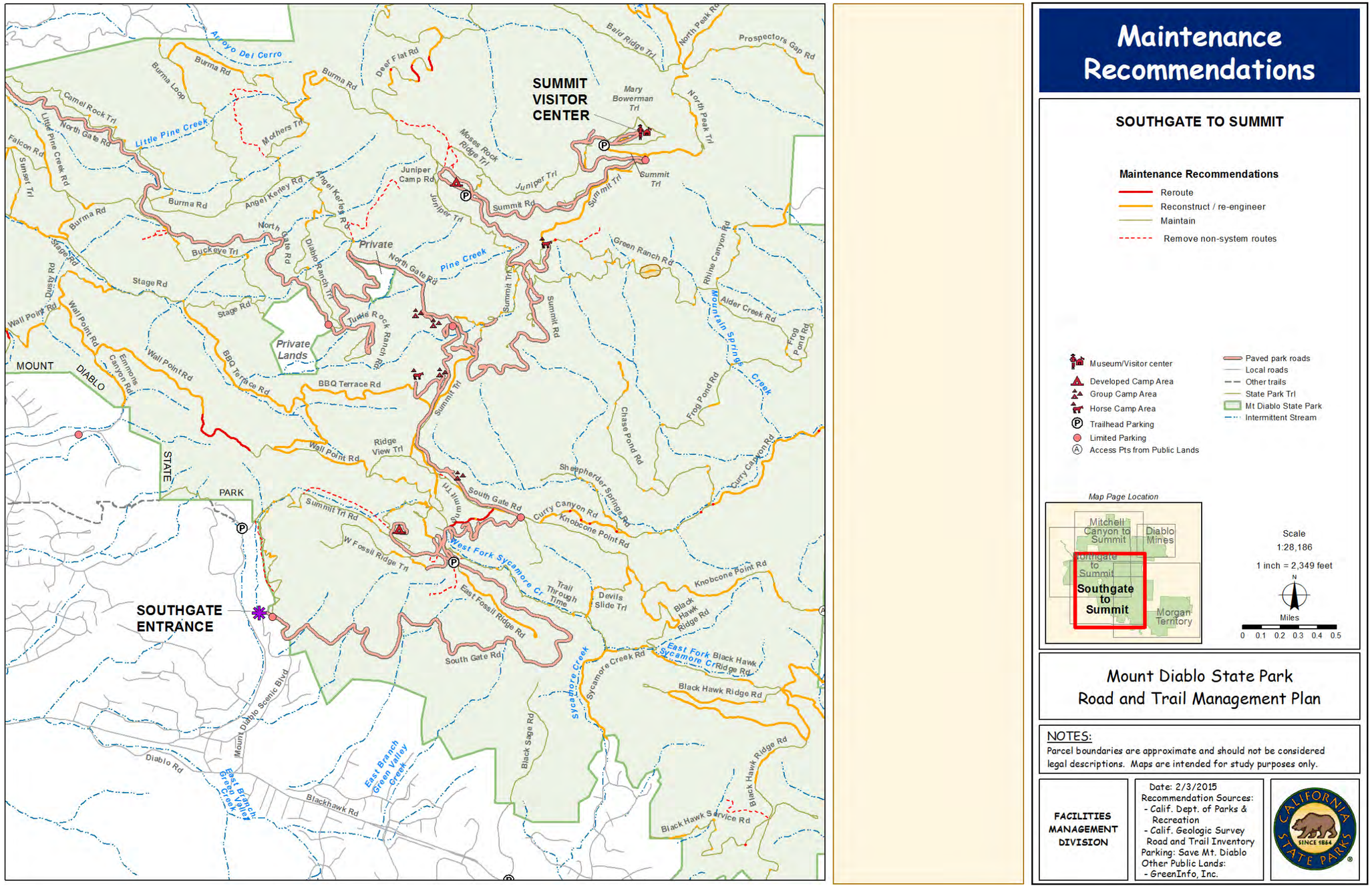
FACILITIES MANAGEMENT DIVISION

Date: 10/15/2015
Sources:
Calif. Dept. of Parks & Recreation
Parking: Save Mt. Diablo

**Map: South Gate to Summit Area Maintenance Recommendations**



## Diablo Mines Area

**Significant natural resources:**
Chaparral habitat in this portion of the park supports Alameda striped racer (*Masticophis lateralis euryxanthus,* formerly known as Alameda whipsnake*)*, listed as threatened under the federal Endangered Species Act in 1997. This area also contains rare and sensitive plants, including the Mount Diablo fairy lantern (*Calochortus pulchellus*), slender silver moss (*Anomobryum julaceum*), Brewer's western flax (*Hesperolinon breweri*), and Mount Diablo Manzanita (*Arctostaphylos auriculata*).

**Significant cultural resources:**
Archaeological: There are numerous historic archaeological sites located in this area, most of which are associated with historic mines. A few prehistoric sites, primarily used for hunting, have been recorded. The cultural resources in this area include the Marsh Creek Road Tank House on Marsh Trail, and the Diablo Mines Quarry Cabin, located southeast of the Sharkey Road and Three Springs Road junction.

Paleontological: This area has not been thoroughly surveyed for paleontological resources, which potentially exist throughout the park.

**Area Usage Trail Mileage:**
There are 5.8 miles of non-system trails and 17.4 miles of system trails in the Diablo Mines area, including less than one mile of hiking trail, 8.6 miles of hiking and equestrian trails, 3.2 miles of hiking, bicycling, and equestrian trails, and 1.7 miles of undesignated trail.

**RECOMMENDATIONS**

**TRAIL AREA: DM #1, DIABLO MINES AREA TRAIL RE-ROUTES AND REMOVALS**
**Issue:** Redundant routes that have the potential to impact sensitive habitat.
**Recommendation:** Remove and/or re-route trails as necessary to protect habitat while providing loops and destination trails.

**TRAIL AREA: DM #2, RIDGELINE TRAIL AND POWER LINE SERVICE ROAD**
**Issue:** Trail connectivity and increased loop trails.
**Recommendation:** Establish new trail connection between Ridgeline Trail and Power Line Service Road.

**TRAIL AREA: DM#3, QUICKSILVER TRAIL-1**
**Issue:** Trail extends onto private property and sensitive habitat.
**Recommendation**: Re-route trail away from private property. Inventory and develop protection and/or mitigation measures for rare plants.

**TRAIL AREA: DM#4, BLAISDELL TRAIL**
**Issue:** The layout of this relatively unused trail is steep and unsustainable. This trail is redundant since the Sattler Trail accesses the same location.
**Recommendation:** Remove Blaisdell Trail Segments 2 and 3 and rehabilitate the site. Use Sattler Trail as an alternative route.

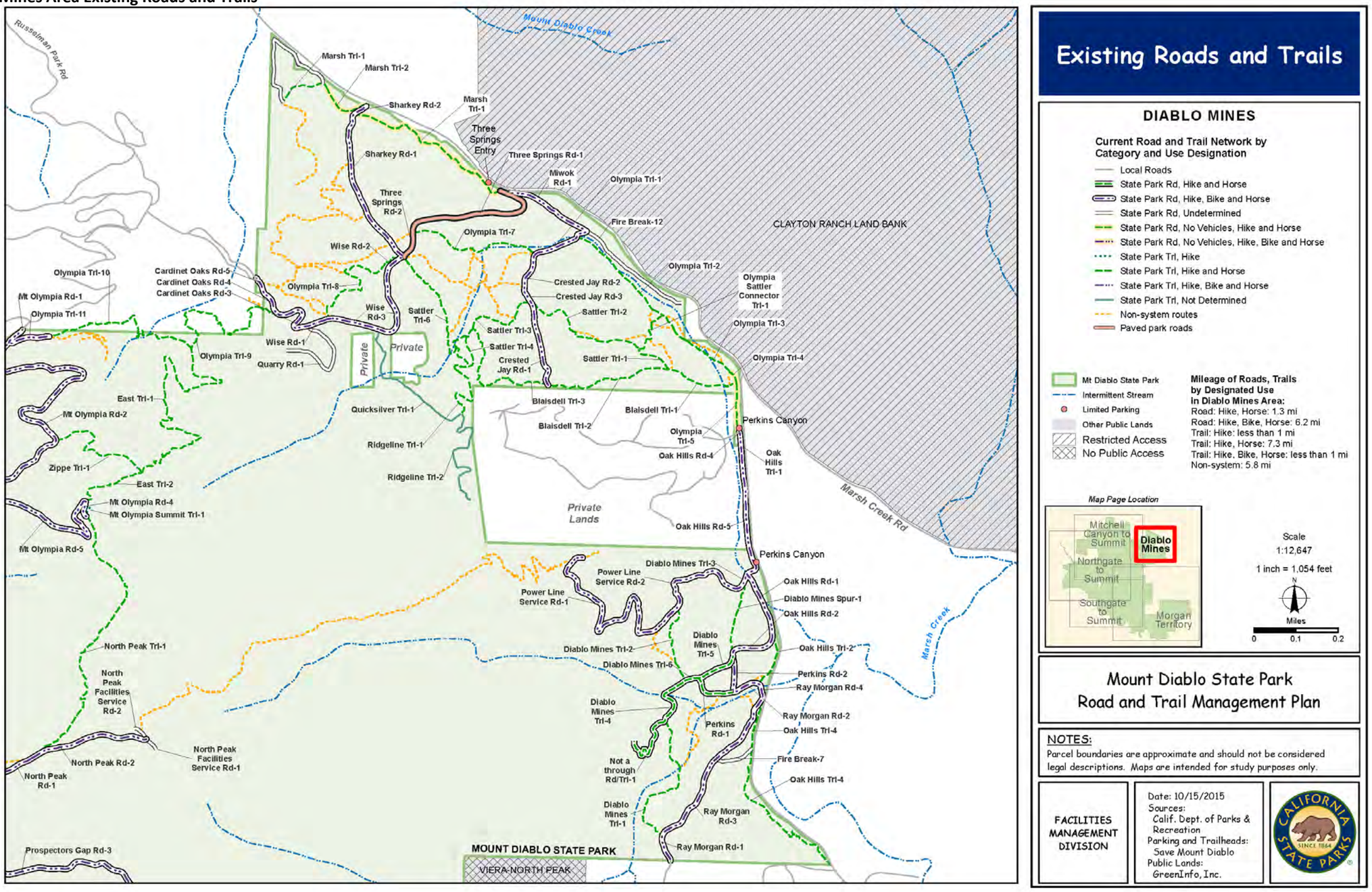
**TRAIL AREA: DM#5, PERKINS CANYON***
**Issue:** Desire for improved visitor access through Perkins Canyon.
**Recommendation:** Develop a 20-25 car parking lot and staging area, and install a restroom and drinking fountain.

**TRAIL AREA: DM#6, POWER TOWER AREA TO PROSPECTORS GAP ROAD-3 CONNECTION**
**Issue:** Isolated portion of the park with no trail connections to other park facilities and experiences.
**Recommendation**: Work with Save Mount Diablo to investigate possible trail route from the Power Tower portion of the Diablo Mines Area to Prospectors Gap Road-3 using State and Save Mount Diablo properties.

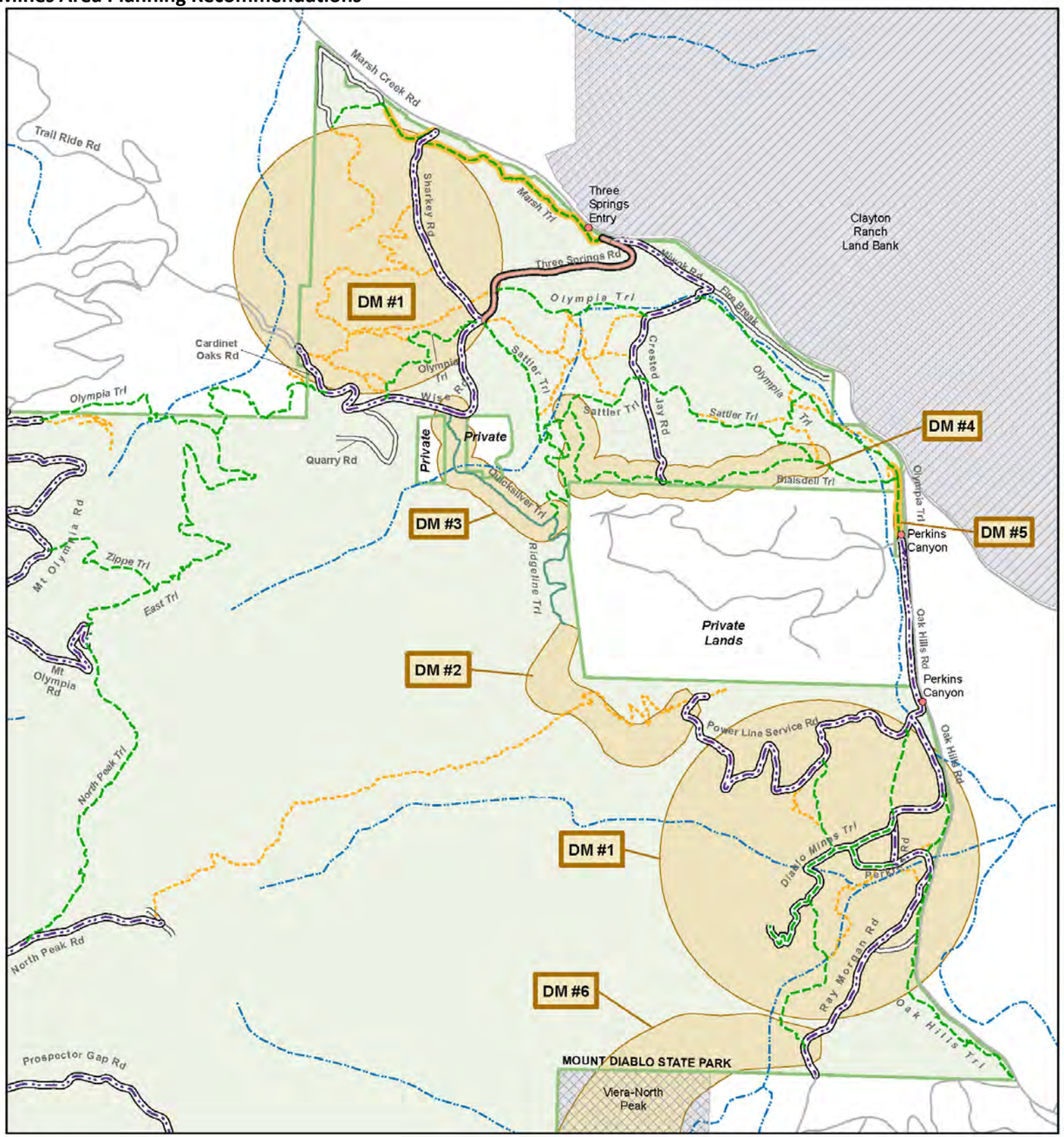
* From Mount Diablo State Park General Plan, 1989

Photo courtesy of Bill Karieva / exploredlablo.com

**Map: Diablo Mines Area Existing Roads and Trails**



**Map: Diablo Mines Area Planning Recommendations**




*Plan Recommendations*

DM #1. Diablo Mines Area Trail Rereroutes and and removals.
Issue: Redundant routes which have the potential to impact sensitive habitat. Two distinct areas defined.
Rec: Remove and / or reroute trails as necessary to protect habitat and provide loop and destination trail experiences.

DM #2. Ridgeline and Power Line Service Rd
Issue: Improved trail connectivity and loop trail opportunities.
Recommendation: Establish trail connection between Ridgeline Trl and Power Line Service Rd.

DM #3. Quicksilver Trl.
Issue: Trail extends onto private property and into sensitive habitat..
Rec: Reroute trail away from private property. Inventory and give protection measures for rare plants.

DM #4. Blaisdell Trl.
Issue: Very steep, little used, unsustainable, redundant.
Rec: Remove and rehabilitate Blaisdale Trl segments 2,3. Use Sattler Trl as alternate.

DM #5. Perkins Canyon
Issue: Limited visitor access to Diablo Mines area.
Rec: Develop a 20-25 car parking lot, staging area, and install restoom and drinking fountain.

DM #6. Power Tower Area to Prospector's Gap Rd-3 Connection.
Issue: Isolated portion of the park with no trail connections to other park facilities and experiences.
Rec: Work with Save Mount Diablo to investigate possible trail route from the Power Tower portion of the Diablo Mines area to Prospector's Gap Road-3 using Calif State Park's and Save Mount Diablo's properties.

# Planning Recommendations

## DIABLO MINES

Planning Recommendations

**Existing Roads and Trails**

- Local Roads
- State Park Rd, Hike and Horse
- State Park Rd, Hike, Bike and Horse
- State Park Rd, Undetermined
- State Park Rd, No Vehicles, Hike and Horse
- State Park Trl, Hike
- State Park Trl, Hike and Horse
- State Park Trl, Hike, Bike and Horse
- State Park Trl, Not Determined
- Non-system routes
- Paved park roads

- Limited Trailhead Parking
- Intermittent Stream
- Mt Diablo State Park
- Other public lands
- No Access
- Restricted Access

*Map Page Location*

Scale
1:13,000
1 inch = 1,083 feet
N
Miles
0 0.1 0.2

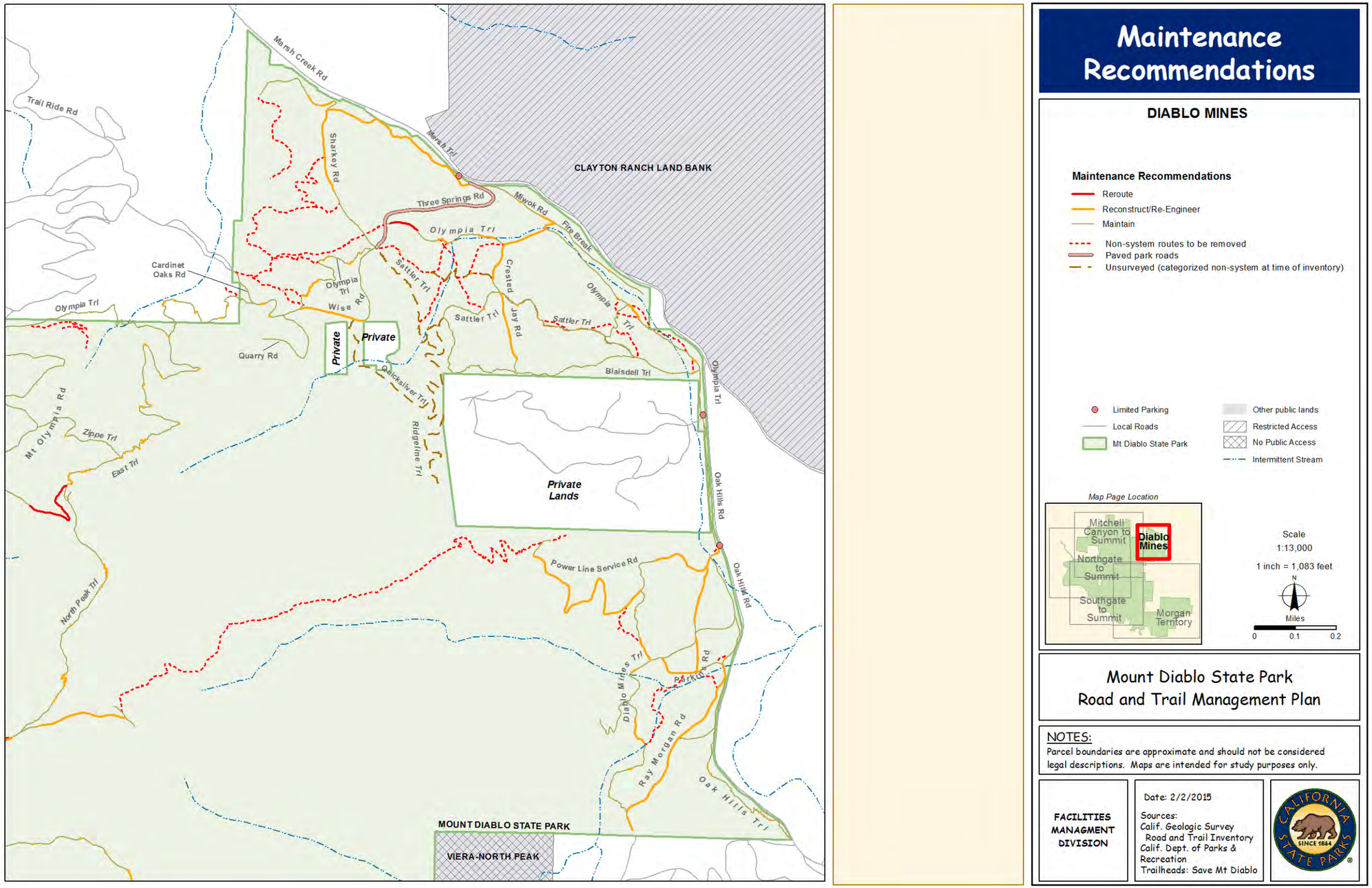
**Mount Diablo State Park**
**Road and Trail Management Plan**

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

FACILITIES MANAGEMENT DIVISION

Date: 10/19/2015
Sources:
Calif. Geologic Survey Road and Trail Inventory
Calif. Dept. of Parks & Recreation
Trailheads: Save Mt Diablo

**Map: Diablo Mines Area Maintenance Recommendations**



## Morgan Territory Area

**Significant natural resources:**
Rocky outcrops in the Jackass Canyon Area support nesting prairie falcons (*Falco mexicanus*). Tassajara Creek is one of the main waterways in this region of the park, and it has been known to support the western pond turtle (*Actinemys marmorata*) and California red-legged frogs (*Rana draytonii*). Alameda striped racer (*Masticophis lateralis euryxanthus,* formerly known as Alameda whipsnake) also are known to be present in suitable habitat in this area of the park.

**Significant cultural resources:**
Archaeological: There are numerous prehistoric archaeological sites in this area.

Paleontological: The area has not been thoroughly surveyed for paleontological resources, which potentially exist throughout the park.

**Area Trail Mileage:**
There are 51.4 miles of trails, including 1.4 miles of non-system trails, 0.9 miles of hiking trails, 10.5 miles of hiking and equestrian trails, and 38.6 miles of hiking, bicycling, and equestrian trails ("multi-use").

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**RECOMMENDATIONS**

**TRAIL AREA: MT #1, RED CORRAL LOCATION ON MORGAN TERRITORY ROAD**
**Issue:** Improved visitor access.
**Recommendation:** Provide trailhead parking and associated amenities.

**TRAIL AREA: MT #2, KNOBCONE POINT ROAD***
**Issue:** Improved route connectivity including public, administrative, and emergency access.
**Recommendation:** Work with landowners and stakeholders to acquire Curry Canyon property for public and administrative use.*

**TRAIL AREA: MT #3, MORGAN CREEK ROAD**
**Issue:** Road alignment is steep, poorly drained, and partially located in a riparian zone, causing stream bank instability and sedimentation from road run-off. The section of road above Jeremiah Creek Trail is steep, difficult to drive when dry, and impossible to drive when wet.
**Recommendation:** This road is not required since Morgan Ridge Road and Old Finely Road both provide access. Implement a road-to-trail conversion from the intersection with Morgan Ridge Road and Old Finely Road southwest to the intersection with Jerimiah Creek Trail. This conversion will move the trail out of the stream zone, provide improved drainage, and reduce the surface area subject to erosion. Remove the section of road located between Jerimiah Creek Trail and Highland Ridge Road and restore the site.

**TRAIL AREA: MT #4, JEREMIAH CREEK TRAIL**
**Issue:** The upper portion has a steep, fall-line alignment, making it unsustainable and unmaintainable.
**Recommendation:** Re-route the trail to provide a more sustainable alignment, reducing maintenance needs and resource impacts.

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* From Mount Diablo General Plan, 1989

**TRAIL AREA: MT #5, OLD FINLEY ROAD**
**Issue:** A portion of Old Finley Road leaves state park property and enters private property, eliminating the opportunity for a loop trail via Morgan Creek Rd-1.
**Recommendation:** Provide a new trail on state park property that would bypass the portion of Old Finely Road located on private property. The new trail would connect Old Finely Road south of the private property gate back to Morgan Creek Road using a new route alignment. The bypass would create a loop from the Morgan Territory Road access point.

**TRAIL AREA: MT #6,TASSAJARA CREEK TRAIL TO RIGGS CANYON ROAD MULTI-USE CONNECTION**
**Issue:** More multi-use loop trails. Highland Ridge Road and Riggs Canyon Road currently dead end at the park boundary providing an out and back experience for cyclist with the park area.
**Recommendation:** Create a multi-use connection from Riggs Canyon Road-2 to Tassajara Creek Trail-1 (northern portion extending southwest to northeast). Although initial evaluations indicate that a change-in-use of Tassajara Creek Trail-1 (northern portion extending southwest to northeast) is possible with modifications, a full change-in-use evaluation will be required prior to development of this recommendation. Note that the portion of Tassajara Creek Trail-1 paralleling the creek drainage from northwest to southeast is not recommended for change-in-use. The proposed new connection will create a multi-use loop using Riggs Canyon Road and Tassajara Creek Trail (northern portion extending southwest to northeast), Highland Ridge Road, and the other roads located in the Morgan Territory Area.

**TRAIL AREA: MT #7, JACKASS CANYON TRAIL AND OYSTER POINT TRAIL CONNECTION**
**Issue:** Lack of trail connectivity. There is an existing, non-system route, which is poorly laid out and negatively impacting natural resources.
**Recommendation:** Design a sustainable route connecting Jackass Trail and Oyster Point Trail. Remove and rehabilitate the exiting non-system trail. Install interpretive signage at the end of the Jackass Canyon Trail to educate visitors about the natural and cultural resources of the site.

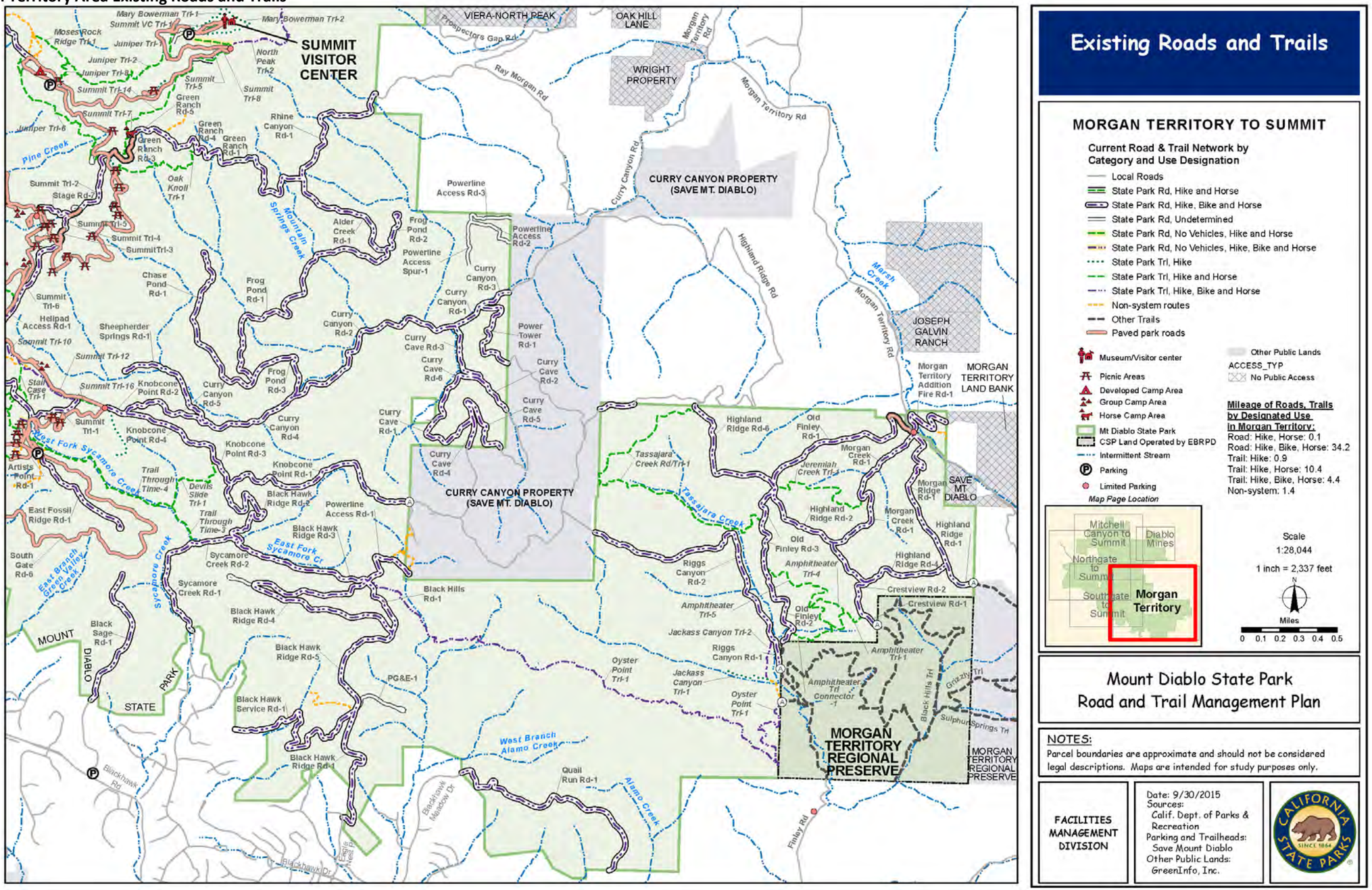
**TRAIL AREA: MT #8, TASSAJARA CREEK TRAIL AND RIGGS CANYON ROAD CONNECTION**
**Issue:** Lack of trail connectivity and desire for more loop trails.
**Recommendation:** Convert the existing non-system route connecting Tassajara Trail and Riggs Canyon Road to a system route to create an official multiple loop trail.

**TRAIL AREA: MT #9, FINLEY RD TERMINUS***
**Issue:** Improve visitor access.
**Recommendation:** Develop a trailhead, 30 to 40 car parking lot, and a staging area. Install restroom and interpretive trail panels. Note: this proposal is for land owned by DPR but operated by the East Bay Regional Parks District.

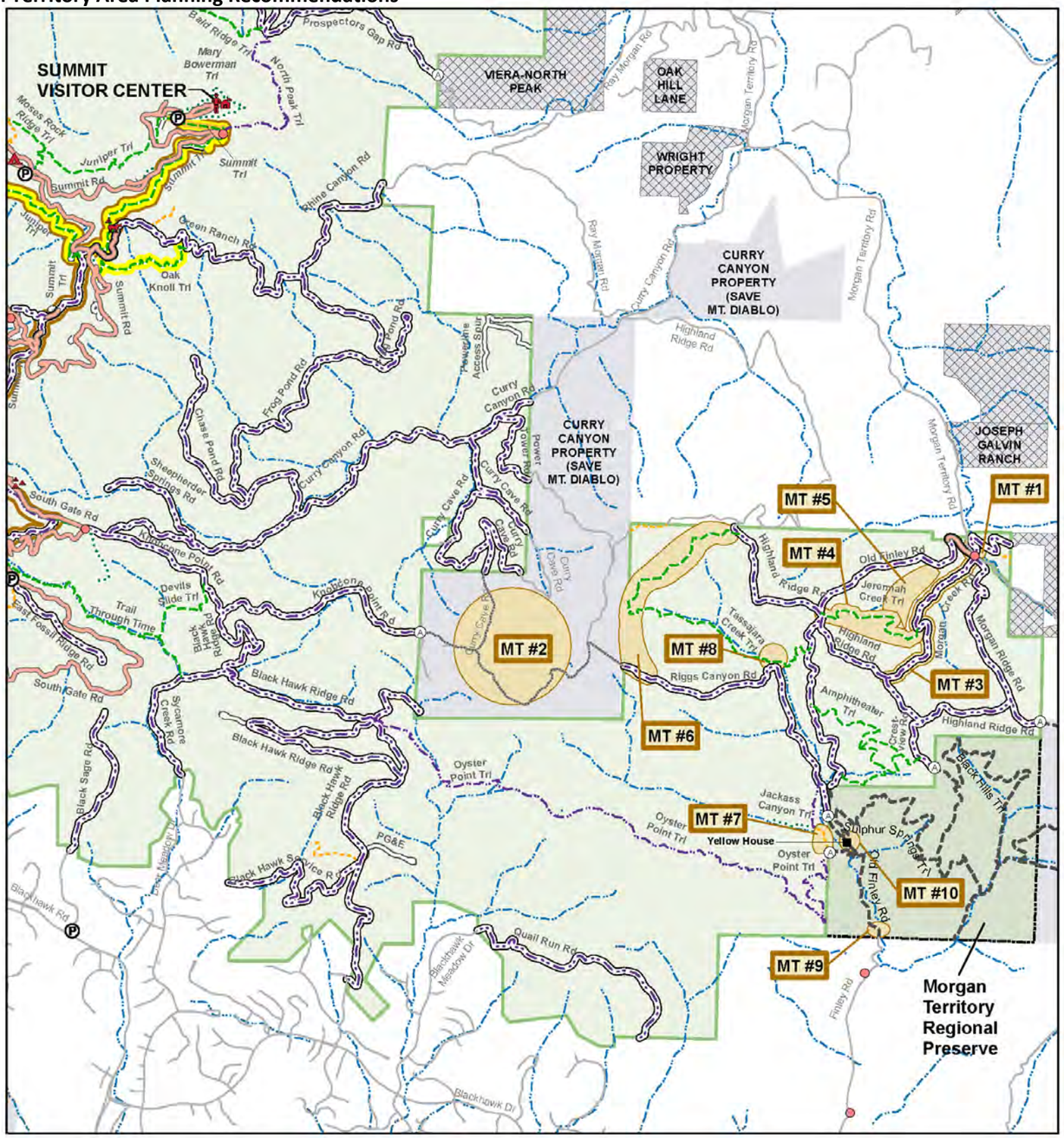
**TRAIL AREA: MT #10, RIGGS CANYON SITE***
**Issue:** Improve visitor access.
**Recommendation:** Develop a trailhead as recommended in the Mount Diablo General Plan. Note: this proposal is for land owned by DPR but operated by the East Bay Regional Parks District.

* From Mount Diablo General Plan, 1989

**Map: Morgan Territory Area Existing Roads and Trails**



**Map: Morgan Territory Area Planning Recommendations**




## Plan Recommendations:

MT #1. Red Corral
Issue: Limited visitor access.
Rec: Provide trailhead parking and amenities Red Corral location.

MT #2. Knobcone Pt Rd
Issue: Improve administrative/ emergency access to Morgan Territory.
Rec: Work with landowners to establish easement between Morgan Territory, and Southgate, including connections to Curry Cave Rd, Knobcone Point Rd, and Riggs Canyon Rd.

MT #3. Morgan Creek Rd.
Issue: Steep road in riparian zone causing erosion and creek sedimentation.
Rec: 1) Road to trail conversion from int. of Morgan Ridge and Old Finley southwest to int. with Jeremiah Cr Trl. 2) Remove road between Jeremiah Creek Trl and Highland Ridge Rd.

MT #4. Jeremiah Creek Trail.
Issue: Unsustainable route.
Recommendation: Remove trail and re-route.

MT #5. Old Finley Rd to Morgan Cr Rd.
Issue: Desired loop trail connection.
Rec: Provide new trail connection between Old Finley Rd and Morgan Cr Rd.

MT #6. Jackass Cyn - Tassajara Cr Trl
Issue: Desired loop trail.
Rec: Create a multi-use connection from Riggs Canyon Rd-2 to Tassajara Creek Trl-1 (northern portion extended southwest to northeast). Conduct change-in-use for Tassajara Creek Trl-1 (northern portion extended southwest to northeast) prior to development of this recommendation. This connection will create a multi-use loop using Riggs Canyon Rd / Tassajara Cr Trl (northern portion extended southwest to northeast), Highland Ridge Rd and the other roads located in the Morgan Territory area.

MT #7. Jackass Cyn - Oyster Pt Trl
Issue: Lack of trail connectivity.
Rec: Design a sustainable route connecting Jackass Trl and Oyster Point Trl. Remove / Rehabilitate existing non-system route. Install interpretive signage at the end of Jackass Canyon Trl to educate visitors about the natural and cultural resources of the site.

MT #8. Tassajara Cr Trl - Riggs Cyn Rd.
Issue: Desire for loop trail.
Rec: Designate existing non-system route as system route to formalize multiple loop trail opportunities.

MT #9. Finley Rd Terminus.
Issue: Improved trail access.
Rec: Develop trailhead with 30-40 car parking lot, and staging area. Install restroom and interpretive panels.

MT #10. Riggs Canyon Site.
Issue: Improved access to Morgan Territory area.
Rec: Develop trailhead.

# Planning Recommendations

### MORGAN TERRITORY TO SUMMIT

Proposed Change in Use - Add Mtn Bike
Proposed Unpaved Mtn. Bike Route to Summit
Other Planning Recommendations

**Existing Roads and Trails**

- Local Roads
- State Park Rd, Hike and Horse
- State Park Rd, Hike, Bike and Horse
- State Park Rd, Undetermined
- State Park Rd, No Vehicles, Hike and Horse
- State Park Trl, Hike
- State Park Trl, Hike and Horse
- State Park Trl, Hike, Bike and Horse
- Non-system routes
- Other Trails
- Paved park roads

- Museum/Visitor center
- Developed Camp Area
- Group Camp Area
- Horse Camp Area
- Trailhead Parking
- Limited Parking
- Access Pts from Public Lands
- Mt Diablo State Park
- CSP Land Operated by EBRPD
- Other Public Lands
- Intermittent Stream

*Map Page Location*

Scale
1:32,725
1 inch = 2,727 feet
Miles
0 0.1 0.2 0.3 0.4 0.5

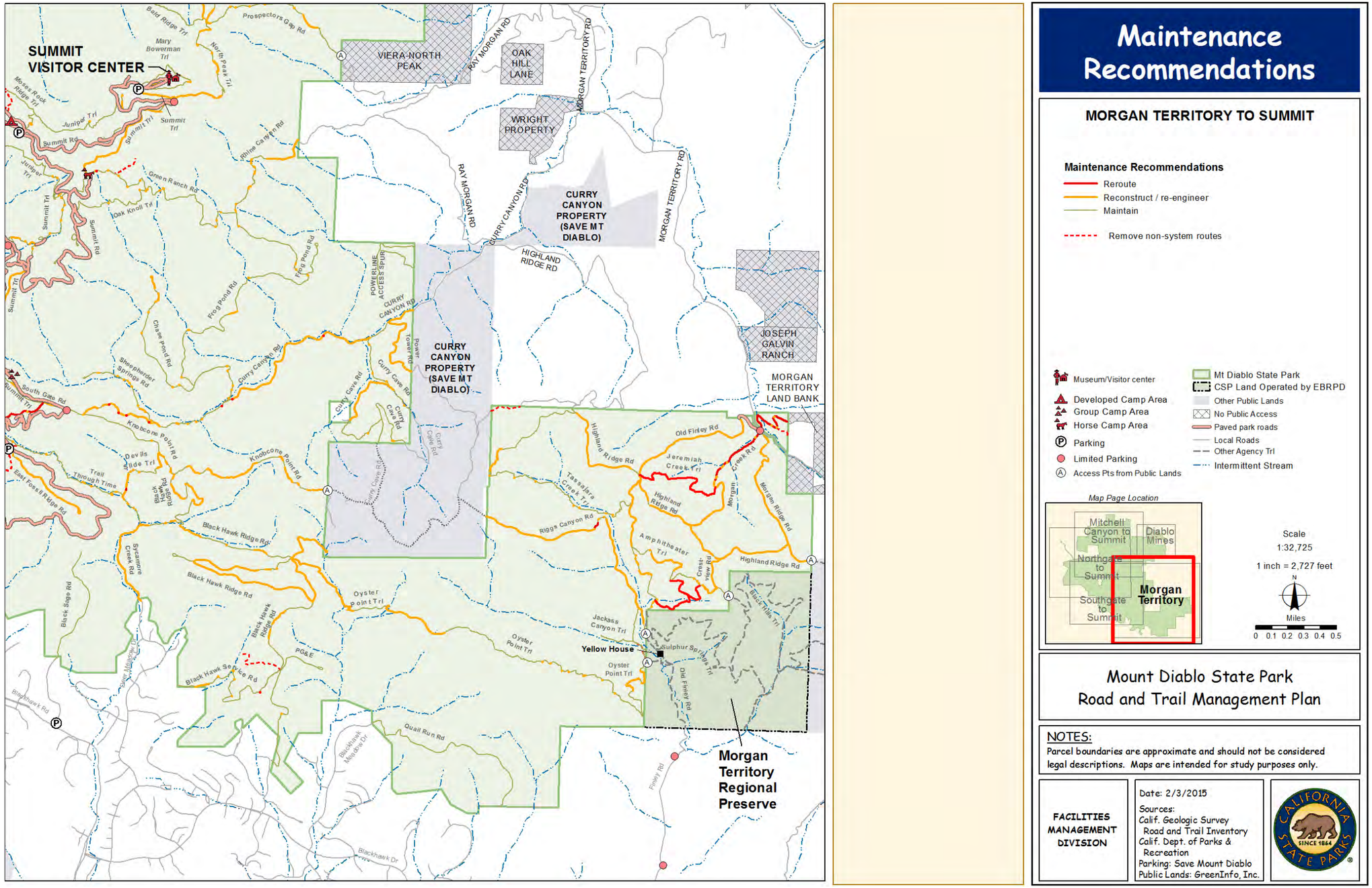
## Mount Diablo State Park Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

FACILITIES MANAGEMENT DIVISION

Date: 10/15/2015
Sources:
Calif. Geologic Survey Road and Trail Inventory
Calif. Dept. of Parks & Recreation
Parking and Trailheads: Save Mount Diablo
Public Lands: Green Info

**Map: Morgan Territory Area Maintenance Recommendations**



## Section 7 ENVIRONMENTAL DOCUMENT

**DRAFT**

# INITIAL STUDY
# NEGATIVE DECLARATION

## MOUNT DIABLO STATE PARK
## ROAD AND TRAIL MANAGEMENT PLAN PROJECT

**March 2015**

State of California
**California State Parks**

## NEGATIVE DECLARATION

**PROJECT:** **MOUNT DIABLO STATE PARK ROAD & TRAIL MANAGEMENT PLAN**

**LEAD AGENCY:** California State Parks

**AVAILABILITY OF DOCUMENTS:** The Initial Study for this Negative Declaration is available for review at:

- Bay Area District Headquarters
  California State Parks
  845 Casa Grande Road
  Petaluma, CA 94954

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

- Northern Service Center
  California Department of Parks & Recreation
  One Capital Mall – Suite 410
  Sacramento, California 95814

- Contra Costa County Library Branches:
  Clayton Community Library
  6125 Clayton Road
  Clayton, California 94517

  Pleasant Hill Library
  1750 Park Blvd.
  Pleasant Hill, California 94523

A copy of the Initial Study is attached. Questions or comments regarding this Initial Study/ Negative Declaration may be addressed to:

Bay Area District
California State Parks
845 Casa Grande Road
Petaluma, CA 94954

Pursuant to Section 21082.1 of the California Environmental Quality Act, the California Department of Parks and Recreation (DPR or California State Parks) has independently reviewed and analyzed the Initial Study and Draft Negative Declaration for the proposed project and finds that these documents reflect the independent judgment of DPR. DPR,

as lead agency, also confirms that the project measures detailed in these documents are feasible and will be implemented as stated in the Negative Declaration.

_____ _____

Danita Rodriquez Date
District Superintendent

_____ _____

Brad Michalk Date
Environmental Coordinator

# Chapter 1 - Introduction

## 1.1 Introduction and Regulatory Guidance

The Initial Study/Negative Declaration (IS/ND) has been prepared by the California Department of Parks and Recreation (DPR) to evaluate the potential environmental effects of the proposed Road and Trail Management Plan (RTMP) Project at Mount Diablo State Park (MDSP), Contra Costa County, California. This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code §21000 *et seq*., and the State CEQA Guidelines, California Code of Regulations (CCR) §15000 *et seq*.

An Initial Study (IS) is conducted by a lead agency to determine if a project may have a significant effect on the environment [CEQA Guidelines §15063(a)]. If there is substantial evidence that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) must be prepared, in accordance with CEQA Guidelines §15064(a). However, if the lead agency determines that there is no substantial evidence that the project or any of its aspects may cause a significant effect on the environment, a ND may be prepared. The lead agency prepares a written statement describing the reasons a proposed project will not have a significant effect on the environment and, therefore, why an EIR need not be prepared. This IS/ND conforms to the content requirements under CEQA Guidelines §15071.

## 1.2 Lead Agency

The lead agency is the public agency with primary approval authority over the proposed project. In accordance with CEQA Guidelines §15051(b)(1), "the lead agency will normally be an agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose." The lead agency for the proposed project is DPR. The contact person for the lead agency regarding specific project information is:

Jason Spann, 704 O Street, Sacramento, CA 95814
(916) 324-0370, trails@parks.ca.gov

Questions or comments regarding this IS/ND should be submitted to:

Brad Michalk, One Capital Mall, Suite 410, Sacramento, CA 95814
Fax # (916) 445-8883, brad.michalk@parks.ca.gov

Submissions must be in writing and postmarked or received by fax or email no later than ____. The originals of any faxed document must be received by regular mail within ten working days following the deadline for comments, along with proof of successful fax transmission. Email or fax submissions must include full name and address. All

comments will be included in the final environmental document for this project and become part of the public record.

## 1.3 Purpose and Document Organization

The purpose of this document is to evaluate the potential environmental effects of the proposed RTMP Project at MDSP. No mitigation measures were necessary or incorporated to eliminate potentially significant impacts or reduce them to a less-than-significant level.

This document is organized as follows:

- Chapter 1 - Introduction.
  This chapter provides an introduction to the project and describes the purpose and organization of this document.

- Chapter 2 - Project Description.
  This chapter describes the reasons for the project, scope of the project, and project objectives.

- Chapter 3 - Environmental Setting and Impacts Analysis.
  This chapter identifies the significance of potential environmental impacts, explains the environmental setting for each environmental issue, and evaluates the potential impacts identified in the CEQA Environmental (Initial Study) Checklist.

- Chapter 4 - Mandatory Findings of Significance.
  This chapter identifies and summarizes the overall significance of any potential impacts to natural and cultural resources, cumulative impacts, and impact to humans, as identified in the Initial Study.

- Chapter 5 - References.
  This chapter identifies the references and sources used in the preparation of this IS/ND.

- Chapter 6 - Report Preparation
  This chapter provides a list of those involved in the preparation of this document.

## 1.4 Summary of Findings

Chapter 3 of this document contains the Environmental Checklist (Initial Study or IS) that identifies the potential environmental impacts (by environmental issue) and a brief discussion of each impact resulting from implementation of the proposed project.

Based on the IS and supporting environmental analysis provided in this document, the proposed Public Park Improvements Project would result in less than significant impacts for the following issues: aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation/traffic, and utilities and service systems.

Based on the available project information and the environmental analysis presented in this document, there is no substantial evidence that the proposed project would have a significant effect on the environment. In accordance with §15063(b)(2) of the CEQA Guidelines, a lead agency shall prepare a negative declaration if there is no substantial evidence that the project or any of its aspect may cause a significant effect on the environment.

# Chapter 2 - Project Description

## 2.1 Introduction

This IS/ND has been prepared by the DPR to evaluate the potential environmental effects of the proposed RTMP Project at MDSP, located in Contra Costa County, California. The proposed project would implement a management plan for roads and trails within the park unit.

## 2.2 Project Location

MDSP is located in the north end of the Diablo Range, in the Coast Range Geomorphic Province, surrounded by the cities of Clayton, Walnut Creek, and Danville in Contra Costa County. This 18,000-plus-acre “island mountain” rises 3,849 feet above the neighboring lowlands, which are substantially urbanized. The Pacific Ocean and San Francisco Bay are west of the park, the Sacramento River/Carquinez Straits are north, and the Sacramento Delta is east. This park is one of the ecological treasures of the San Francisco Bay Area. Every season in the park has its special qualities. The park offers a myriad of both active and passive activities, including hiking, biking, horseback riding, picnicking, and camping.

MDSP is located in northern California in central Contra Costa County. The park, situated approximately four miles east of Walnut Creek and 20 miles east of San Francisco Bay. To the south, west, and north of the park is the East Bay Area, comprised of islands and waterways and to the east the cities of Brentwood, Byron, Clayton, and the enormous agriculture expanse of the San Joaquin Valley. The park encompasses approximately 20,000 acres has an elevational range of 381feet at the lower reaches to 3,849 feet at the summit. Rising above the surrounding land, Mount Diablo provides a 360-degree view of the surrounding area and when clear, the view range is 200 miles.

MDSP has a Mediterranean climate with hot, dry summers and cool wet winters. Proximity to San Francisco Bay and Carquinez Strait mitigates the effects of summer heat. The Strait during the summer months produces a channel for strong flows of cool marine air from the ocean into the valley. Fog can cover the summit and lower flanks of Mount Diablo anytime of the year. In the winter, fog is frequent at 2,000 feet and below. Fog on the south slopes is common in late spring and early summer. Low summer fogs are less frequent and duration is short.

The diverse topographic relief in the park creates a wide range of microclimatic conditions. Temperature extremes are typically greater on the summits of peaks due to exposure, and in low valleys, where cold heavy air collects. The coolest temperatures occur during the months of December, January, February, and March and the warmest in June, July, August, and September. Temperatures taken at the park’s unit headquarters, recorded a winter temperature variation from 20°F to 70°F, while summer temperatures range from 45°F to 107°F. The annual average rainfall recorded at unit headquarters is approximately 22 inches. Ninety percent of the precipitation falls from

November to April; however, precipitation can occur throughout the year. Occasionally precipitation occurs as snow on the summit during the winter months

## 2.3 Background and Need for the Project

The RTMP defines the objectives, methodologies, and/or designs on how management goals will be accomplished. This document is focused on specific management topics, goals, or issues applying to all roads and trails within MDSP. The document is consistent with system-wide plans and policies and with the MDSP General Plan and serves as a bridge between the desired conditions stated as goals and guidelines in the general plan and the measurable implementation actions. Unlike general plans, individual management plans are more dynamic, changing as necessary to serve management's needs.

Specific goals of the November 1989 MDSP General Plan were to "improve the existing trail system, including signage" as one of its first priorities. Priority 2 was to "develop permiter trailheads, staging areas, and access points;" and Priority 3 was "to develop a trailhead, staging area and parking near Camel Rock, and at Curry Point" (State Park and Recreation Commission, 1989). Work towards implementation of these goals is on-going and they have been included in the recommendations of this RTMP.

Natural Resources Background

MDSP, with outstanding natural values, is one of the most significant examples of California's foothill and low coastal mountains ecological region. It is in a unique geographical location, as a relatively isolated eastern extension of the Coast Range at this latitude. Average annual rainfall is 22 inches at park headquarters. The area receives relatively little rainfall in the summer and higher elevations of the park are subject to snow in the winter. Snow events draw many San Francisco Bay Area residents to the park. Mount Diablo's position amidst and between major Bay Area faults makes it susceptible to ground shaking from earthquakes; landslides are commonly induced by intense rainfall or seismic movement. Mount Diablo is within the designated critical habitat for the Alameda stripedstriped racer and supports several other sensitive animal and plant species, in addition to a rich diversity of more common plants and animals.

The contrast between the outcrops and surrounding vegetation is striking, and makes natural resource protection an important aesthetic issue, as well as an environmental one. Trees in the park include blue oak, valley oak, coast live oak, western sycamore, , black oak, canyon live oak, interior live oak, gray pine, California bay, madrone, and California juniper. (See Chapter 3 – Biological Resources for additional information).

Cultural Resources Background

The Mount Diablo area is rich in cultural history and existing resources. There are 23 recorded Native American sites noted in the MDSP General Plan. The Wolwon or Bolbon, a Native American Tribelet of Bay Miwork (Miwok), resided near Mount Diablo. The park is in the ethnographic territory of the Bay Miwok. The estimated aboriginal population in the region was estimated to be approximately 1700 people. Their principal

village was called Bolbon, and was reportedly located at the base of the southeast flank of the mountain. In addition, Mount Diablo played an important role in Miwok mythology as a place of creation and the home of the spirits. Acorns from oak trees were the single most important food resource for the Bay Miwok.

Euroamerican uses of the mountain, beginning in 1834, included cattle ranching, horse breeding, mining, tourism, and a base point for surveying the region. The first recorded structure was the 1876 Geodetic Survey Signal Station. The US Coast and Geodetic Survey used Mount Diablo during the mid- and late 1800s as a base point for its National Triangulation Survey, undertaken to establish an accurate standard line as a base for all future surveys and observation of the United States. Due to the prominence of Mount Diablo's north and south peaks, they have served as sites for radio, microwave, and telecommunication facilities and towers for many years.

The primary road system on Mount Diablo has its roots in a toll road built in the late 1800s. Over subsequent years, this system has been altered and expanded by various entities. The Civician Conservation Corps improved the road, including the construction of concrete culverts, to support public access to campgrounds and buildings in the Mount Diablo area. Many CCC-related features remain within the park

## 2.4 Project Objectives

The RTMP will be used as a long-term guiding document and takes into consideration all of the elements of the park's values, goals and mission. Key components of the RTMP include:

- Maximize visitor uses and experiences;
- Reduce potential safety issues;
- Minimize natural and cultural resource impacts;
- Coordinate with local and regional planning efforts;
- Provide access to surrounding public lands;
- Reduce maintenance and management costs.
- Improve road and trail sustainability

## 2.5 Project Description

Trails at MDSP are the primary avenue for park visitors to access key park features and facilities, for meeting the recreational needs of the public, and help DPR fulfill its mission. Properly sited, designed, constructed, maintained, and managed trails can provide quality recreation while also protecting sensitive natural and cultural resources by focusing recreational activity impacts to less sensitive park lands. DPR is therefore committed to providing the highest quality trail use opportunities for the diversity of visitors.

Frequently, in the state park system, a park's trail system has evolved from trails and unpaved roads that were on the property when it was acquired. They were constructed to meet the needs of the original property owners, and seldom adequately serve the needs of the park unit or meet trail standards currently identified in DPR's Trails

Handbook. Prior to DPR's formalized trails training program, trails added during the early years of many state park units were often improperly sited and poorly designed and constructed. Lack of adequate maintenance has often been an issue. Additionally, these older trails may unnecessarily restrict accessibility, not meet the recreational needs of park users, and/or impact the park's natural or cultural resources.

This RTMP is a sub-component of the general planning process. General plans refer to subsequent RTMPs to address road and trail management issues within a park unit. The RTMP focuses on the overriding goal of protecting MDSP's resources, while allowing recreational access to its roads and trails. It is with all of these factors in mind that DPR developed this RTMP to guide it in its management of the road and trail network. This RTMP will provide management focus for paved and non-paved roads and trails. User types, use assignment of facilities, evaluation of inherited roads and user created trails will be part of this RTMP. This RTMP will be a management tool that will be used to assess use change requests and manage the roads and trails to minimize impacts to the natural and cultural resources.

The purpose for this RTMP is to address the growing impacts of trail use by the increase in trail users and user types. The RTMP is also needed to improve park visitor experiences while better evaluating and reducing potential physical impacts to natural and cultural resources.

Developing a RTMP is a dynamic process. RTMPs must meet guidelines provided by the unit's general plan and meet specific trail user needs; incorporate and coordinate with regional and state planning documents; adhere to existing laws and regulations; include the public and all potential user groups; use good design to provide user accessibility and protect resources; and provide a mechanism to monitor outcomes for future changes, needs of resource protection, and recreational use needs of the park.

Developing a comprehensive RTMP ensures that recreational trail opportunities are made available to the fullest potential, while also providing sufficient and often enhanced protection for cultural and natural resources. While maintenance and repairs can be implemented on a trail by trail basis, park-wide and regional trail system planning remains the preferred and the most effective method for identifying and establishing linked recreational trail corridors. Comprehensive planning also mitigates resource impacts and reduces construction and maintenance costs.

The ultimate purpose of the RTMP is to provide a tool to deliver a comprehensive road and trail management program and direct future capital outlay and maintenance funding. While implementation timelines depend on many factors, such as funding availability, setting priorities within a park unit will facilitate allocation of limited resources and can help place focus for funding and grant raising efforts. See Section 5.5 of the RTMP for more information about how priorities will be established.

The RTMP serves as both a short and long-term guiding document for DPR park managers, staff, and volunteers, who construct trail improvements, maintain or repair existing trails, or are otherwise involved with trail issues. The RTMP establishes direction for the overall trail system as well as guidelines for appropriate trail uses, trail closures and reroutes, trail maintenance and repair activities, trail aesthetics, and a trail

monitoring system. The RTMP also defines trail-specific actions for individual trails as well as recommended future planning efforts.

California Public Resources Code (hereinafter referred to as PRC) Section 5019.53 provides the directive on the use and management of trails in a state park, "….to preserve outstanding natural, scenic, and cultural values, indigenous aquatic and terrestrial fauna and flora, and the most significant examples of ecological regions of California …." In addition, improvements undertaken within state parks shall be for the purpose of making the areas available for public enjoyment and education in a manner consistent with the preservation of natural, scenic, cultural, and ecological values for present and future generations. Furthermore, improvements may be undertaken to provide for recreational activities, so long as those improvements involve no major modification of lands, forests, or waters (PRC 5019.53).

## 2.6 Related Documents

On May 2, 2013, DPR certified a Program Environmental Impact Report (PEIR) approving the Road and Trail Change-in-Use Evaluation Process. This process established the method by which additional uses can be added or removed to roads and trails in the state parks system. The Initial Study tiers off the PEIR with respect to consideration of effects resulting from future changes-in-use on specific trails in MDSP.

## 2.7 Project Actions Covered By and Excluded From the RTMP

The RTMP and this Negative Declaration covers the following activities performed to be on specific roads and/or trails within MDSP:

- Closure, decommissioning, and restoration of existing roads and trails to natural conditions;
- Reconstruction or maintenance within an existing road or trail prism (i.e., encompasses the existing top of the road or trail's cut bank to the bottom of the fill slope).

For these types of actions, the project manager would develop a project description describing the breadth of the work to be performed and it would be evaluated by resources staff. The environmental coordinator would identify appropriate project requirements discussed in Section 2.8 below and incorporate into the project. These would be considered subsequent actions that are within the scope of the analysis in this Negative Declaration and no additional CEQA document would be required.

Some actions are addressed in the RTMP but may require preparation of additional environmental documentation. These include:

- New trails or roads;
- Change-in-use projects. Although three trails are identified in the RTMP for potential change in use and Standard Project Requirements are incorporated to address

change-in-use projects, those actions will require development of work plans and additional environmental review;

- Re-routing of trail alignments to correct otherwise unsustainable road and trail conditions where realignment begins and ends at an existing route, extends only as far as necessary to avoid the unsustainable condition, and causes no significant environmental effects.
- Appurtenant facilities (e.g. trailhead, point of access, parking improvements/control, signage) related to changes in recreational road or trail use where no additional natural landscape disturbance, substantial increase in capacity, or significant environmental effects would occur; and
- Conversion of existing roads to trails.

Using this Plan and the PEIR, a project description would be developed describing the breadth of the work in the proposed project and it would be evaluated by resources staff pursuant to CEQA. At a minimum, project requirements discussed in Section 2.8 below would be identified and incorporated into the project.

If additional actions are proposed beyond those actions covered above, DPR will further evaluate potential impacts of those measures and prepare any appropriate subsequent environmental documents if such projects do not fit under the tiered approach.

This project will be a management tool that will be used to assess change-in-use requests and manage the roads and trails to minimize impacts to the natural and cultural resources. The document also identifies trails that are potentially suitable for conversion to multi-use though approval of a trail change-in-use, which would require additional review after work plans have been developed.

Actions that are outside the scope of the RTMP and Negative Declaration include:

- Actions that add motorized uses to a road or trail, except as currently allowed for OPDMD on appropriate routes, consistent with DPR policy;
- Actions inconsistent with a project identified within a park unit's general plan, road and trail management plan, or unit classification; and
- Actions that result in unavoidable significant effects on the environment or potentially mitigable significant effects that cannot be clearly reduced to less than significant without detailed investigations or mitigation planning.

## 2.8 Project Requirements

Under CEQA, DPR has the distinction of being considered both a lead and trustee agency. A lead agency is a public agency that has the primary responsibility for carrying out or approving a project and for implementing CEQA. A trustee agency is a state agency having jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California. With this distinction comes the responsibility to ensure that actions that protect both cultural and natural resources are

always taken on all projects. Therefore, DPR maintains a list of project requirements ("Standard Project Requirements" or "SPRs") that are included in project design to reduce impacts to resources. SPRs are not mitigation measures. They are *required* elements of the design of any State Parks project and are intended to eliminate impacts to natural and cultural resources. Mitigation measures are imposed on a designed project to minimize impacts to "less than significant levels". SPRs are also distinct from Best Management Practices, which are *recommended* policies and procedures for project implementation. Recommended BMPs are listed in Section 5 of the RTMP.

DPR has developed a list of standard project requirements (SPRs) that are actions that have been standardized statewide to avoid significant project-related impacts to the environment. From this list, SPRs are assigned as appropriate to all projects. For example, projects that include ground-disturbing activities, such as constructing trail reroutes, will always include standard project requirements addressing the inadvertent discovery of archaeological artifacts. However, for a project that entails only brush removal for which ground disturbance would not be necessary; standard project requirements for ground disturbance would not be applicable and would not be assigned to the project. When evaluating a project the district environmental coordinator or others assigned the task of evaluating projects will apply only the relevant project requirements and complete those sections of the project requirements detailing such things as the individual responsible for implementing the requirement and the resource being protected.

DPR also makes use of "project specific requirements". These project requirements are developed to address project impacts for covered projects that have unique issues. However, these would more typically be generated on projects that are not covered by the standard project requirements included in this IS/ND, such as may be the case for construction of a new trail.

## 2.9 Applicable Standard Project Requirements

The following SPRs would influence construction- related noise and vibration that could be associated with implementation of projects identified in the RTMP. Where noted, SPRs apply only to projects that contain a change-in-use component.

**GEN-1:** Prior to the start of on-site construction work, a **[insert who]** will consult with the contractor and/or project manager to identify all resources that must be protected.

**GEN-2:** At the discretion of **[insert who]**, mechanized vehicles on **[insert discipline]** resource sites will be restricted to a short-term use of low-ground pressure vehicles only. All such vehicles must enter and exit the area via the same route of travel (by backing up). Vehicles are strictly prohibited from turning on the surface of site(s).

**GEN-3:** Prior to the start of on-site construction work, a DPR-qualified **[insert discipline]** resources specialist will train construction personnel in **[insert discipline]** resource identification and protection procedures.

**GEN-4:** Prior to the start of on-site construction work, and at the discretion of a **[insert who]**, a **[insert who**] will flag and/or fence or otherwise demarcate all **[insert discipline or resource]** with a buffer of [insert distance] for avoidance during on-site construction activities. The **[insert who]** will remove the demarcation from around the Environmentally Sensitive Area after project completion.

**GEN-5:** Prior to any earthmoving activities, a DPR-qualified **[insert who]** will approve all subsurface work, including the operation of heavy equipment within **[insert distance]** of the identified Environmentally Sensitive Area.

**GEN-6:** Prior to the start of **[insert type]** work, **[insert who]** will notify the **[insert office name and who]** or **[insert alternative office name and who]** a minimum of three weeks in advance, unless other arrangements are made, to schedule **[insert discipline or resource]** monitoring.

**GEN-7:** A DPR-qualified **[insert who]** will monitor all ground-disturbing phases of this project at his/her discretion.

**GEN-8:** The **[insert who]** will post information signs near project areas with restricted access or closures lasting longer than three months. The signs will include the following information:

- Explanation for and description of the project; and
- Anticipated completion date.

**GEN-9:** District staff will employ "Adaptive Use Management" for change in use projects as a strategy to avoid significant effects on the environment. It involves a standard procedure of defining (1) use levels and use and resource conditions as a baseline during the preparation of the Change-in-Use Survey at the start of the process and (2) performance standards for maintaining use at levels that do not result in significant effects on the environment. The performance standards will be tailored to each change-in-use proposal/trail. They will describe desired use and resource conditions necessary to maintain impacts at less-than-significant levels. All performance standards will relate to use conditions or resources that are observable in the field by park staff.

**GEN-10:** To eliminate an attraction to predators, all food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers; these containers will be removed at least once every day from the entire project site.

**GEN-11:** No pets of any kind are permitted on construction sites by contractors or other personnel.

## AESTHETICS AND VIEWS STANDARD PROJECT REQUIRMENTS

**AES-1:** Projects will be designed to incorporate appropriate scenic and aesthetic values of MDSP, including the choices for: specific building sites, scope and scale; building and fencing materials and colors; use of compatible aesthetic treatments on pathways, retaining walls or other ancillary structures; location of and materials used in parking areas, campsites and picnic areas; development of appropriate landscaping. The park's scenic and aesthetic values will also consider views into the park from neighboring properties.

**AES-2:** **[Insert who]** will store all project-related materials outside of the viewshed of **[insert name of street/place/building].**

## AGRICULTURAL AND FOREST RESOURCES STANDARD PROJECT REQUIRMENTS

The SPRs do not include a category of provisions specifically related to agriculture and forest resources.

## AIR QUALITY AND GREENHOUSE GAS EMISSIONS STANDARD PROJECT REQUIREMENTS

## DUST CONTROL MEASURES

**AQ-1:** No more than 1.0 acre of ground disturbance (e.g., earth moving, grading, excavation, land clearing) will occur in any single day.

**AQ-2:** Prior to any ground disturbance, including grading, excavating, and land clearing, sufficient water must be applied to the area to be disturbed to minimize fugitive dust emissions.

**AQ-3:** Unpaved areas subject to vehicle travel and areas subject to mechanical grading, excavation, land clearing, or other forms of ground disturbance will be stabilized by being kept wet, treated with a chemical dust suppressant, or covered. Exposed areas will not be overwatered such that watering results in runoff. Unpaved areas subject to vehicle travel could also be stabilized through the effective application of gravel or through watering.

**AQ-4:** Suitable vegetative ground cover will be established on exposed, disturbed surfaces through seeding and watering as soon as possible (consistent with DPR's Genetic Integrity Policy for revegetation), except for areas intended to be used as trails or for parking or staging. If a

vegetated ground cover is not suitable to the area then this requirement does not apply.

**AQ-5:** Storage piles and disturbed areas not subject to vehicular traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile.

**AQ-6:** The speed of construction-related trucks, vehicles, and equipment traveling on unpaved areas will be limited to 15 miles per hour (mph).

**AQ-7:** All trucks or light equipment hauling soil, sand, or other earthen materials on public roads to or from the site will be covered or required to maintain at least two feet of freeboard.

**AQ-8:** Off-road construction equipment and on-road haul trucks leaving the park will be cleaned onsite to prevent silt, mud, and dirt, from being released or tracked off-site, as dictated by controlling agencies.

**AQ-9:** All visible dust, silt, or mud tracked-out on to public paved roadways as a result of construction-related activities will be removed at the conclusion of each construction work day, or a minimum of every 24 hours for continuous construction operations. Wet sweeping or a High Efficiency Particulate Air filter equipped vacuum device will be used for removal of track-out from paved roadways and paved parking areas.

**AQ-10:** Excavation, grading, land clearing, other mechanical ground disturbance, and demolition activities will be suspended when sustained winds exceed 15 mph and/or instantaneous gusts exceed 25 mph.

**AQ-11:** Where a change-in-use results in vehicle travel on unpaved roads and other unpaved services, signs shall be posted limiting vehicle travel to 15 mph.

**AQ-12:** Construction-related ground disturbance activities will not be performed in areas identified as “moderately likely to contain naturally occurring asbestos” according to maps and guidance published by the California Geological Survey (CGS), formerly the California Department of Conservation Division of Mines and Geology. This determination would be based on a CGS publication titled A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos (Churchill and Hill 2000), or whatever more current guidance from CGS exists at the time the change-in-use project is evaluated. Work shall comply with the guidelines of the Bay Area Air Quality Management District for conducting work in NOA areas. Any NOA-related guidance provided by the applicable local air district shall also be followed. If a site-specific investigation identifies the presence of NOA, then an Asbestos Dust Control Plan will be developed and

implemented in accordance with Section 93105 of the California Health and Safety Code.

**AQ-13:** New trail or road alignments will not be located in areas identified as "moderately likely to contain naturally occurring asbestos" according to maps and guidance published by the CGS unless a site-specific investigation performed by a Registered Geologist confirms that NOA-containing rock or dirt is not exposed at the surface of the trail. Alternatively, any trail or road alignments that are not located over areas where NOA is exposed at the surface will be covered with an appropriate material, depending on the intended use of the trail that would prevent entrainment of asbestos-containing dust into the air. Possible methods of covering NOA-containing material on the surface include paving and graveling with non-NOA-containing gravel.

**EXHAUST EMISSIONS CONTROL MEASURES**

**AQ-14:** Operation of large diesel- or gasoline-powered construction equipment (i.e., greater than 50 horsepower) will not exceed 16 equipment-hours per day, where an equipment-hour is defined as one piece of equipment operating for one hour (daily CAPs, TACs, GHGs).

**AQ-15:** All diesel- and gasoline-powered equipment will be properly maintained according to manufacturer's specifications, and in compliance with all State and federal emissions requirements. Maintenance records will be available at the construction site for verification.

**AQ-16:** No open burning of removed vegetation will be performed. All removed vegetative material will be either left in place (e.g. for use as mulch), chipped on site or taken to an appropriate recycling site, biomass power plant, or if a site is not available, a licensed disposal site. If approved, an air curtain burner may be used.

**MOBILE-SOURCE EMISSIONS RELATED MEASURES**

**TRAN-1:** A designated DPR District staff person will, prior to implementing any of the change in use projects, first review the Contra Costa County General Plan for guidance on level of service (LOS) changes. If it is determined that (or uncertain whether) project traffic could potentially result in unacceptable LOS of local traffic facilities, DPR will coordinate with the applicable jurisdiction(s) (e.g. Contra Costa County, Concord, Clayton) that operate/maintain the traffic facilities in the vicinity of the trail heads and associated parking areas to determine the maximum number of peak hour trips that could be generated by the proposed additional use that would not cause significant adverse local traffic effects. If DPR demand projections identify an increase in visitation that would generate peak hour, weekday trips that exceed the maximum number of trips identified by

the applicable agency, the proposed additional use would be disqualified from the proposed process and would require individual CEQA analysis, including project-specific traffic analysis. In addition, following implementation of the proposed additional use **[insert who]** will include follow-up consultation with Contra Costa County as part of the Adaptive Use Management process to consider the actual traffic levels generated by the additional trail use and the LOS of the affected transportation facilities. If the increased trips generated by the additional trail users are found to exceed original projections and are also found to be causing an exceedance of applicable LOS standards, **[insert who]** will implement a management response to resolve the exceedance, in consultation with Contra Costa County. Measures in the management response will include (but will not be limited to) public education actions to encourage visitation during non-peak traffic periods, restriction of the timing of certain types of trail use during peak traffic periods, altering the point(s) of access to transfer project-related traffic from impacted roadways/intersections to less constrained roadways/intersections, coordination with local transit operators to increase access to the trail, coordination with the local transportation department regarding improved bicycle connectivity (for addition of bicycle use), or a combination of these measures.

**TRAN-4:** **[insert who]** will assess parking capacity prior to implementing a change in use in those areas nearest the subject trails. After implementation of the change in use, DPR staff will monitor parking levels as part of the Adaptive Use Management process. If monitoring indicates an exceedance of parking capacity (i.e., increased use of undesignated on-street parking or increased illegal parking due to overflow of parking lot facilities), the **[insert who]** will implement a management response to resolve the parking capacity issue. Measures in the management response may include, but would not be limited to re-designing parking facilities (including minor parking lot expansions in areas where environmental resources will not be affected), installing parking meters and/or applying time limits, working with local transportation departments to increase nearby off-site parking availability, directing users to other existing lots, and/or working with local transit operators to increase transit to the trail facility. DPR District personnel will determine which actions are feasible.

**TRAN-5:** Prior to initiating any construction activities that could affect traffic flows in and around MDSP, the construction manager will have a Construction Traffic Management Plan (CTMP), prepared by a qualified professional that will provide measures to reduce potential traffic obstruction or service level degradation at affected traffic facilities. The scope of the CTMP will depend on the type, intensity, and duration of the specific construction activities associated with each qualifying change-in-use project under the Process. Measures included in the CTMP could include (but are not be limited to) construction signage, flaggers for lane closures, construction

schedule and/or delivery schedule restrictions, etc. The CTMP will be submitted to the local Public Works Department.

## TERRESTRIAL BIOLOGICAL RESOURCES STANDARD PROJECT REQUIREMENTS

## GENERAL BIOLOGICAL RESOURCE STANDARD PROJECT REQUIREMENTS

**BIO-1:** All construction will be consistent with the DPR Trail Handbook guidelines.

**BIO-2:** Construction activities that could spread invasive plants, noxious weeds, or pathogens, such as sudden oak death, will be subject to the following actions:

☐ Construction operators will ensure that clothing, footwear, and equipment used during construction is free of soil, seeds, vegetative matter or other debris or seed-bearing material before entering the park or from an area with known infestations of invasive plants and noxious weeds.

☐ All heavy equipment will be pressure washed prior to entering the park or from an area with known infestations of invasive plants, noxious weeds, or pathogens. Anti-fungal wash agents will be specified if the equipment has been exposed to any pathogen that could affect park resources.

☐ All earth-moving equipment, gravel, fill, or other materials will be weed free.

**BIO-3:** Prior to the start of on-site construction activities, the project manager will determine the minimum area required to complete the work and define the boundaries of the work area on the project drawings and/or with flagging or fencing on the ground, as appropriate.

**BIO-4:** Prior to the start of on-site construction activities, a DPR-approved biologist will conduct preconstruction surveys of the project area subject to monitor construction disturbance for sensitive biological resources, to ensure that potential impacts to sensitive resources are avoided or minimized. These surveys and avoidance/minimization measures are described under separate topics below for sensitive natural communities, vegetation, terrestrial wildlife, and aquatic resources.

**BIO-4:** Prior to the start of on-site construction activities, a DPR-approved biologist will train on-site construction personnel on the identification and life history of the pertinent sensitive species, work constraints, and any other pertinent information related to the species.

**BIO-5:** At the discretion of **[insert who]**, project activities will be monitored to ensure that impacts to sensitive biological resources are avoided or minimized.

**BIO-6:** Reports will be submitted to DPR for all biological surveys and monitoring activities conducted.

**PROJECTS WITH POTENTIAL IMPACTS TO FEDERALLY LISTED SPECIES AND WHICH HAVE A FEDERAL NEXUS**

**BIO-7:** The lead federal permitting or funding agency will be required to consult with the U.S. Fish and Wildlife Service (USFWS) as specified under Section 7 of the federal Endangered Species Act (FESA). Authorization for proceeding with the project or activity would then be subject to conditions identified in a Biological Opinion prepared by the USFWS.

**BIO-8:** Concurrent with the federal Section 7 consultation, a DPR-approved biologist will initiate consultation with California Department of Fish and Wildlife (CDFW) in order to obtain a Section 2081 Incidental Take Permit or Consistency Determination for state-listed species.

**BIO-9:** A DPR-approved biologist will be on-site or on-call during all activities that could result in the take of listed species. The qualifications of the biologist(s) will be presented to the USFWS for review and approval at least 60 calendar days (or other timeframe agreed to with USFWS) prior to any groundbreaking at the project site. The biologist will have oversight over implementation of all the measures described in the Terms and Conditions of the USFWS Biological Opinion issued for this project, and he/she will have the authority to stop project activities, through communication with the Project Manager, if any of the requirements associated with these measures are not being fulfilled.

**BIO-10:** Prior to initiation of any on-site preparation/construction activities, the USFWS-approved biologist will conduct an education and training session for all available individuals who will be involved in the site preparation or construction, including the project representative(s) responsible for reporting take to the Service and the CDFW. Training sessions will be required for all new or additional personnel before they are allowed to access the project site. Attendance sheets identifying attendees and the contractor/company they represent will be provided to the Service with the post-construction compliance report. At a minimum, the training will include a description of the habitat and species. Additional information will include the general measures, as they relate to the project, that are being implemented to conserve this species; the penalties for non-compliance with these measures; travel within the marked project site will be restricted to established roadbeds and the boundaries (work area) within which the project must be accomplished.

**BIO-11:** The limits of the construction area will be flagged, if not already marked by other fencing, and all activity will be confined within the marked area. All access to and from the project area will be clearly marked in the field with

appropriate flagging and signs. Prior to commencing construction activities, the contractor will determine construction vehicle parking/ staging sites and all access routes. All construction activity will be confined within the project site, which may include temporary access roads, haul roads, and staging areas specifically designated and marked for these purposes. At no time will equipment or personnel be allowed to adversely affect habitat areas outside the project site without authorization from the DPR-approved biologist.

**BIO-12:** To the extent possible, nighttime and rainy-season construction shall be minimized. Construction crews will be informed during the education program meeting that, to the extent possible, travel within the marked project site will be restricted to established roadbeds. Established roadbeds include all pre-existing and project-constructed unimproved, as well as improved roads.

**BIO-13:** Permanent and temporary disturbances to the species habitat (i.e. burrows) will be minimized to the maximum extent practicable. To minimize temporary disturbances, all project-related vehicle traffic will be restricted to established roads and other designated areas. These areas also would be included in pre-construction surveys and, to the maximum extent possible, would be established in locations disturbed by previous activities to prevent further adverse effects.

**BIO-14:** A DPR-approved biologist or DPR-approved biological monitor will check all excavated steep-walled holes or trenches greater than one foot (0.3 meters) deep for the listed species.

**BIO-15:** To prevent inadvertent entrapment of the species during construction, all excavated, steep-walled holes or trenches will be covered at the close of each working day with plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wood planks. Before such holes or trenches are filled, the on-site biologist will thoroughly inspect the opening for trapped animals. If at any time a trapped listed animal is discovered, the on-site biologist will immediately place escape ramps or other appropriate structures to allow the animal to escape from the opening, or will contact the Service and/or CDFWG by telephone for guidance. The Service will be notified of the incident by telephone and electronic mail within one (1) working day.

**NATURAL COMMUNITY STANDARD PROJECT REQUIREMENTS**

**BIO-16:** Prior to the start of on-site construction activities or establishment of a realignment route, a DPR-approved biologist will evaluate the project area for sensitive natural communities. Sensitive natural communities or habitats are those of special concern to resource agencies or those that are afforded specific consideration, based on Section 404 of the Clean

Water Act (CWA) and other applicable regulations. This concern would be due to locally or regionally declining status of these habitats, or because they provide important habitat to common and special-status species. Many of these communities are tracked in the California Natural Diversity Database (CNDDB).

**BIO-17:** Projects will be designed to avoid direct or indirect effects on all sensitive natural communities to the maximum extent practicable.

**BIO-18:** Projects will avoid or minimize impacts to federally protected wetlands to the extent practicable by conducting work in upland areas.

**BIO-19:** Natural wetland habitat such as marsh, riparian, and vernal pools will not be filled by stream-crossing construction projects unless approved by the regulatory agencies on a temporary basis (or to the maximum extent practical). Equipment will remain on existing road or trail alignments to the maximum extent practicable. Equipment could travel off road or trail only when no other alternative is available and after the project inspector and District's Senior Environmental Scientist have reviewed the route.

**BIO-20:** Trail or road alignments will be designed to avoid or minimize effects on riparian habitats. Disturbance to riparian areas and habitat for aquatic- or riparian-dependent species will be minimized by aligning crossings perpendicular to and in narrow riparian areas to the extent feasible, and incorporating elevated crossing features such as boardwalks and bridge crossings in riparian areas and sensitive meadows.

**BIO-21:** Signage, fencing, planting, or other features will be used to discourage users from leaving trails and roads and entering wetland, riparian, meadow, and other sensitive habitats; any fencing will be designed to avoid interference with hydrology and wildlife movement. This measure will contribute to minimizing potential impacts to sensitive plant species/communities that occur adjacent to roads and trails.

**VEGETATION STANDARD PROJECT REQUIREMENTS**

**BIO-22:** A DPR-approved biologist will conduct focused pre-construction surveys for special-status plant species with potential to be affected by a project. Species with potential to be affected and requiring pre-construction surveys will be determined based on the species' distribution and known occurrences relative to the project area and the presence of suitable habitat for the species in or near the project area. CNDDB provides records of occurrences of special-status species in the ecoregions where State Parks units are located. In addition to CNDDB records, other data sources will be used to determine sensitive biological resources with potential to occur in a specific project area, including reconnaissance surveys, the California Native Plant Society's (CNPS's) online Inventory of

Rare and Endangered Plants, U.S. Fish and Wildlife Service species lists, DPR data and input from DPR biologists, other local DPR or other professional knowledge, and relevant environmental documents and reports. Surveys to determine the presence or absence of special-status plant species will be conducted in suitable habitat that could be affected by the project, and timed to coincide with the blooming or other appropriate phenological period of the target species (as determined by a DPR-approved biologist).

**BIO-23:** No special-status plant species will be removed, or damaged in any way, or cut, pruned, or pulled back without prior approval from the District Senior Environmental Scientist. Special-status plant species include those in the following categories: 1) listed or proposed for listing as threatened or endangered under the FESA or candidates for possible future listing; 2) listed or candidates for listing under the California Endangered Species Act (CESA); 3) considered by CDFW to be "rare, threatened or endangered in California" (California Rare Plant Ranks of 1A, presumed extinct in California; 1B, considered rare or endangered in California and elsewhere ; and 2, considered rare or endangered in California but more common elsewhere); 4) listed as rare under the California Native Plant Protection Act; 5) considered a locally significant species by CDFW or CNPS; or 6) otherwise meets the definition of rare or endangered under CEQA Guidelines §15380(b) and (d).

**BIO-24:** If special-status plant species are located within the project area, they will be avoided and protected by establishing a non-disturbance buffer zone around the plants with high-visibility fencing prior to construction. The appropriate size and shape of the buffer zone will be determined by a DPR-approved biologist. Construction personnel will be instructed to keep project activities out of the fenced areas. A DPR-approved biologist will periodically inspect the fencing to ensure that the fence is intact and impacts are being avoided.

**BIO-25:** Projects for which avoidance of non-federally or state listed special status plants are not possible will be subject to the following conditions:

- Prior to construction plants will be carefully excavated and transplanted nearby in suitable habitat. All transplant work will be conducted under the direction of a DPR-approved biologist.
- Transplanting will occur during the dormant growing season (i.e. late fall) when the plants are least disturbed and can be watered by natural precipitation. If transplanting is not feasible (e.g. affected species is an annual) then the Department will consult with CDFW to determine a mutually agreeable strategy to conserve or otherwise minimize project impacts.

**BIO-26:** Projects for which avoidance of federally and/or state listed special status plant species is not possible, will be subject to the following conditions:

- For projects with a federal nexus impacts to federally listed plant species that entail, either federal funding and/or requirement of a federal regulatory permit (e.g. U.S. Army Corps of Engineers 404 permit) then the lead federal permitting or funding agency will be required to consult with USFWS as specified under Section 7 of the FESA. Authorization for proceeding with the project or activity would then be subject to conditions identified in a Biological Opinion prepared by the USFWS.
- For projects with impacts to federally listed plant species that do not have a federal nexus then DPR will be required to request formal technical assistance from the USFWS to address potential effects to federally listed plant species.
- For projects with impacts to state listed plant species the Department will be required to consult with the CDFW and obtain a Section 2081 Incidental Take Permit issued by CDFW. Authorization for proceeding with the project or activity will be subject to conditions identified in the Incidental Take Permit.

**BIO-27:** Dust Control Measures (AQ-1 through AQ-11) listed under Air Quality and Greenhouse Gas Emissions Standard Project Requirements will be employed during all construction activities.

**BIO-28:** Erosion Control Measures (GEO-1 through GEO-9) listed under Geology and Soils Standard Project Requirements will be employed to avoid runoff of sediments, vehicle fluids, and other liquids into special plant communities.

**BIO-29:** All projects will be designed to minimize the removal of native trees. Specifically, projects will be designed to retain and protect trees 24 inches diameter-at-breast-height (DBH) or greater to the maximum extent practicable. Limbs of these trees will be removed if required for access or safety considerations. Trees smaller than 24 inches DBH will be retained whenever practicable. Equipment operators will be required to avoid striking retained trees to minimize damage to the tree structure or bark.

**BIO-30:** Within the root health zone (5 times DBH) of any native tree with a DBH of 12 inches or greater, no roots with a diameter of 2 inches or greater will be severed by project activities, unless authorized in advance by a DPR-approved biologist.

**BIO-31:** No ground disturbance or staging will be allowed within the root health zone (5 times the DBH) times the DBH of retention trees, unless approved in advance by a DPR-approved biologist, forester, or certified arborist.

**BIO-32:** A **[insert who]** will be present during all ground-disturbing activities within the root health zone (5 times the DBH) of retained trees.

**BIO-33:** All herbicides will be handled, applied, and disposed of in accordance with the MSDS Fact Sheet and all local, State, and federal laws.

**BIO-34:** To maintain genetic integrity, only plant stock collected consistent with DPR's Genetic Integrity Policy will be used for re-vegetation in the project area.

**BIO-35:** The design of road and trail alignments will consider desired snag retention needs for wildlife.

**BIO-36:** Construction activities that could spread invasive plants and noxious weeds will be subject to the following actions:

- Construction operators will ensure that clothing, footwear, and equipment used during construction is free of soil, seeds, vegetative matter or other debris or seed-bearing material before entering the park or from an area with known infestations of invasive plants and noxious weeds.
- All heavy equipment will be pressure washed prior to entering the park or from an area with known infestations of invasive plants and noxious weeds. Anti-fungal wash agents will be specified if the equipment has been exposed to any pathogen that could affect park resources.
- All earth-moving equipment, gravel, fill, or other materials will be weed free.

**BIO-37:** Install signage that informs the public about protecting sensitive vegetation, and identifies noxious weed and invasive plant species and issues in the project area. Signage containing information about sensitive plant species in the project area and how to avoid disturbing them while using the path and related facilities, and noxious weed and invasive plant species and how they are spread, will be installed at key trailheads and other locations, as applicable and relevant.

**TERRESTRIAL WILDLIFE STANDARD PROJECT REQUIREMENTS**

**BIO-38:** All Projects will be designed to avoid take of wildlife species listed or proposed for listing under the FESA, candidates for possible future listing under the FESA, wildlife species listed or candidates for listing under the CESA, and species designated as Fully Protected under the California Fish and Game Code. For other special-status wildlife species (e.g., species of special concern), project impacts will be avoided to the maximum extent practicable.

**BIO-39:** Project activities that could affect a special-status wildlife species, bats, migratory birds or raptors will be scheduled to avoid the breeding season and/or other sensitive life-history periods of the species (e.g., breeding, hibernation, denning, etc.), as determined by a DPR-approved biologist.

**BIO-40:** If work is required during the breeding or other sensitive life-history period of a special-status species that could be affected, impacts will be avoided or minimized by establishing non-disturbance buffers around the nests, dens, roosts, or other activity centers (depending on the species). The appropriate size and shape of the buffer zone will be determined by a DPR-approved biologist, based on potential effects of project-related habitat disturbance, noise, dust, visual disturbance, and other factors. No project activity will commence within the buffer area until a DPR-approved biologist confirms that the nest, den, or other activity center is no longer active/occupied. Monitoring of the activity center by a DPR-approved biologist during and after construction activities will be required.

**BIO-41:** If individuals or other recent signs of special-status species are observed within **[insert distance]** of the project area, a DPR-approved biologist will be present on the site to monitor during construction activities.

**BIO-42:** If special-status species are known to occur in the project area, immediately prior to the start of work each day, a DPR-approved biologist will conduct a visual inspection of the construction zone and adjacent areas, as appropriate.

**BIO-43:** If a special-status species is found on the project site, work in the vicinity of the animal will be delayed until the species moves out of the site on its own, or is temporarily relocated by a DPR-approved biologist. To prevent trapping of special-status species, all holes and trenches will be covered at the close of each working day with plywood or similar materials, or will include escape ramps constructed of earth fill or wooden planks; all pipes will be capped. A DPR-approved biologist, or other staff trained by a DPR-approved biologist will inspect trenches and pipes for special-status species at the beginning of each workday. If a trapped animal is discovered, they will be released in suitable habitat at least **[insert quantitative distance]** from the project area.

**BIO-44:** Project activities will not remove any trees equal to or greater than “24 inches” DBH unless first inspected by a DPR-approved biologist and determined to be unsuitable as breeding habitat for special-status bird or other species.

**BIO-45:** Prior to the start of project activities a DPR-approved biologist will survey within the project footprint for habitat capable of supporting Bridges' Coast Range shoulderband and Molestan blister beetle. If either species is located within the project area, SPRs BIO-4 through BIO-6 and BIO-42 through BIO-44 will apply.

**BIO-46:** To protect the Berkeley kangaroo rat, San Francisco dusky-footed woodrat, San Joaquin pocket mouse, and American badger, all project/maintenance activities pursuant to the RTMP will be subject to

SPRs BIO-4 through BIO-6. If any of these species or their nests is located then BIO-41 through BIO-44 shall be implemented.

**BIO-47:** To protect the San Joaquin kit fox, all project/maintenance activities pursuant to the RTMP within the eastern, lowland portions of MDSP will be subject to SPRs BIO-4 through BIO-6. If suitable habitat is located within or adjacent to the project area and the DPR-approved biologist determines that potential impacts to San Joaquin kit fox are possible or likely then the Department will request technical assistance from the USFWS. If the USFWS determines that take is possible then BIO-8 through BIO-15 and BIO-41 through BIO-44 will be implemented.

**BIO-48:** To protect the California Horned Lizard (CHL) all project activities pursuant to the RTMP will be subject to SPRs BIO-4 through BIO-6. If CHL is determined to be present in the project site, rocks, logs, or other habitat features moved during construction will only occur in the presence of the DPR-approved biologist and will be replaced in the same location or adjacent suitable habitat. If a CHL is found during construction activities, SPR BIO 41 through BIO-44 shall be implemented.

**BIO-49:** To protect the Alameda Striped Racer all project/maintenance activities pursuant to the RTMP will be subject to SPRs BIO-4 through BIO-6. If the DPR-approved biologist determines that potential impacts to Alameda striped racer are possible or likely, then DPR will request technical assistance from USFWS. If USFWS determines that take is possible then BIO-8 through BIO-15 and BIO-41 through BIO-44 will be implemented.

**AQUATIC BIOLOGICAL RESOURCES STANDARD PROJECT REQUIREMENTS**

**BIO-50:** Project/maintenance activities in areas capable of supporting foothill yellow-frog (as determined by a DPR-approved biologist) will be subject to SPRs BIO-4 through BIO-6 and BIO-57 through BIO-59.

**BIO-51:** Project/maintenance activities in areas capable of supporting western pond turtle (as determined by a DPR-approved biologist) will be subject to SPRs BIO-4 through BIO-6 and BIO-57 through BIO-59.

**BIO-52:** Project/maintenance activities in areas capable of supporting California Tiger salamander (CTS) and/or California red-legged frog (CRLF) (as determined by a DPR-approved biologist) will be subject to SPRs BIO-4 through BIO-6. If suitable habitat is found, and the approved DPR-biologist determines that potential impacts to CTS and/or CRLF are possible then BIO-8 through BIO-15 and BIO-41 through BIO-44, and BIO-58 and BIO-59 will be implemented.

**BIO-53:** Project activities that could affect aquatic species will occur during the non-breeding season and/or migration period, as determined by a DPR-approved biologist. If work is required during the breeding, spawning, or

migration season, as determined by a DPR-approved biologist, a DPR-approved biologist will conduct a survey to determine if the special-status species occurs within [insert distance] of the project area. The survey will be conducted no more than **[insert number]** calendar days prior to the beginning of construction.

**BIO-54:** Construction activities in close proximity to potential special-status aquatic species' habitat will be limited to the dry season to the extent feasible to avoid specific periods of animal activity (e.g., breeding, larval/juvenile development, etc.).

**BIO-55:** If individuals or other recent signs of special-status species are observed within **[insert distance]** of the project area, a DPR-approved biologist will be present on site to monitor activities during the construction period as determined necessary by a DPR Environmental Scientist.

**BIO-56:** If special-status aquatic species are known to occur in the vicinity of the project area, a DPR-approved monitorbiologist will conduct surveys for those aquatic species within the project area and up to **[insert number]** feet outside the project boundaries immediately prior to the start of project-related activities each day.

**BIO-57:** If a special-status aquatic species is found on the project site, work in the vicinity of the animal will be delayed until the species moves out of the site on its own accord, or is temporarily relocated by a DPR and/or USFWS-approved biologist.

**BIO-58:** To prevent trapping of special-status aquatic species that spend a portion of their lives in terrestrial habitats (e.g., salamanders, frogs, snakes, turtles), all holes and trenches will be covered with plywood or similar materials at the close of each working day, or escape ramps will be constructed of earth fill or wooden planks; all pipes will be capped. A DPR-approved biologist, or other staff trained by a DPR-approved biologist will inspect trenches and pipes for special-status species at the beginning of each workday. If a trapped animal is discovered, they will be released (by a DPR-approved biologist) in suitable habitat at an appropriate distance from the project area as determined by a DPR-approved biologist.

**BIO-59:** All stream crossings will be designed to convey the 100-year, 24-hour storm event. All perennial stream crossings that are part of the project will be designed to maintain both upstream and downstream fish passage. Pedestrian bridges across stream habitats will be designed [in consultation with appropriate resource agency(ies)] in a manner that does not impede stream flow and ensures year-round passage of anadromous and other aquatic species through the area.

**BIO-60:** Culverts or other stream crossings will not create barriers to upstream or downstream passage for aquatic-dependent species (e.g., bottomless culverts with natural bed material).

**BIO-61:** If water drafting becomes a necessary component of the proposed project, drafting sites will be planned to avoid adverse effects to special-status aquatic species and associated habitat, in-stream flows, and depletion of pool habitat. Screening devices will be used for water drafting pumps, and pumps with low entry velocity will be used to minimize removal of aquatic species, including juvenile fish, amphibian egg masses and tadpoles from aquatic habitats.

**BIO-62:** Avoid vegetation removal that could reduce shaded areas and increase stream temperatures.

**BIO-63:** Project activities within or across drainages and streams will occur when the drainages are dry, unless it is not feasible to do so, in which case the following requirements will be applied.

- Construction will be minimized, and avoided to the extent feasible, during the wet season to prevent excessive siltation and sedimentation. However, during the wet season, no construction activities will occur within or immediately adjacent to known breeding habitats of special-status aquatic species. For any project requiring a permit from US Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), CDFW, NMFS, USFWS, or other agency for potential impacts to aquatic and wetland resources restrictions, construction timing, BMPs, and other protective measures will be developed and specified in consultation with the agencies during the permitting process.
- If water is present during construction, breeding, spawning, migration, and larval development periods of special-status species will be avoided.
- If water is present during construction, disturbance to pools and other stream habitats (e.g., runs, glides, riffles) with cobble-sized substrate and adjacent to stream banks will be minimized. In particular, rocks will not be collected from in-water environments from **[insert X month through X month]** month to avoid disturbing breeding activities, egg masses, and/or larvae/juveniles of special-status amphibians, reptiles, and fish species.

**BIO-64:** Appropriate BMPs will be implemented for construction within **[insert distance]** of aquatic habitats. Erosion control measures will be implemented to prevent sedimentation from adversely affecting aquatic features that potentially support aquatic special-status species. Appropriate BMPs will be developed and implemented to avoid water and wind related erosion and subsequent degradation of water quality, and will

include sediment catchments and basins to intercept runoff from disturbed slopes.

**BIO-65:** If [insert what] are located within **[insert distance]** feet of the project area, no construction will occur within **[insert distance]** of the **[insert what]** during the **[insert what]** season, as determined by a DPR-approved biologist.

**BIO-66:** Ground disturbance activities will not occur within an appropriate distance as determined by a DPR-approved biologist.

**BIO-67:** Staging areas will be located outside of sensitive habitats at an appropriate distance as determined by a DPR-approved biologist, from vernal pools, seasonal wetlands, ponds, streams, riparian habitat, and other aquatic habitats known to have seasonal inhabitants (e.g., migrating birds, grunion runs).

**BIO-68:** When determined necessary, exclusionary fencing will be installed around all Environmentally Sensitive Areas (under the supervision of an approved biologist) as an initial construction task. Exclusion fencing, flagging, staking, and signage shall be placed to limit encroachment by construction personnel and equipment into sensitive aquatic habitats without affecting public access routes.

**BIO-69:** Monitor construction activities near stream drainages and other aquatic habitats and riparian areas. Construction activities near water courses and riparian areas will be monitored daily (by an approved biologist) to ensure these areas are not impacted by the project. Monitoring will include checking silt fences, erosion and sediment control BMPs, and environmentally sensitive area fencing to make sure they are functioning properly.

**BIO-70:** For projects that require a CDFW Streambed Alteration Agreement, BMPs identified in the agreement will be developed and implemented.

**BIO-71:** If permanent stream crossings are necessary, crossing areas will be stabilized using appropriate techniques and materials as specified by the appropriate resource agency.

**BIO-72:** To avoid indirect construction-related impacts to aquatic habitats, BMPs will be implemented to minimize soil disturbance. Where soil disturbance is necessary, stabilization techniques (including the use of silt fences, check dams, fiber rolls or blankets, gravel bag berms, geotextiles, plastic covers, erosion control blankets/mats, covering of exposed areas with mulch, and temporary vegetation or permanent seeding) will be implemented. No BMP's with monofilament plastic netting/mesh shall be used.

## GENERAL PROJECT REQUIREMENT FOR THE TREATMENT OF CULTURAL RESOURCES

**CUL-1:** If forest thinning activities are required within a culturally sensitive areas, downed timber and other forest debris will be removed by aerial suspension; no portion of logs, slash or debris will be dragged across the surface.

**CUL-2:** Prior to the start of on-site construction work, the **[insert who]** will notify the Cultural Resources Supervisor, unless other arrangements are made in advance, a minimum of three weeks to schedule a Cultural Resources Specialist to monitor work, as necessary, to ensure that pre-approved removal and reconstruction of historic fabric will occur in a manner consistent with the Secretary of the Interior's Standards for Treatment of Historic Properties.

**CUL-3:** Before, during, and after construction, a **[insert who]** will photo-document all aspects of the project and will add the photos to the historical records (archives) for the park if the DPR-qualified historian or archaeologist deems necessary.

**CUL-4:** Prior to the start of on-site construction work, and to the extent not already completed, a **[insert who]** will map and record all cultural features (archaeological and built environment) within the proposed Area of Potential Effects (APE) to a level appropriate to the Secretary of the Interior's Standards for the Treatment of Historic Properties.

**CUL-5:** If anyone discovers potential paleontological resources during project construction or ground-disturbing activities, work within 100-feet of the find will be temporarily halted, the DPR Representative will be notified immediately, and work will remain halted until a qualified paleontologist or geologist evaluates the significance of the find and recommends appropriate salvage or further mitigation procedures.

**CUL-6:** Increase public awareness of local history and archaeology, and the need to protect cultural resources. Ways to accomplish this awareness include highlighting certain cultural resources along the road or trail with interpretive signs and information kiosks, and/or by placement of a historical marker along a segment of a road or trail, which provides information to the user about the importance of the site and/or the event.

## HISTORIAN'S SPECIFIC PROJECT REQUIREMENTS

**CUL-7:** A DPR-qualified historian will survey trails prior to the start of any proposed improvements or changes in use to identify potentially significant historic resources. To determine the historic significance of road and trail alignments, a DPR-qualified historian will conduct comparisons of current

road and trail alignments with historic documentation of historic alignments.

**CUL-8:** A DPR-qualified historian shall use flags, protective fencing, or other methods to identify and provide a buffer zone for any resources discovered during trail survey. The historian shall establish a specific buffer zone around the features based on the type of resources and the proposed scope of work.

**HISTORIAN'S STANDARD REQUIREMENTS**

**CUL-9:** All historic work on built environment resources will comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings.

**CUL-10:** Historic character will be retained and preserved; where safe, original materials that still maintain structural integrity will be retained; and where replacement is required, materials and features will be replaced "in kind."

**CUL-11:** A qualified historian familiar with the project site's cultural/historic resources will monitor all construction activities at his/her discretion. All historic resources uncovered during the project will be recorded in place with a photograph and/or drawing showing any new or recovered material and archived, at the discretion of the monitor.

**ARCHAEOLOGIST'S SPECIFIC PROJECT REQUIREMENTS**

**CUL-12:** To prevent disturbance to high value archaeological resource areas, redirect visitors away from the resources employing appropriate placement of trails, creating barriers, or other suitable methods to discourage access.

**CUL-13:** Decommission and/or reroute roads and trails away from high value archaeological resources whenever possible and/or feasible.

**CUL-14:** Prior to implementing any project that would involve ground disturbances, including maintenance, cultural resource staff will determine if the project area is located in an of area of high archaeological value. If the area is determined sensitive, the area will require field survey by a DPR-qualified archaeologist who make recommendations and develop proposals for procedures deemed appropriate to further investigate and/or mitigate adverse impacts to those resources.

**CUL-15:** Prior to implementing any project that would involve ground disturbance, including maintenance, cultural resource staff will consult DPR cultural resource data files, and if deemed necessary, contact the appropriate Information Center of the California Historical Resources Information

System to request a record search of known cultural resources located within and adjacent to the proposed project area.

**CUL-16:** DPR will conduct the tribal consultations prior to any new ground disturbances related to road and trail construction; in previously disturbed soil where archaeological sensitivity is high and trail work is proposed; or for maintenance projects which require CEQA review. The consultation protocol will follow the steps identified in the Department Operations Manual 0400 Cultural Resources.

**CUL-17:** Where road and trail activities cannot avoid sensitive archaeological resources, the project actions will require modifications to incorporate the resources into the RTMP and provide a resource protection plan for its maintenance and future protection.

## Archaeological Resources – Standard Project Requirements

**Cul-18:** Prior to the start of any ground-disturbing activities, a qualified archaeologist will complete preconstruction investigations to determine specific avoidance areas within the proposed APE that contains known significant or potentially significant archaeological resources.

If necessary, a qualified Cultural Resources Specialist will prepare a research design, including appropriate trenching and/or preconstruction excavations.

**CUL-19:** Based on preconstruction testing, project design and/or implementation will be altered, as necessary, to avoid impacts to significant archaeological resources or reduce the impacts to a less than significant level, as determined in consultation with a DPR-qualified archaeologist.

**CUL-20:** In an archaeologically sensitive area, **[Insert who]** will manually remove or flush cut vegetation to avoid ground-disturbing activities; removal of roots will not be allowed.

**CUL–21:** In an APE considered highly sensitive for the discovery of buried archaeological features or deposits, including human remains, **[insert who]** will review and approve monitoring by a DPR-qualified Cultural Resources Specialist of any subsurface disturbance, including but not limited to grading, excavation or trenching.

**CUL-22:** **[insert who]** will review and approve monitoring of subsurface disturbance by a Native American monitor.

**CUL-23:** If anyone discovers previously undocumented cultural resources during project construction or ground-disturbing activities, work within 50 to 100 feet of the find will be temporarily halted. The DPR State Representative will be notified immediately, and work will remain halted until a qualified

Cultural Resources Specialist or archaeologist evaluates the significance of the find and determines and implements the appropriate treatment and disposition in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation.

If ground-disturbing activities uncover cultural artifacts or features (including but not limited to dark soil containing shellfish, bone, flaked stone, groundstone, or deposits of historic ash), when a qualified Cultural Resources Specialist is not onsite, **[insert who]** will contact the DPR State Representative immediately and **[insert who]** will temporarily halt or divert work within the immediate vicinity of the find until a qualified Cultural Resources Specialist or archaeologist evaluates the find and determines and implements the appropriate treatment and disposition of the find.

If feasible, **[Insert who]** will modify the project to ensure that construction or ground-disturbing activities will avoid the unanticipated discovery of a significant cultural resources (historical resources) upon review and approval of a **[insert who]**.

**CUL-24:** In the event anyone discovers human remains or suspected human remains, work will cease immediately within 100 feet of the find and the project manager/site supervisor will notify the appropriate DPR personnel. The human remains and/or funerary objects will not be disturbed and will be protected by covering with soil or other appropriate methods. The DPR representative will notify the County Coroner, in accordance with Section 7050.5 of the California Health and Safety Code, and the Native American Heritage Commission; the DPR representative will also notify the local Tribal Representative. If a Native American monitor is onsite at the time of the discovery, the monitor will notify his/her affiliated tribe or group. The local County Coroner will make the determination of whether the human bone is of Native American origin. If the Coroner determines the remains represent Native American interment, the Native American Heritage Commission will be consulted to identify the most likely descendant and appropriate disposition of the remains. Work will not resume in the area of the find until proper disposition is complete (PRC Section 5097.98). No human remains or funerary objects will be cleaned, photographed, analyzed, or removed from the place of discovery prior to determination.

If it is determined the find indicates a sacred or religious site, the site will be avoided to the maximum extent practicable. Formal consultation with the State Historic Preservation Officer and review by the Native American Heritage Commission, as well as appropriate Tribal Representatives, will occur as necessary to define additional site mitigation or future restrictions.

## GEOLOGY, SOILS AND MINERALS STANDARD PROJECT REQUIREMENTS

## CONSTRUCTION GENERAL PERMIT AND SWPPP MEASURES

**GEO-1:** Prior to the start of construction involving ground-disturbing activities totaling one acre or more, DPR will direct the preparation of a Stormwater Pollution Prevention Plan (SWPPP) by a Qualified Stormwater Pollution Plan Developer (QSD) for DPR approval that identifies temporary Best Management Practices (BMPs) (e.g., tarping of any stockpiled materials or soil; use of silt fences, straw bale barriers, fiber rolls, etc.) and permanent (e.g., structural containment, preserving or planting of vegetation, etc.) for use in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during all excavation, grading, trenching, repaving, or other ground-disturbing activities.

**CONSTRUCTION-RELATED MEASURES**

**GEO-2:** All construction, improvement, modification, or decommissioning of trails, and conversion of roads-to-trails, will be consistent with DPR BMPs, Departmental Operations Manuals (DOMs), and Trail Handbook guidelines. No monofilament plastic will be used for erosion control.

**GEO-3:** A qualified geologist will review road decommissioning and road-to-trail conversion sites during change-in-use project planning to determine if any geologic or soil conditions exist that require additional assessment or alteration of prescriptions. If unique features do exist, a licensed geologist will conduct a geologic assessment/investigation.

**GEO-4:** Heavy equipment operators will be cautioned to minimize their exposure to unstable slopes that may occur naturally or result from the earthmoving process. Inspectors will continually evaluate slope geometry and caution operators if unstable conditions are indicated.

**GEO-5:** Prior to the start of on-site construction activities, DPR staff will determine the minimum area required to complete the work and define the boundaries of the work area on project drawings.

**GEO-6:** No high ground pressure vehicles will be driven through project areas during the rainy season when soils are wet and saturated to avoid compaction and/or damage to soil structure. Existing compacted road surfaces are exempted as they are already well compacted from use.

**GEO-7:** Excavated spoil from project work will be placed in a stable location where it will not cause or contribute to slope failure, or erode and enter a stream channel or wetland. Spoil areas will be compacted in lifts and blended into the surrounding landscape to promote uniform sheet drainage. Stream flow will not be allowed to discharge onto spoil areas, regardless of discharge rate.

**GEO-8:** Bare ground will be mulched with vegetation removed during the work, or with other mulch materials, to the maximum extent practicable to minimize surface erosion.

**GEO-9:** Immediately following reconstruction, trails will be closed for a period following construction that allows for one wet-dry cycle (e.g., one winter's duration) to allow the soil and materials to settle and compact before the trail opens to the public. Routine maintenance will also be performed on the trail as necessary to reduce erosion to the extent possible and to repair weather-related damage that could contribute to erosion.

**PROJECT DESIGN-RELATED MEASURES**

**GEO-10:** Trail stream crossings will have any new drainage structures designed for the 100-year storm flow event or be capable of passing the 100-year peak flow without significant damage.

**GEO-11:** Trail stream crossings will be designed and constructed without the potential for stream diversion.

**GEO-12:** DPR staff will install appropriate energy dissipaters and employ other erosion control measures at water discharge points, as appropriate.

**GEO-13:** Install armored rock crossings at ephemeral drainages, micro drainages and swales to harden the trail tread in areas of potential interface between trail users and natural topographic drainage features.

**GEO-14:** All drainages (including micro drainages) will not be captured, diverted or coupled with other drainages by the trail.

**GEO-15:** Water will not be accumulated on the trail and drained off onto landforms where natural drainages do not exist.

**GEO-16:** Trail fillslopes will be designed with stable slope gradients as defined in DPR trail construction manuals, guidelines, and handbooks. Unstable fillslopes will be stabilized or removed.

**GEO-17:** Trail surfaces and ditches will be hydrologically disconnected from wetlands, streams and stream crossings to the extent feasible.

**GEO-18:** Provide outslope to the trail tread and remove any outer edge berm to facilitate sheet flow off the trail where the dispersed flow can be filtered by vegetation and organic litter.

**GEO-19:** When outsloping trail surfaces are not feasible, such as steep linear trail grades, construct rolling dips to direct runoff safely off the trail to prevent buildup of surface runoff and subsequent erosion. Water bars will be used as a last resort if outsloping and rolling dips, or minor rerouting are not feasible, or on trails receiving minimal use. Water bars will be constructed to divert water to controlled points along the trail and with rock armor at the downslope end for energy dissipation.

**GEO-20:** If soils and parent material geologic capability are not sustainable, overly steep grades will be mitigated with surface hardening techniques. Hardening techniques (such as high-quality compacted aggregate or road/trail structures such as steps or retaining walls) will keep the surface sustainable, firm and stable.

**GEO-21:** DPR staff will develop a rehabilitation plan for the decommissioned road or trail that includes using brush and trees removed from the new trail alignment for bio-mechanical erosion control (bundling slash and keying it in to fall of trail, filling damaged trails sections with soil and duff removed from the new trail alignment, constructing water bars,, and replanting native trees and shrubs).

**GEO-22:** Both ends of a decommissioned road or trail, road-to-trail conversion or abandoned trail segment will be clearly blocked, and scatter its length with vegetative debris from new trail construction to discourage continued use and degradation of the decommissioned portion of the road or trail.

**GEO-23:** Seasonally close trails to all users when soils are saturated and softened.

**GEO-24:** Install “pinch points” to reduce downhill bicycle speed and increase the line of sight at curves.

**GEO-25:** Construction or repair of barriers at switchbacks to discourage shortcuts and the creation of volunteer trails.

**GEO-26:** Educational signage and user safety plans will be provided in areas at risk for mudflows.

**EVENT-RELATED MEASURES**

**GEO-27:** After a large earthquake event (i.e., magnitude 5.0 or greater within 50 miles of the project site), DPR staff will inspect all project structures and features for damage, as soon as is possible after the event. Any damaged structures or features, including landslides, will be closed to park visitors, volunteers, residents, contractors, and staff until such features or structures have been evaluated and/or repaired.

**GEO-28:** After a large storm or rainfall event (i.e., equal to or more than one inch in 24 hours), the Park Maintenance Chief or their designee will inspect all project structures and features for damage, as soon as is possible after the event. Any damaged structures or features will be closed to park visitors, volunteers, residents, contractors, and staff until such features or structures have been evaluated and/or repaired.

**GREENHOUSE GAS/CLIMATE CHANGE/SEA-LEVEL RISE STANDARD PROJECT REQUIREMENTS**

## CONSTRUCTION-RELATED EMISSION CONTROL MEASURES

**AQ-1:** No more than one acre of ground disturbance (e.g., earth moving, grading, excavating, land clearing) will occur in any single day.

**AQ-14:** Operation of large diesel- or gasoline-powered construction equipment (i.e., greater than 50 horsepower [hp]) will not exceed 16 equipment-hours per day, where an equipment-hour is defined as one piece of equipment operating for one hour.

**AQ-15:** All diesel- and gasoline-powered equipment will be properly maintained according to manufacturer's specifications, and in compliance with all State and federal emissions requirements. Maintenance records will be available at the construction site for verification.

**AQ-16:** Haul truck trips to and from the site will be limited to 20 one-way trips per day. This includes trips for hauling gravel, materials, and equipment to and from the site.

**AQ-17:** The maximum number of construction worker-related commute trips for any change-in-use project at a park will not exceed 60 one-way worker commute trips per day.

**AQ-18:** No open burning of removed vegetation will be performed. All removed vegetative material will be either left in place (e.g. for use as mulch), chipped on site or taken to an appropriate recycling site, biomass power plant, or if a site is not available, a licensed disposal site. If approved, an air curtain burner may be used.

## MEASURES PERTINENT TO CARBON SEQUESTRATION

**BIO-20:** Natural wetland habitat such as marsh, riparian, and vernal pools will not be filled by stream-crossing construction projects. Equipment will remain on existing road or trail alignments to the maximum extent practicable. Equipment could travel off road or trail only when no other alternative is available and only after the project inspector and DPR's Senior Environmental Scientist have reviewed and approved the route.

**BIO-3029:** All projects will be designed to minimize the removal of all native trees. Specifically, projects will be designed to retain and protect trees with a diameter-at-breast-height (DBH) of 24 inches or greater to the maximum extent practicable. Limbs of these trees will be removed if required for access or safety considerations. Trees smaller than 24 inches DBH will be retained whenever practicable. Equipment operators will be required to avoid striking retained trees to minimize damage to the tree structure or bark.

**BIO-31:** Within the root health zone (5 times DBH) of any native tree with a DBH of 12 inches or greater, no roots with a diameter of 2 inches or greater will be severed by project activities, unless authorized in advance by a DPR-approved biologist.

**BIO-32:** No ground disturbance or staging will be allowed within the root health zone (5 times the DBH) times the DBH of retention trees, unless approved in advance by a DPR-approved biologist, forester, or certified arborist.

**BIO-33:** A **[insert who]** will be present during all ground-disturbing activities within the root health zone (5 times the DBH) of retained trees.

**MEASURES PERTINENT TO RESILIENCY TO CLIMATE CHANGE**

**HAZ-8:** Prior to the start of construction, **[insert who]** will develop a Fire Safety Plan for **[insert name]** approval. The plan will include the emergency calling procedures for both the California Department of Forestry and Fire Protection (Cal Fire) and local fire department(s).

**HAZ-9:** All heavy equipment will be required to include spark arrestors or turbo chargers that eliminate sparks in exhaust and have fire extinguishers on-site.

**HAZ-10:** Construction crews will park vehicles **[insert distance]** from flammable material, such as dry grass or brush. At the end of each workday, construction crews will park heavy equipment over a non-combustible surface to reduce the chance of fire.

**HAZ-11:** DPR personnel will have a DPR radio at the park unit, that allows direct contact with Cal Fire and a centralized dispatch center, to facilitate the rapid dispatch of control crews and equipment in case of a fire.

**HAZ-13:** Under dry conditions, a filled water truck and/or fire engine crew will be onsite during activities with the potential to start a fire.

**GEO-29:** After a large storm or rainfall event (i.e., equal to or more than one inch in 24 hours), the Park Maintenance Chief or their designee will inspect all project structures and features for damage, as soon as is possible after the event. Any damaged structures or features will be closed to park visitors, volunteers, residents, contractors, and staff until such features or structures have been evaluated and/or repaired.

**HYDRO-5:** All construction activities will be suspended during heavy precipitation events (i.e., at least one half inch of precipitation in a 24-hour period) or when heavy precipitation events are forecast. If the construction manager must suspend work the construction manager will install drainage and erosion controls appropriate to site conditions, such as covering (tarping) stockpiled soils, mulching bare soil areas, and by constructing silt fences,

straw bale barriers, fiber rolls, or other control structures around stockpiles and graded areas, to minimize runoff effects.

## HAZARDS AND HAZARDOUS MATERIALS STANDARD PROJECT REQUIREMENTS

**HAZ-1:** Avoid locating trail modifications in areas that could have been used previously for industrial/manufacturing uses, or other uses that could have involved use, handling, transport, or storage of hazardous materials (including but not limited to auto maintenance, gas station, equipment yard, dry cleaner, railroad, agriculture, mining, etc.). If such areas cannot be avoided, prior to any construction within such areas, **[insert implementing party]** shall hire a qualified professional to conduct a Phase 1 Environmental Site Assessment (ESA), limited to the area of proposed ground disturbance, that will identify the presence of any soil contamination at concentrations that could pose health risk to construction workers. If such levels of soil contamination are identified, the **[insert implementing party]** shall follow the recommendations in the Phase 1 ESA, which may include removal of contaminated soil in compliance with all US Environmental Protection Agency, Occupational Safety and Health Administration, and Department of Toxic Substances Control requirements.

**HAZ-2:** If any construction will occur directly below overhead power poles with transformers, prior to construction, the soil directly beneath the transformers will be inspected for staining. If staining is present, the **[insert implementing party]** will avoid the stained soil, coordinate with the utility company for clean-up, or hire a qualified professional to provide recommendations that will be implemented.

**HAZ-3:** Prior to any excavation in the vicinity of underground utility easements, **[insert implementing party]** shall coordinate with the utility company to ensure avoidance of the utility line.

**HAZ-4:** Prior to the start of on-site construction activities, **[insert who]** will inspect all equipment for leaks and regularly inspect thereafter until equipment is removed from the project site. All contaminated water, sludge, spill residue, or other hazardous compounds will be contained and disposed of outside the boundaries of the site, at a lawfully permitted or authorized destination.

**HAZ-5:** Prior to the start of on-site construction activities, **[insert who]** will prepare a Spill Prevention and Response Plan (SPRP) as part of the Storm Water Pollution Prevention Plan (SWPPP) for **[insert who]** approval to provide protection to on-site workers, the public, and the environment from accidental leaks or spills of vehicle fluids or other potential contaminants. This plan will include (but not be limited to):

- a map that delineates construction staging areas, where refueling, lubrication, and maintenance of equipment will occur;
- a list of items required in a spill kit on-site that will be maintained throughout the life of the project;
- procedures for the proper storage, use, and disposal of any solvents or other chemicals used in the restoration process;
- and identification of lawfully permitted or authorized disposal destinations outside of the project site.

**HAZ-6:** **[Insert who]** will develop a Materials Management Plan to include protocols and procedures that will protect human health and the environment during remediation and/or maintenance activities that cause disturbances to the native soil and/or mine and mill materials causing the potential exposure to metals and dust resulting from materials disturbances. All work will be performed in accordance with a Site Health and Safety Plan. The Materials Management Plan will include the following (where applicable):

- Requirement that staff will have appropriate training in compliance with 29 CFR, Section 1910.120;
- Methods to assess risks prior to starting onsite work;
- Procedures for the management and disposal of waste soils generated during construction activities or other activities that might disturb contaminated soil;
- Monitoring requirements;
- Storm water controls;
- Record-keeping; and,
- Emergency response plan.

**HAZ-7:** **[Insert who]** will set up decontamination areas for vehicles and equipment at DPR unit entry/exit points. The decontamination areas will be designed to completely contain all wash water generated from washing vehicles and equipment. Best Management Practices (BMPs) will be installed, as necessary, to prevent the dispersal of wash water beyond the boundaries of the decontamination area, including over-spray.

**HAZ-8**: Prior to the start of construction, **[insert who]** will develop a Fire Safety Plan for **[insert name]** approval. The plan will include the emergency calling procedures for both the California Department of Forestry and Fire Protection (CalFire) and local fire department(s).

**HAZ-9:** All heavy equipment will be required to include spark arrestors or turbo chargers that eliminate sparks in exhaust, and have fire extinguishers on-site.

**HAZ-10:** Construction crews will park vehicles **[insert distance]** from flammable material, such as dry grass or brush. At the end of each workday,

construction crews will park heavy equipment over a non-combustible surface to reduce the chance of fire.

**HAZ-11:** DPR personnel will have a DPR radio at the park unit, that allows direct contact with CalFire and a centralized dispatch center, to facilitate the rapid dispatch of control crews and equipment in case of a fire.

**HAZ-12:** Prior to the start of on-site construction activities, **[insert who]** will clean and repair (other than emergency repairs) all equipment outside the project site boundaries.

**HAZ-13:** Under dry conditions, a filled water truck and/or fire engine will be onsite during activities with the potential to start a fire.

**HAZ-14:** **[Insert who]** will designate and/or locate staging and stockpile areas within the existing maintenance yard area or existing roads and campsites to prevent leakage of oil, hydraulic fluids, etc. into **[insert where i.e., native vegetation, sensitive wildlife areas, creek, river, stream , etc.]**.

## HYDROLOGY, WATER QUALITY, AND SEDIMENTATION STANDARD PROJECT REQUIREMENTS

### CONSTRUCTION GENERAL PERMIT AND SWPPP MEASURES

**HYDRO-1:** Prior to the start of construction involving ground-disturbing activities totaling one acre or more, DPR project staff will prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) for DPR approval that identifies temporary Best Management Practices (BMPs) (e.g., tarping of any stockpiled materials or soil; use of silt fences, straw bale barriers, fiber rolls) and permanent (e.g., structural containment, preserving or planting of vegetation) for use in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during all excavation, grading, trenching, repaving, or other ground-disturbing activities. The SWPPP will include BMPs for hazardous waste and contaminated soils management and a Spill Prevention and Control Plan (SPCP), as appropriate.

### BASIN PLAN REQUIREMENT MEASURES

**HYDRO-2:** The project will comply with all applicable water quality standards as specified in the Bay Area Regional Water Quality Control Board Basin Plan.

### CONSTRUCTION-RELATED MEASURES

**HYDRO-3:** All trail design and construction will be consistent with the DPR BMPs and DOM 0306 policies and Trail Handbook guidelines.

**HYDRO-4:** All construction activities will be suspended during heavy precipitation events (i.e., at least one half inch of precipitation in a 24-hour period) or when heavy precipitation events are forecast. If the construction manager must suspend work the construction manager will install drainage and erosion controls appropriate to site conditions, such as covering (tarping) stockpiled soils, mulching bare soil areas, and by constructing silt fences, straw bale barriers, fiber rolls, or other control structures around stockpiles and graded areas, to minimize runoff effects.

**HYDRO-5:** Construction activities extending into or occurring during the rainy season, or if an un-seasonal storm is anticipated, DPR staff will properly winterize the site by covering (tarping) any stockpiled materials or soils, mulching bare soil areas, and by constructing silt fences, straw bale barriers, fiber rolls, or other structures around stockpiles and graded areas.

**HYDRO-6:** Treat rehabilitated trail segments that have less than a 50-foot natural buffer to stream channels with mulch applied to provide 50 percent to 70 percent surface coverage.

**HYDRO-7:** Salvage trees and brush removed prior to excavation for mulching bare soil areas after construction.

**HYDRO-8:** During dry, dusty conditions, all unpaved active construction areas will be wetted using water trucks, treated with a non-toxic chemical dust suppressant (e.g., emulsion polymers, organic material), or covered. Any dust suppressant product used must be environmentally benign (i.e., non-toxic to plants and shall not negatively impact water quality) and its use shall not be prohibited by the California Air Resources Board, U.S. EPA, or the State Water Resources Control Board. Exposed areas will not be over-watered such that watering results in runoff. Unpaved areas subject to vehicle travel could also be stabilized through the effective application of wood chips, gravel, or mulch. The type of dust suppression method shall be selected by the contractor based on soil, traffic, and other site-specific conditions.

**HYDRO-9:** Excavation and grading activities will be suspended when sustained winds exceed 15 miles per hour (mph), instantaneous gusts exceed 25 mph, or when dust occurs from remediation related activities where visible emissions (dust) cannot be controlled by watering or conventional dust abatement controls.

**HYDRO-10:** Prior to the start of on-site construction activities, all equipment will be inspected for leaks and regularly inspected thereafter until equipment is removed from the project site. All contaminated water, sludge, spill residue, or other hazardous compounds will be contained and disposed of outside the boundaries of the site, at a lawfully permitted or authorized destination.

**HYDRO-11:** Staging and stockpile areas will be designated and/or located within the existing maintenance yard area or existing roads and campsites to prevent leakage of oil, hydraulic fluids, or other chemicals into lakes, streams, or other water bodies.

**HYDRO-12:** Decontamination of equipment shall occur prior to delivery onto state park lands. Equipment shall be thoroughly inspected by DPR's State Representative upon delivery and may be rejected if in the opinion of the DPR representative the equipment does not meet decontamination standards (defined elsewhere). Upon demobilization decontamination shall take place off-site.

**HYDRO-13:** All heavy equipment parking, refueling, and service will be conducted within designated areas outside of the 100-year floodplain to avoid watercourse contamination.

**PROJECT DESIGN-RELATED MEASURES**

**HYDRO-14:** Project planning will identify public water supply and Park water systems that could be affected. Persons responsible for the maintenance of these water systems will be consulted and if negative effects are anticipated, mutually agreeable mitigations will be developed.

**HYDRO-15:** DPR staff will install appropriate energy dissipaters and employ other erosion control measures at water discharge points, as appropriate.

**HYDRO-16:** Trails will be designed and constructed so that they do not significantly disrupt or alter the natural hydraulic flow patterns of the landform.

**HYDRO-17:** Trails located within 100-year flood hazard zones will be designed and constructed so that they do not significantly disrupt or alter natural flood flows.

**HYDRO-18:** Existing (altered) drainage patterns will be restored to pre-disturbance patterns. In some cases where pre-disturbance patterns cannot be restored, conversion work may require the realignment of a stream segment. To ensure that channel stability will be maintained, project planners will establish new drainage segments only after thorough review by a qualified geologist, geomorphologist, or hydrologist.

**HYDRO-19:** Install armored rock crossings at ephemeral drainages, micro drainages and swales to harden the trail tread in areas of potential interface between trail users and natural topographic drainage features.

**HYDRO-20:** Provide outslope to the trail tread and removing any outer edge berm to facilitate sheet flow off the trail where the dispersed flow can be filtered by vegetation and organic litter.

**HYDRO-21:** When outsloping trail surfaces is not feasible, such as steep linear trail grades, construct rolling dips to direct runoff safely off the trail to prevent buildup of surface runoff and subsequent erosion. Water bars will be used as a last resort, if outsloping and rolling dips or rerouting are not feasible or on trails receiving no use. Water bars will be constructed to divert water to controlled points along the trail and with rock armor at the downslope end for energy dissipation, where needed.

**HYDRO-22:** Install gravel surfacing on trails in areas with saturated or unstable soils, and on bridge approaches, to provide a stable tread surface.

**HYDRO-23:** Seasonally close multi-use trails to all users when soils are saturated and softened.

**HYDRO-24:** Install "pinch points" on multi-use trails where necessary to reduce downhill bicycle speed and increase the line of sight at curves.

**HYDRO-25:** Construct or repair barriers at switchbacks on multi-use trails to discourage shortcuts and the creation of volunteer trails.

**HYDRO-26:** DPR will provide educational signage and user safety plans in areas designated as flood-prone or within 100-year flood zones or in areas at risk for mudflows.

**NOISE STANDARD PROJECT REQUIREMENTS**

**N-1:** Operation of noise-generating construction activity (equipment and power tools and haul truck delivery of equipment and materials) will abide by the time-of-day restrictions established by local jurisdictions (i.e., city and/or county) if such noise would be audible to receptors (e.g., residential land uses, schools, hospitals, places of worship) located in Contra Costa County or surrounding cities. Cities and counties in California typically restrict construction-noise to particular daytime hours. If the local, applicable jurisdiction does not have a noise ordinance or policy restricting the time-of-day when noise-generating construction activity can occur, then noise-generating construction activity will be limited to the hours of 8:00 AM to 5:00 PM Monday through Friday.

**N-2:** All powered construction equipment and power tools will be used and maintained according to manufacturer specifications. All diesel- and gasoline-powered construction equipment will be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations.

**N-3:** Equipment engine shrouds will be closed during equipment operation.

**N-4:** All construction equipment and equipment staging areas will be located as far as possible from nearby noise-sensitive land uses (e.g., residential land uses, schools, hospitals, places of worship) located outside the park.

**N-5:** All motorized construction equipment will be shut down when not in use. Idling of equipment and haul trucks will be limited to five minutes.

**N-6:** No pile driving, blasting, or drilling will occur in areas that may adversely affect sensitive receptors outside the park unit.

**N-7:** Written notification of construction activities will be provided to any and all off-site noise-sensitive receptors (e.g., residential land uses, schools, hospitals, places of worship) located within 1,500 feet of locations where powered construction equipment and/or power tools will be operated. Notification will include anticipated dates and hours during which construction activities are anticipated to occur and contact information, including a daytime telephone number, of the project representative. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) will also be included in the notification.

**N-8:** Construction activities involving heavy equipment (i.e., 50 horsepower [hp] or greater) will not operate within 50 feet of land uses that are potentially sensitive to ground vibration, including residential buildings, schools, hospitals, and places of worship. Heavy construction equipment will also not be operated within 30 feet of historically significant structures that could be vulnerable to structural damage from ground vibration, and known archaeological sites, that could be vulnerable to vibration-induced changes to the stratigraphic relations of the soil layers that are important to archaeological study.

## POPULATION AND HOUSING STANDARD PROJECT REQUIREMENTS

**AQ-17:** The maximum number of construction worker-related commute trips for any change-in-use project at a park will not exceed 60 one-way worker commute trips per day.

## PUBLIC SERVICES AND UTILITIES STANDARD PROJECT REQUIREMENTS

The SPRs do not include a category of provisions specifically related to Public Services and Utilities management.

## RECREATION STANDARD PROJECT REQUIRMENTS

The SPRs do not include a category of provisions specifically related to recreation use management.

## TRANSPORTATION AND TRAFFIC STANDARD PROJECT REQUIREMENTS

**TRAN-1**: In cases where addition of a use is proposed for trails within immediately accessible by urban populations such that the new park users could meaningfully utilize the trails before or after normal weekday business hours (8 am to 5 pm), a designated DPR District staff person will, prior to implementing the change in use, first review the Contra Costa County or other appropriate local jurisdiction's General Plan for guidance on level of service (LOS) changes, or Caltrans standards if the affected facilities are part of a state highway. If it is determined that (or uncertain whether) project traffic could potentially result in unacceptable LOS of local traffic facilities, DPR will coordinate with the applicable jurisdiction(s) that operate/maintain the traffic facilities in the vicinity of the trail heads and associated parking areas to determine the maximum number of peak hour trips that could be generated by the proposed additional use that would not cause significant adverse local traffic effects. If DPR demand projections identify an increase in visitation that would generate peak hour, weekday trips that exceed the maximum number of trips identified by the applicable agency, the proposed additional use would be disqualified from any proposed change-in-use and would require individual CEQA analysis, including project-specific traffic analysis. In addition, following implementation of the proposed additional use **[insert who]** will include follow-up consultation with the applicable agency as part of the Adaptive Use Management process to consider the actual traffic levels generated by the additional trail use and the LOS of the affected transportation facilities. If the increased trips generated by the additional trail users are found to exceed original projections and are also found to be causing an exceedance of applicable LOS standards, **[insert who]** will implement a management response to resolve the exceedance, in consultation with the applicable agency. Measures in the management response will include (but will not be limited to) public education actions to encourage visitation during non-peak traffic periods, restriction of the timing of certain types of trail use during peak traffic periods, altering the point(s) of access to transfer project-related traffic from impacted roadways/intersections to less constrained roadways/intersections, coordination with local transit operators to increase access to the trail, coordination with the local transportation department regarding improved bicycle connectivity (for addition of bicycle use), or a combination of these measures.

**TRAN-2:** For proposed addition of bicycle use, stop signs for cyclists will be installed at all locations where the trail crosses a publicly-accessed roadway. Appropriate warning signs will be installed along the roadways and on pavement (as necessary) at the approach of bicycle crossings to warn drivers of potential crossing bicyclists.

**TRAN-3:** For proposed addition of equestrian use, **[insert who]** will ensure driveways/access points to parking facilities have adequate line-of-sight for horse trailers and that parking facilities are either designed to be "pull through" or include a designated "turn-around" for horse trailers (where

vehicle parking is restricted). Parking and access for parking facilities accommodating vehicles with horse trailers will be designed per American Association of State Highway and Transportation Officials standards.

**TRAN-4**: **[insert who]** will assess parking capacity prior to implementing a proposed change in use. After implementation of the change in use, DPR staff will monitor parking levels as part of the Adaptive Use Management process. If monitoring indicates an exceedance of parking capacity (i.e., increased use of undesignated on-street parking or increased illegal parking due to overflow of parking lot facilities), the **[insert who]** will implement a management response to resolve the parking capacity issue. Measures in the management response may include, but would not be limited to re-designing parking facilities (including minor parking lot expansions in areas where environmental resources will not be affected), installing parking meters and/or applying time limits, working with local transportation departments to increase nearby off-site parking availability, directing users to other existing lots, and/or working with local transit operators to increase transit to the trail facility. DPR District personnel will determine which actions are feasible at the park unit.

**TRAN-5:** Prior to initiating any construction activities with the potential to disrupt traffic flows, the construction manager will have a Construction Traffic Management Plan (CTMP), prepared by a qualified professional that will provide measures to reduce potential traffic obstruction or service level degradation at affected traffic facilities. The scope of the CTMP will depend on the type, intensity, and duration of the specific construction activities associated with each qualifying change-in-use project under any change-in-use. Measures included in the CTMP could include (but are not be limited to) construction signage, flaggers for lane closures, construction schedule and/or delivery schedule restrictions, etc. The CTMP will be submitted to the local Public Works Department.

## 2.10 Project Implementation

As noted previously, the RTMP will provide focus for management of paved and non-paved roads and trails. Subsequent work undertaken pursuant to the RTMP would generally occur Monday through Friday, during daylight hours. Weekend or holiday work could be implemented to accelerate the construction schedule or address emergencies or unforeseen circumstances.

## 2.11 Visitation to Mount Diablo SP

Visitation to MDSP has increased steadily as the areas surrounding the park have become increasingly urbanized. The RTMP is designed to support existing park use and is not expected to significantly increase the number of visitors to the park. However, it does establish a management policy to enhance sustainability and improve the experience of those using the roads and trails.

## 2.12 Consistency with Local Plans and Policies

The RTMP is consistent with the MDSP General Plan and serves as a bridge between the desired conditions stated as goals and guidelines in the general plan and the measurable implementation actions. The RTMP defines the objectives, methodologies, and/or designs on how management goals will be accomplished. This document is focused on specific management topics, goals, or issues applying to all roads and trails within MDSP.

## 2.13 Discretionary Approvals

DPR has approval authority for subsequent projects under the RTMP within the boundaries of MDSP. The following permits and/or consultations may be required to allow implementation of components of the RTMP:

- A Section 404 Clean Water Act permit from the U.S. Corps of Engineers (Corps or USACE) Regulatory Branch, if the project is determined to be within USACE jurisdiction.
- A Section 401 Water Quality Certification from the Regional Water Quality Control Board
- A Streambed Alternation Agreement (Section 1602) from the CDFW.
- Section 7 consultation with the USFWS for California red-legged frog, California Tiger Salamander and Alameda striped racer whipsnake will be conducted, in compliance with the federal Endangered Species Act.
- 2081 take permit or Consistency Determination for state-listed species in compliance with the California Endangered Species Act.

## 2.14 Related Projects

DPR often has other smaller maintenance programs and rehabilitation projects planned for a park unit. For the areas adjacent to the road system repairs, these include:

- Environmental Restoration Projects (ex. Mitchel Canyon Restoration Project)
- Facilities Maintenance (ie: back country pit toilets)
- ADA Improvement Access Projects
- Deferred Maintenance (facilities, roads, etc.)

## Chapter 3 - Environmental Checklist

| PROJECT INFORMATION | |
|---|---|
| 1. Project Title: | Mt. Diablo State Park Road and Trail Management Plan |
| 2. Lead Agency Name & Address: | California Department of Parks and Recreation |
| 3. Contact Person & Phone Number: | |
| 4. Project Location: | Mt. Diablo State Park- Contra Costa County, California |
| 5. Project Sponsor Name & Address: | California Department of Parks and Recreation<br>*(District name and address)* |
| 6. General Plan Designation: | Cultural Preserve - Mt. Diablo State Park General Plan |
| 7. Zoning: | Forest Recreation District (F-R); Park and Recreation designation - Contra Costa General Plan (July 1996) |
| 8. Description of Project: | |
| 9. Surrounding Land Uses & Setting: Planning) | Refer to Chapter 3 of this document (Section IX, Land Use |
| 10. Approval Required from Other Public Agencies | Refer to Chapter 2, Section 2.9 |

## 1. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact", as indicated by the checklist on the following pages.

| | | |
|---|---|---|
| ☐ Aesthetics | ☐ Agricultural Resources | ☐ Air Quality |
| ☐ Biological Resources | ☐ Cultural Resources | ☐ Geology/Soils |
| ☐ Hazards & Hazardous Materials | ☐ Hydrology/Water Quality | ☐ Land Use/Planning |
| ☐ Mineral Resources | ☐ Noise | ☐ Population/Housing |
| ☐ Public Services | ☐ Recreation | ☐ Transportation/Traffic |
| ☐ Utilities/Service Systems | ☐ Mandatory Findings of Significance | ☒ None |

## DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project **COULD NOT** have a significant effect on the environment and a **NEGATIVE DECLARATION** will be prepared. ☒

I find that, although the original scope of the proposed project **COULD** have had a significant effect on the environment, there **WILL NOT** be a significant effect because revisions/mitigations to the project have been made by or agreed to by the applicant. A **NEGATIVE DECLARATION** will be prepared. ☐

I find that the proposed project **MAY** have a significant effect on the environment and an **ENVIRONMENTAL IMPACT REPORT** or its functional equivalent will be prepared. ☐

I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated impact" on the environment. However, at least one impact has been adequately analyzed in an earlier document, pursuant to applicable legal standards, and has been addressed by mitigation measures based on the earlier analysis, as described in the report's attachments. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the impacts not sufficiently addressed in previous documents. ☐

I find that, although the proposed project could have had a significant effect on the environment, because all potentially significant effects have been adequately analyzed in an earlier EIR or Negative Declaration, pursuant to applicable standards, and have been avoided or mitigated, pursuant to an earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, all impacts have been avoided or mitigated to a less-than-significant level and no further action is required. ☐

_____ _____

Date

Environmental Coordinator

# ENVIRONMENTAL ISSUES

## I. Aesthetics

### ENVIRONMENTAL SETTING

MDSP is an area of rugged scenic terrain, with complex topographic forms, and a diversity of natural vegetation. Significant wildlife populations and the presence of water in the landscape contribute to the scenic resources of the park.

Mount Diablo dominates the unit; the panoramic view from its summit is unsurpassed in central California. Panoramic vistas are also available from the summits of North Peak and Eagle Peak. Three scenic overlooks; Livermore Valley Overlook, Curry Point, and Diablo Valley Overlook, offer middle ground panoramas in the unit, and distance panoramas of the surrounding urban areas and foothills.

Many areas of scenic interest are found in MDSP, and introduce visitors to outstanding natural scenes. Rock City is composed of large, monolithic boulders of tan, weathered sandstone. The contrast between the outcrops and surrounding vegetation is striking. Similarly, Black Hawk and Fossil Ridges, with their spine-like vertical strata, contrast with the grays and greens of surrounding vegetation. Densely wooded Mitchell Canyon offers shade, lush vegetation, and the quiet sounds of running water.

Numerous species of birds are found in the park and many types of wildflowers cover the foothills during the spring. Lush green savannas gradually turn golden brown during the summer. In the fall maples, grapevines, oaks, poison oak, cottonwoods, and willows turn brilliant colors.

| WOULD THE PROJECT: | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| a) Have a substantial adverse effect on a scenic vista? | ☐ | ☐ | ☒ | ☐ |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | ☐ | ☐ | ☐ | ☒ |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? | ☐ | ☐ | ☒ | ☐ |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | ☐ | ☐ | ☐ | ☒ |

**DISCUSSION**

a) Impacts could occur if the trail alignment was altered to the degree that the existing views are no longer accessible. Impacts to scenic vistas would also occur if a conspicuous structure were to be placed in a visually prominent location that is currently part of a scenic view, or if the landscape were to be substantially altered (e.g., removal of large sections of vegetation or geologic features), such that the scenic view would be substantially degraded. None of these potential outcomes will occur as a result of the RTMP.

The RTMP will provide a management tool that will be used to assess Change-in-use requests and manage the roads and trails to minimize impacts to the natural and cultural resources. Minor trail modifications could be associated with a subsequent project (e.g., addition of design features and BMPs, minor widening, minor alignment shift); however, projects that propose buildings or other conspicuous structures would not occur as a result of the RTMP. Furthermore, incorporation of SPR AES-1 would ensure that design and materials of road and trail modifications are consistent with the surrounding visual setting, including scenic views, and that equipment and materials storage during construction occur outside existing scenic viewsheds.

b,c) The visual character of MDSP varies greatly and generally exhibits high scenic, and in many cases, substantial visual features (i.e. large trees, rock outcroppings, water bodies, etc.) enhance the visual character of these trails units.

The RTMP will provide a management tool that will be used to assess change-in-use requests and manage the roads and trails to minimize impacts to the natural and cultural resources. Minor trail modifications, including potential minor realignments could be necessary for subsequent projects done pursuant to the RTMP. These trail improvements would be designed to minimize effects to the physical environment. For example, SPR Bio-18 requires minimizing removal of native trees, and avoidance of trees over 24 inches DBH. Also, qualifying projects would be designed to avoid substantial alteration to existing geological features and water bodies (see HYDRO and GEO SPRs). Therefore, subsequent projects would not substantially affect the existing visual character or features of the scenic landscape. Furthermore, SPR AES-1 would ensure that design and materials of trail modifications would be consistent with the surrounding visual character and that equipment and materials storage during construction would occur outside prominent viewsheds. Implementation of the proposed Plan would result in a less-than-significant impact related to visual character and features.

Future actions that are covered in the RTMP include potential changes in use for Oak Knoll Trail and portions of Juniper and Summit Trails. Because work plans have not been prepared for these trails, additional and subsequent environmental review will be necessary to assess potential impacts on visual character resulting from physical changes to the trails to accommodate the change-in-use. In general, any impacts resulting from physical alterations to the trails can be addressed with implementation of SPR AES-1 and AES-2 as noted above.

Projects qualifying for approval for a change-in-use would, at most, include minor physical alterations to existing DPR roads and trails. Under the process, physical changes would be limited to minor trail widening or realignment, installation of BMPs, and other minor design improvements. Design improvements would avoid tree removal to the extent feasible, especially trees over 24-inches DBH (according to SPR BIO-18). Furthermore, qualifying projects would not require removal or major alteration of existing landscapes or geologic features and the addition or removal of a user type from an existing road or trail would not substantially change visual character. The impact is **less than significant**.

d) No large, conspicuous structures will be constructed nor will any additional permanent light source (e.g., lighting for a new emergency call box or trail head-area path lighting) will be installed. Construction would occur only during daytime hours. Therefore, no temporary impacts from construction lighting would occur. Overall, lighting and glare generated by qualifying projects approved under the proposed RTMP will not change substantially from existing conditions. This impact would be less than significant.

**MITIGATION MEASURE AESTHETICS**

None Required

## II. Agricultural and Forest Resources

### ENVIRONMENTAL SETTING

While the park itself contains no lands zoned for agriculture, private in-holdings are zoned agriculture and currently used for the grazing of cattle. The park is situated in a heavily urbanized portion of Contra Costa County and consequently, urban type zoning designations surround much of the park. The City of Clayton adjoins the park to the north, the City of Walnut Creek (open space preserves) is located to the east and the master planned community of Blackhawk adjoins the park to the south. Properties east of the park are zoned as Exclusive-Agricultural (A-80). Current use includes open space and urban residential housing to the north, west and south, parkland to the east and rural residential to the southeast. None of the land within Mount Diablo SP, the area immediately surrounding the park, or area impacted by the proposed project is included in any of the Important Farmland categories, as delineated by the California Department of Conservation, under the Farmland Mapping and Monitoring Program (FMMP).

| WOULD THE PROJECT*: | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | ☐ | ☐ | ☐ | ☒ |
| b) Conflict with existing zoning for agricultural use or a Williamson Act contract? | ☐ | ☐ | ☐ | ☒ |
| c) Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code §4526), or timberland zoned Timberland Production (as defined by government Code § 51104(g))? | ☐ | ☐ | ☐ | ☒ |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |

* In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997), prepared by the California Department of Conservation as an optional model for use in assessing impacts on agricultural and farmland.

### DISCUSSION

a) The proposed project contains no lands used for agriculture. However, Diablo Ranch is an inholding of private land within the park, and is currently used for the grazing of cattle. A portion of North Gate Road does cross grazed private land. None of the land within Mount Diablo SP, the area immediately surrounding the park, or area impacted by the proposed project is included in any of the Important Farmland categories, as delineated by the California Department of Conservation, under the Farmland Mapping and Monitoring Program (FMMP). No impact.

b,c)The project is located wholly on State Park land and is not in conflict with existing zoning for agricultural or forestry use in the Contra Costa County General Plan or any Williamson Act land contracts. The area surrounding the park is residential or open space. The Mount Diablo GP designates a portion of the project area as a Cultural Preserve, where grazing, agricultural or timber production activities are prohibited. Grazing is permitted via a lease agreement within the park on limited acreage in Macedo Ranch and a few other locations. A portion of North Gate Road crosses grazed private lands nearby, but the private lands are outside the project footprint and would not be affected by the project. No impact.

d,e)No conversion of adjacent agricultural or forest lands to non-agricultural/timber production uses would occur as a result of the project. The project encompasses only State Park land and involves a management plan for roads and trails solely within the park (although it does examine external trail links to trails within non-state park open space). The project would have no influence on or involve changes in the surrounding environment that would cause the conversion of any lands from agricultural or timber production use. The project will have no effect on farmland/timberland conversion.

### MITIGATION MEASURE AGRICULTURAL AND FOREST RESOURCES

None Required

# III. Air Quality

## ENVIRONMENTAL SETTING

Mount Diablo SP is located in Contra Costa County, which is part of the San Francisco Bay Area Air Basin (SFBAAB), under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD) and United States Environmental Protection Agency (USEPA) Region IX. The San Francisco Bay Area occupies a central location on California's coast.

Pursuant to the federal Clean Air Act, the BAAQMD is required to reduce emissions of criteria pollutants for which the Basin is in nonattainment. The Basin is considered a non-attainment area for ground-level ozone and fine particulate matter (PM2.5) under both the Federal Clean Air Act (CAA) and the California Clean Air Act.

The Basin is also considered non-attainment for respirable particulate matter (PM10) under the California Clean Air Act. The Basin is considered in attainment for carbon monoxide (CO) under both state and federal ambient air quality standards.

| | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| **WOULD THE PROJECT*:** | | | | |
| a) Conflict with or obstruct implementation of the applicable air quality plan or regulation? | ☐ | ☐ | ☐ | ☒ |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | ☐ | ☐ | ☒ | ☐ |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | ☐ | ☐ | ☒ | ☐ |
| d) Expose sensitive receptors to substantial pollutant concentrations (e.g., children, the elderly, individuals with compromised respiratory or immune systems)? | ☐ | ☐ | ☒ | ☐ |
| e) Create objectionable odors affecting a substantial number of people? | ☐ | ☐ | ☐ | ☒ |

* Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make these determinations.

## DISCUSSION

a-c) The project would not conflict with or obstruct implementation of the 2001 Ozone Attainment Plan (Plan) prepared by BAAQMD. The main objective of the 2001 Plan is to attain the state air quality standard for ozone. The 2001 Plan includes current air quality data, updated emission inventory and emission factors, a description of the District's photochemical modeling results, updated analysis of

emission reductions needed to meet and maintain the state ozone standard, discussion of potential air quality impacts to the energy crisis, and recommend adoption of three specific control measures.

The air quality plans use the assumptions and projections of local planning agencies to determine control strategies for regional compliance status. Since the plans are based on local General Plans, projects that are deemed consistent with the applicable general Plan are usually found to be consistent with the air quality plans. The proposed project is consistent with the MDSP General Plan

d) The project consists of a guiding document for park managers, staff, and volunteers, who construct trail improvements, maintain or repair existing trails, or are otherwise involved with trail issues. The Plan establishes goals for the overall trail system as well as guidelines for appropriate trail uses, trail closures and reroutes, trail maintenance and repair activities, trail aesthetics, and a trail monitoring system. The Plan also defines trail-specific actions for individual trails as well as recommended future planning efforts. The plan does not involve physical changes and as such, no impact would result.

e) As noted above, the project consists only of a guiding document for trail planning. Subsequent trail construction that may result from approval of this document will not create objectionable odors for any individuals.

**MITIGATION MEASURE AIR QUALITY-**

None Required

# IV. Biological Resources

This section provides an evaluation of the potential biological effects of implementing the proposed RTMP. Road and trail construction, maintenance, and other activities subject to the RTMP may result in the degradation of biological resources.

The following environmental assessment includes a review of biological resources potentially affected by the implementation of the RTMP, including existing and potential biological resources within Mount Diablo State Park. Biological resources include common vegetation and wildlife, sensitive plant communities, and special-status plant and animal species.

This analysis includes a review of applicable regulations, requirements, plans, and policies from the following sources that were incorporated into the policies and Best Management Practices (BMP) of the RTMP:

- California Environmental Quality Act (CEQA)
- Federal Endangered Species Act (FESA)
- California Endangered Species Act (CESA)
- Mount Diablo General Plan
- Mount Diablo Resource Inventory

### ENVIRONMENTAL SETTING

MDSP is a unique 20,000-acre "island mountain" largely surrounded by suburban development and agriculture. Rising to a maximum elevation of 3,849 feet (above mean sea level (amsl)), Mount Diablo offers sweeping views in all directions of surrounding wildlands of the Diablo Range, cities and towns of the East Bay area, and the many islands and waterways of the Delta.

MDSP encompasses a wide range of elevation and topography, supporting a considerable diversity of plant and animal life. Ertter and Bowerman (2002) report 841 species, subspecies and varieties of plants, including 29 listed as rare, threatened or endangered by the California Native Plant Society (2014). Eleven plant species are local endemics to the Mount Diablo region, 22 plant species reach their northernmost range extension in this regioat Mount Diablo, and 6 plant species that reach their southernmost range extension there.

An estimated 250 species of vertebrate wildlife are known from Mount Diablo, including at least three species listed as threatened or endangered by either the CDFW or the USFWS (2014). These are California red-legged frog, Alameda striped racer (formerly whipsnake), and California tiger salamander.

### Methodology

All special status species and their habitats were evaluated for potential impacts from this project. DPR staff collected and reviewed existing available data to determine the proximity of special status plants, animals, and their habitats to the project area. Staff conducted a query of the California Department of Fish and Wildlife's Natural Diversity

Database (CNDDB 2014) for the Diablo, Antioch South, Clayton, Las Trampas Ridge, Hayward, Dublin, Livermore, Walnut Creek, and Tassajara 7.5-minute USGS quadrangles. An official USFWS species list for Contra Costa was also reviewed. A list of special-status plant species potentially occurring in the park were derived from the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2015) for the Diablo 7.5-minute USGS quadrangle and eight surrounding quadrangles identified above.

Additional information on special-status species was obtained through discussions with DPR biologists, literature review, and on-site reconnaissance-level surveys. Multiple visits by DPR biologists were conducted to: survey and map for special status plants and to assess potential habitat for special status wildlife species.

## VEGETATION

### Plant Communities

Vegetation within the park unit is comprised of 32 vegetation types as defined in Sawyer et al (2009), which conforms to the National Vegetation Classification Standard adopted by the federal government (USGS 2010). Six of these vegetation types are recognized by the CDFW as special status natural communities (marked with an asterisk) because they are considered highly imperiled due to rarity and threats (CDFW 2014a). These six are described below.

- *Adenostoma fasciculatum* Shrubland Alliance
- *Adenostoma fasciculatum* – *Salvia mellifera* Shrubland Alliance
- *Adenostoma fasciculatum* – *Ceanothus cuneatus* Association
- *Alnus rhombifolia* Forest Alliance
- *Arctostaphylos glauca* – *Adenostoma fasciculatum* Association
- *Artemisia californica* Shrubland Alliance
- *Artemisia californica* – *Salvia mellifera* Shrubland Alliance
- *Baccharis pilularis* Shrubland Alliance
- California Naturalized Annual and Perennial Grassland types
- *Ceanothus cuneatus* Shrubland Alliance
- *Juniperus californica* Woodland Alliance
- *Leymus triticoides* Herbaceous Alliance*
- *Nasella pulchra* Herbaceous Alliance*
- *Pinus attenuata* Forest Alliance
- *Pinus coulteri* Woodland Alliance
- *Pinus coulteri* – *Quercus chrysolepis* Association
- *Platanus racemosa* Woodland Alliance*
- *Poa secunda* Herbaceous Alliance*
- *Populus fremontii* Forest Alliance*
- *Quercus* (*agrifolia*, *douglasii*, *garryana*, *kelloggii*, *lobata*, *wislizeni*) Forest Alliance
- *Quercus agrifolia* Woodland Alliance
- *Quercus chrysolepis* Forest Alliance
- *Quercus douglasii* Woodland Alliance

- *Quercus douglasii – Pinus sabiniana* Association
- *Quercus douglasii – Quercus wislizeni* Association
- *Quercus durata – Arctostaphylos glauca*/*Pinus sabiniana* Association
- *Quercus wislizeni* Shrubland Alliance
- *Quercus wislizeni* Woodland Alliance
- *Quercus wislizeni – Quercus chrysolepis* Association
- *Salvia mellifera* Shrubland Alliance
- *Toxicodendron diversilobum* Shrubland Alliance
- *Umbellularia californica* Forest Alliance*

***Leymus triticoides* Herbaceous Alliance** – Native creeping wild rye (*Leymus triticoides*) dominates the herbaceous layer of this vegetation. Other commonly encountered herbaceous species include non-native perennial ryegrass (*Lolium perenne*), soft chess (*Bromus hordeaceus*), dogtail grass (*Cynosurus echinatus*), wild oats (*Avena* spp.), and redstem filaree (*Erodium cicutarium*). Emergent shrubs or trees may be present as scattered individuals. This vegetation has a very limited distribution in the park and readily intergrades with other grassland types.

***Nasella pulchra* Herbaceous Alliance** – In pure stands the perennial bunchgrass purple needlegrass (*Nassella pulchra*) dominates the herbaceous layer of this vegetation. It commonly intergrades with other grassland types, especially those that are dominated by non-native species such as soft chess, wild oats, redstem filaree, and dogtail grass. Emergent shrubs or trees may be present as scattered individuals. The *Nasella pulchra* Herbaceous Alliance is more widely distributed than the preceding grassland type.

***Platanus racemosa* Woodland Alliance** – This vegetation type is restricted to narrow bands along streambanks in deep canyons and gullies such as Mitchell Canyon. Western sycamore (*Platanus racemosa*) co-dominates in the tree canopy with one or more of the following species, white alder (*Alnus rhombifolia*), Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), big-leaf maple (*Acer macrophyllum*), arroyo willow (*Salix lasiolepis*), and red willow (*Salix laevigata*). The shrub and herbaceous layers are typically sparse, and may include California coffeeberry (*Frangula californica*), poison-oak (*Toxicodendron diversilobum*), and common monkeyflower *(Mimulus guttatus*).

***Poa secunda* Herbaceous Alliance** – Like other native grasslands types, *Poa secunda* Herbaceous Alliance is not widely distributed in the park and readily intergrades with more extensive grasslands dominated by non-native species. It is commonly associated with (*Quercus douglasii*) woodlands, with one-sided blue grass (*Poa secunda*) typically dominating the herbaceous layer. Other commonly encountered herbaceous species include those listed above for the *Nasella pulchra* and *Leymus triticoides* Herbaceous Alliances.

***Populus fremontii* Forest Alliance** – The *Populus fremontii* Forest Alliance typically occurs in canyons with a permanent source of water, such as Mitchell and Donner Canyons. Fremont cottonwood (*Populus fremontii*) dominates the canopy of this riparian vegetation. Other common canopy members include western sycamore, white alder, big-leaf maple, arroyo willow, and red willow. The typically sparse shrub and

herbaceous layers include California coffeeberry, poison-oak, and common monkeyflower.

***Umbellularia californica* Forest Alliance** – This vegetation occupies northerly exposures and stream sides, including intermittent drainages. California bay (*Umbellularia californica*) dominates the canopy, sometimes forming nearly pure stands. In wetter locations *Umbellularia californica* Forest Alliance intergrades with other riparian communities such as the *Platanus racemosa* Woodland Alliance.

## WILDLIFE

The Park is located in the California Chaparral Province ecoregion, as defined by (Bailey, 1980). Six major terrestrial biotic communities occur in the unit: riparian woodland, grassland, chaparral, foothill woodland, coniferous woodland, and rocky areas and cliffs. For its small aerial extent, riparian woodland supports a high diversity of wildlife species. Riparian woodlands provide important watering, foraging, breeding, migration routes, and cover for a tremendous number of wildlife species. The grasslands offer an abundance of food, but little cover. Chaparral provides a mix of cover and seasonal forage for wildlife. Woodland and forest communities provide habitats not supported by the other communities. Rocky areas and cliffs provide excellent shelter for many animals. Many bird species rely on rocky areas for nesting, and many reptiles depend on the exposed rock for thermoregulation.

More than 250 species of fish, amphibians, reptiles, birds, and mammals may be found in the Park. In addition, more than 200 invertebrates have been recorded from the Park, although the actual number is much larger based on the variety of habitats present. Tule elk (*Cervus canadensis nannodes*), pronghorn (*Antilocapra americana*), and the extinct California grizzly bear (*Ursus arctos californicus*) are believed to have once existed on Mount Diablo, but these species are no longer present. Non-native vertebrate species introduced to Mount Diablo include largemouth bass (*Micropterus salmoides*), redear sunfish (*Lepomis microlophus*), and western mosquitofish (*Gambusia affinis*). The rainbow trout last seen in Mitchell Creek in the 1990s and still hoped to be within the watershed, are believed to have been a native strain, although they may have hybridized with introduced rainbow trout planted in the stream (DPR 1985).

### SPECIAL-STATUS SPECIES

Sensitive biological resources that occur or potentially occur in or near the proposed project site are discussed in this section. Special-status species (aka sensitive species) are defined as plants and animals that are legally protected or that are considered sensitive by federal, state, or local resource conservation agencies and organizations. Specifically, this includes species listed as State or federally Threatened or Endangered, those considered as candidates for listing as Threatened or Endangered, species identified by the USFWS and/or CDFW as Species of Special Concern (SSC), animals identified by CDFW as Fully Protected or Protected (FP, P), bat species identified by the Western Bat Working Group (WBWG), and plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered. Also included are habitats that are considered critical for the survival of a listed species or

have special value for wildlife species and plant communities that are unique or of limited distribution.

Special status plant and wildlife species are afforded legal protection through various state and federal laws and regulations.

Federal laws and regulations pertaining to plants and wildlife:
- Federal Endangered Species Act
- National Environmental Policy Act
- Migratory Bird Treaty Act
- Bald and Golden Eagle Protection Act

State laws and regulations pertaining to plants and wildlife include the following:
- California Environmental Quality Act
- California Endangered Species Act
- Native Plant Protection Act
- Sections 1601 to 1603 of the Fish and Game Code
- Sections 1900 to 1913 of the Fish and Game Code
- Sections 4150 and 4152 of the Fish and Game Code
- Section 3503.5 of the Fish and Game Code

**Federal Endangered Species Act (FESA)**
The primary federal law protecting threatened and endangered species is the FESA (16 United States Code Section 1531, et seq. and 50 CFR Part 402). The FESA and its amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. The USFWS has regulatory authority over projects that may result in take of a federally listed species. Section 3 of the FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct." Under federal regulation, take is further defined to include habitat modification or degradation where it results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. If incidental take is a possibility, then a Biological Opinion is prepared for take of listed species under Section 7 of the FESA. An incidental take permit can be authorized by the USFWS.

**Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act**
The Migratory Bird Treaty Act (MBTA) establishes a Federal prohibition to pursue, capture, kill, possess, sell or purchase, transport, or export any migratory bird or any part, nest, or egg of any such bird (16 U.S. Code § 703). The Migratory Bird Treaty Act reads in part: "…it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, offer to purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or eggs of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof…"

This Act was established in 1918 to try to end the commercial trade in birds and their feathers that were severely impacting populations of many native bird species. A list of

migratory birds protected under this Act is provided in Title 50 of the Code of Federal Regulations, Section 10.13. The Bald and Golden Eagle Protection Act prohibits any form of take, possession, or commerce in bald or golden eagles, including disturbance.

Under federal regulation, take is further defined to include habitat modification or degradation where it results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. If incidental take is a possibility, then a Biological Opinion is prepared for take of listed species under Section 7 of the FESA. An incidental take permit can be authorized by the USFWS.

**California Endangered Species Act**

The California Endangered Species Act (CESA) emphasized early consultation to avoid potential impacts to rare, threatened, and endangered species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats (California Fish and Game Code, Section 2050, et seq.). The CDFW is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits take of any species determined to be an endangered or threatened species. Take is defined in Section 86 of the Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” It does not include “harm” or “harass” as provided under the FESA. CESA allows for take incidental to otherwise lawful activities; for these actions an incidental take permit is issued by CDFW. For projects requiring a Biological Opinion under Section 7 of the FESA, CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

**Native Plant Protection Act**

The NPPA was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations; emergencies; and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations (see Fish and Game Code section 1900 et seq. for more information).

Special status plant and animal species are described below along with their potential to occur within the project area. Potential impacts to biological resources (including special status species) from implementation of this project are addressed in the Discussion section.

## PLANT SPECIES

Seventy-three special-status plant species have been identified by the California Natural Diversity Database (CNDDB), CNPS (2015)*, and USFWS as occurring or having a potential to occur within the Diablo and eight surrounding USGS quadrangle maps. Suitable habitat is available within the park for 40 of these special status plant species, 30 of which have been reported to occur in the park. These 40 species are identified below, with more detailed species information provided in Appendix 1: Special Status Plant Species Evaluated for Project.

### *Special-Status Plant Species that are Known to Occur, or Could Potentially Occur within MDSP**

**Adobe navarretia** (*Navarretia nigelliformis* ssp. *nigelliformis*) – Rare Plant Rank 4.2
**Bent-flowered fiddleneck** (*Amsinckia lunaris*) – Rare Plant Rank 1B.2
**Big tarplant** (*Blepharizonia plumosa*) – Rare Plant Rank 1B.1
**Brewer's calandrinia** (*Calandrinia breweri*) – Rare Plant Rank 4.2
**Brewer's western flax** (*Hesperolinon breweri*) – Rare Plant Rank 1B.2
**California androsace** (*Androsace elongata ssp. acuta*) – Rare Plant Rank 4.2
**Chaparral harebell** (*Campanula exigua*) – Rare Plant Rank 1B.2
**Chaparral ragwort** (*Senecio aphanactis*) – Rare Plant Rank 2B.2
**Coast rockcress** (*Arabis blepharophylla*) – Rare Plant Rank 4.3
**Contra Costa manzanita** (*Arctostaphylos manzanita* ssp. *laevigata*) – Rare Plant Rank 1B.2
**Diablo helianthella** (*Helianthella castanea*) – Rare Plant Rank 1B.2
**Fragrant fritillary** (*Fritillaria liliacea*) – Rare Plant Rank 1B.2
**Hall's bush-mallow** (*Malacothamnus hallii*) – Rare Plant Rank 1B.2
**Hospital Canyon larkspur** (*Delphinium californicum* ssp. *interius*) – Rare Plant Rank 1B.2
**Jepson's woolly sunflower** (*Eriophyllum jepsonii*) – Rare Plant Rank 4.3
**Large-flowered fiddleneck** (*Amsinckia grandiflora*) – CE, FE, Rare Plant Rank 1B.1
**Lime Ridge navarretia** (*Navarretia gowenii*) – Rare Plant Rank 1B.1
**Lobb's aquatic buttercup** (*Ranunculus lobbii*) – Rare Plant Rank 4.2
**Michael's rein orchid** (*Piperia michaelii*) – Rare Plant Rank 4.2
**Most beautiful jewel-flower** (*Streptanthus albidus* ssp. *peramoenus*) – Rare Plant Rank 1B.2
**Mt. Diablo bird's-beak** (*Cordylanthus nidularius*) – Rare Plant Rank 1B.1
**Mt. Diablo buckwheat** (*Eriogonum truncatum*) – Rare Plant Rank 1B.1
**Mt. Diablo fairy-lantern** (*Calochortus pulchellus*) – Rare Plant Rank 1B.1

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* California Native Plant Society (CNPS) Rare Plant Ranks: 1A = presumed extinct in California; 1B = rare or endangered in California and elsewhere; 2 = rare or endangered in California, more common elsewhere; 3 = need more information; 4 = plants of limited distribution. Threat code extensions are: .1 = seriously endangered in California; .2 = fairly endangered in California; and .3 not very endangered in California.

| | |
|---|---|
| SE | State Endangered |
| ST | State Threatened |
| CR | State Rare |
| FE | Federally Endangered |
| FT | Federally Threatened |

**Mt. Diablo manzanita** (*Arctostaphylos auriculata*) – Rare Plant Rank 1B.3
**Mt. Diablo phacelia** (*Phacelia phacelioides*) – Rare Plant Rank 1B.2
**Northern California black walnut** (Juglans hindsii) – Rare Plant Rank 1B.1
**Oakland star-tulip** (*Calochortus umbellatus*) – Rare Plant Rank 4.2
**Oval-leaved viburnum** (*Viburnum ellipticum*) – Rare Plant Rank 2B.3
**Phlox-leaf serpentine bedstraw** (*Galium andrewsii* ssp. *gatense*) – Rare Plant Rank 4.2
**Rock sanicle** (*Sanicula saxatilis*) – Rare Plant Rank 1B.2
**Serpentine collomia** (*Collomia diversifolia*) – Rare Plant Rank 4.3
**Shining navarretia** (*Navarretia nigelliformis* ssp. *radians*) – Rare Plant Rank 1B.2
**Slender silver moss** (*Anomobryum julaceum*) – Rare Plant Rank 4.2
**Stinkbells** (*Fritillaria agrestis*) – Rare Plant Rank 4.2
**Tehama navarretia** (*Navarretia heterandra*) – Rare Plant Rank 4.3
**Toren's grimmia** (*Grimmia torenii*) – Rare Plant Rank 1B.1
**Round-leaved filaree** (*California macrophylla*) – Rare Plant Rank 1B.1
**Western leatherwood** (*Dirca occidentalis*) – Rare Plant Rank 1B.2
**Woodland woolythreads** (*Monolopia gracilens*) – Rare Plant Rank 1B.2

## WILDLIFE SPECIES

Fifty-two special-status wildlife species plant species have been identified by the California Natural Diversity Database (CNDDB 2015) and USACE (USFWS 2015), and DPR (1989) as occurring or having a potential to occur within the Diablo and eight surrounding USGS quadrangle maps. Suitable habitat is available within the park for thirty-four of these species, fifteen of which have been reported to occur in the park (Appendix 2: Special Status Wildlife Species Evaluated for Project). These thirty-four species are described below.

### *Special-Status Wildlife Species that are Known to Occur, or Could Potentially Occur within MDSP*

### INVERTEBRATES

**Bridges' Coast Range shoulderband** (*Helminthoglypta nickliniana bridgesi*) – This snail species has no State or Federal listing status, but is considered locally sensitive and is identified by the CNDDB as State Rank S1 (CNDDB 2015). The S1 designation means it is critically imperiled in the state because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines, making it especially vulnerable to extirpation from the state. Bridges' coast range shoulderband is reported to occur in Contra Costa and Alameda Counties. It is typically found in moist, often riparian areas under rocks, logs, woody debris, or accumulations of leaf mold, but sometimes occurs under grass and weeds on open hillsides.

An occurrence has been reported in Perkins Canyon on the east slope of MDSP (CNDDB 2015).

**Molestan blister beetle** (*Lytta molesta*) – This species has no State or Federal listing status, but is considered locally sensitive and is identified by the CNDDB as a State Rank S2 (CNDDB 2015). The S2 designation means it is imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep

declines, or other factors making it very vulnerable to extirpation from the state. Adult meloid beetles are often found on flowers; for example Halstead and Haines (1992) reported this species feeding on flowers and seed pods of lupine (*Lupinus* sp.).

Potentially suitable habitat for this species occurs in MDSP.

**AMPHIBIANS**

**California tiger salamander** (*Ambystoma californiense*) – The California tiger salamander was federally listed as threatened throughout its range in 2004; it is also state listed as threatened. California tiger salamander is a large, stocky, terrestrial salamander with a broad, rounded snout. Adults may reach a total length of 8.2 inches (Petranka 1998, Stebbins 2003). California tiger salamanders exhibit sexual dimorphism with males tending to be larger than females. The coloration of the California tiger salamander is white or yellowish markings against a black background. As adults, California tiger salamanders tend to have the creamy yellow to white spotting on the sides with much less on the dorsal surface of the animal, whereas other tiger salamander species have brighter yellow spotting that is heaviest on the top of the animals.

Breeding habitat consists of standing bodies of fresh water, both natural and man-made (e.g. stock) ponds, vernal pools, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a sufficient length of time necessary for the species to complete its life cycle (USFWS 2004a). Although the larval salamanders develop in the vernal pools and ponds in which they were born, they are otherwise terrestrial salamanders that spend most of their post-metamorphic lives in underground retreats (Shaffer et al. 2004; Trenham et al. 2001). Sub-adult and adult California tiger salamanders spend the dry summer and fall months of the year in the burrows of small mammals, such as California ground squirrels (*Spermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*) (Storer 1925; Loredo and Van Vuren 1996; Petranka 1998; Trenham 1998). California tiger salamanders are not known to create their own burrows in the wild, probably due to the hardness of soils in the California ecosystems in which they reside.

California tiger salamanders have been documented in the park and small stock ponds within park boundaries provide breeding habitat (Shafer, personal comm. 2015). MDSP is not within the species critical habitat, as determined by the USFWS (2004b).

**Foothill yellow-legged frog** (Rana boylii) – Foothill yellow-legged frogs are medium size; adults are 1.5 - 3.2 inches long from snout to vent. This SSC species requires shallow, flowing water in small to moderate-sized streams with at least some cobble-sized substrate (Jennings and Hayes 1994). They are usually found in or near water. Mating and egg-laying occurs exclusively in streams and rivers (not in ponds or lakes) from April until early July, after streams have slowed from winter runoff (California Herps 2015). Foothill yellow-legged frogs need at least some cobble-sized substrate for egg-laying and at least 15 weeks to attain metamorphosis (CDFW 2015b).

Potential suitable habitat for this species occurs in several of the park’s permanent streams although surveys conducted to date have failed to locate this species in the park (Shafer, personal comm. 2015).

**California red-legged frog** (*Rana draytonii*) – This federally listed as Threatened and SSC species is the largest native frog in the western United States (USFWS 2002A). Adult red-legged frog habitat consists of aquatic, riparian, and upland areas; they often use vegetation around deep pools with slow moving water, cattails, and overhanging vegetation, but may be found in unvegetated waters as well (USFWS 2002A, Miller et al. 1996). Although chiefly a pond frog, moist woodlands, forest clearings, and grasslands also provide suitable habitat for this species in the non-breeding season (Stebbins 2003). In colder areas, they may hibernate in burrows during the winter. They remain active during the summer if access to permanent water is available. Some frogs remain at or close to their breeding sites year round, while others disperse to non-breeding habitat.

Red-legged frogs typically breed from late December to early April during or following large rainfall events. Females can lay egg masses of between 2,000 to 5,000 eggs (USFWS 2002A). These eggs are attached to emergent vegetation like bulrushes or cattails. Eggs hatch after 6 to 14 days, and the resulting tadpoles take about 3.5 to 7 months to develop into frogs and 2-4 years to begin breeding. Tadpoles are thought to feed on algae or invertebrates and hunt both day and night. This life stage experiences the highest rate of mortality with less than 1% of tadpoles reaching adulthood. Males may live for about 8 years while females may live around 10 years.

The most common prey of the red-legged frog is insects, although they will also eat mice, tree frogs, and salamander larvae (USFWS 2002A, California Herps 2015). Their predators include bullfrogs, fish, herons and other birds, garter snakes, skunks, opossums, and raccoons.

California red-legged frogs have been observed in the park and suitable breeding habitat is available in several ponds in the park.

**REPTILES**

**Western pond turtle** (*Emys mamorata*) – The western pond turtle is a SSC species that inhabits still or slow moving aquatic habitats with submerged or emergent vegetation and also requires open basking areas and sandy or loose soil sites to lay eggs (Jennings and Hayes 1994; Stebbins 2003). Mating usually occurs in April and May and females then lay eggs in upland nest locations. Nests must have sufficient internal humidity for eggs to develop and hatch properly (Jennings and Hayes 1994).

Western pond turtle has been observed in the Pine Creek drainage of the park.

**Sharp-tailed snake** (*Contia tenuis*) – This species, also known as the common sharp-tailed snake, is a small thin snake with a small head and a sharp point on the end of the tail (California Herps 2015). It lays eggs in June or July with hatchlings emerging in mid-autumn. The sharp-tailed snake requires moist soil and is found in woodland, forests, grassland, and chaparral habitats, often near streams or water. It is a good burrower and spends much of the time under surface objects or underground. Its diet consists of slugs and their eggs or slender salamanders (where available). It has been observed in the park and is considered a locally sensitive species (DPR 1985).

**Alameda striped racer** (*Masticophis lateralis euryxanthus*) – This extremely rare species (formerly known as Alameda whipsnake) is both state and federally listed as

threatened. The entire park is within USFWS designated critical habitat for Alameda striped racer. It is a black snake with a yellow-orange colored stripe down each of its sides (California Herps 2015). It resembles an aquatic garter snake, except the garter snake has a light stripe down its back, and the Alameda striped racer has a sooty black back. It is 2 to 4 feet long, very slender and non-venomous.

The Alameda striped racer occurs in the valleys, foothills, and low mountains of the Coast Range east of the San Francisco Bay and west of the Central Valley in Contra Costa and Alameda counties. Approximately 70% of the entire species population lives on Mount Diablo (Shafer, personal comm. 2015). The distribution of Alameda striped racer closely coincides with chaparral (Jennings 1983, USFWS 2000). Because there have been many sightings of Alameda striped racer from roads and trails throughout the park, all areas of chaparral, coastal sage scrub and other brush-dominated habitats are considered prime habitat for Alameda striped racer. Although the species home ranges are centered on shrub communities Alameda striped racer frequently ventures into adjacent habitats, including grasslands, riparian areas, oak savanna, and occasionally oak-bay woodland.

The type of vegetation may be less important to Alameda striped racer than the extent of the canopy, slope exposure, availability of retreats such as rock outcrops and rodent burrows, and prey species composition and abundance. Core areas commonly occur on east, south, southeast, and southwest facing slopes. However, recent information indicates that Alameda striped racer also makes use of north facing slopes in the more open stands of scrub habitat.

Alameda striped racer appears to have a bimodal pattern of seasonal activity. This species is most active in the spring mating season; in the late summer and early fall there is a smaller peak of activity. By November they generally retreat into a winter hibernaculum where they remain dormant until March. Courtship and mating occur from late March through mid-June. During this period, males move throughout their home ranges, while females appear to remain at or near their hibernaculum, where mating occurs. Grasslands are reportedly used extensively by males during the mating season. Females use the grassland most extensively after mating, possibly in their search for suitable egg-laying sites.

Lizards, especially western fence lizard (*Sceloporus occidentalis*) appear to be the most important prey item of Alameda striped racer. Other prey items include frogs, snakes, and birds.

Because of numerous documented observations all park areas should be considered potential habitat for the Alameda striped racer.

**Coast horned lizard** (*Phrynosoma blainvillii*) – This CSC species is a flat-bodied lizard with a wide oval-shaped body, scattered enlarged pointed scales on the upper body and tail, and a large crown of horns or spines on the head (California Herps 2015). It inhabits grasslands, coniferous forests, woodlands, and chaparral and can be found at elevations from sea level to 8000 feet amsl. Coast horned lizard prefers open areas and patches of loose soil and is often found in lowlands along sandy washes with scattered shrubs and along dirt roads. This species has been observed in the park 0.5 mile north of Eagle Peak (CDFW 2015).

In California the coast horned lizard ranges along the Pacific coast from the Baja California border west of the deserts and the Sierra Nevada, north to the Bay area and inland as far north as Shasta Reservoir and east into the Sierra Nevada Mountains.

Horned lizards forage between shrubs on ants, beetles, spiders, termites, flies, honeybees, moth larvae, and grasshoppers. Because their primary prey is ants coast horned lizards are frequently observed near ant hills.

Breeding occurs from May to June with the female laying 6 - 21 eggs (averaging around 12). The eggs hatch from August to September. Some females may lay two clutches of eggs in a year.

Threats include loss of habitat, loss of prey (native ants), and domestic predators like house cats. Coast horned lizards have been observed in the park, but observations are rare (Shafer, personal comm. 2015).

**BIRDS**

**American Peregrine Falcon (Falco peregrinus anatum) –** This fast flying (clocked diving at speeds of over 200 mph) raptor has long, pointed wings and a long tail (Cornell 2015, Peregrine Fund 2015). Adults have a wingspan of 31 to 48 inches. Peregrine Falcons are year round residents in California, occupying various open habitats preferably with nearby vertical structure such as cliffs, bluffs, or even tall buildings and bridges in urban areas, which serve as nesting sites (Comrack and Logsdon 2008 ).

Peregrine Falcons feed primarily on other bird species, including starlings, pigeons, blackbirds, jays, shorebirds, and waterfowl. They also occasionally hunt mammals (primarily bats and rodents), and amphibians, fish and insects on rare occaisons reptiles, and insects (Comrack and Logsdon 2008, Peregrine Fund 2015).

Like most falcons, Peregrine Falcons don't build their own nests but utilize small depressions they make in the soil or gravel of a cliff ledge (Peregrine Fund 2015). Sometimes they use abandoned stick nests constructed in trees by other avian species. The female lays three or four eggs, sometimes five, which are incubated for about 34 days.

The Peregrine Falcon is a CDFW fully protected species and is a permanent resident of MDSP.

**Cooper's hawk** (*Accipiter cooperi*) – This medium-sized hawk is a year round resident in California (Cornell 2015, Peregrine Fund 2015). Adults have a wingspan of about 3 feet and the head often appears large, the shoulders broad, and the tail rounded. In California Cooper's hawk are found in cismontane woodland, lower montane coniferous forest, riparian forest, and riparian woodland habitats. They are opportunistic hunters of mostly small birds such as doves, quail, and woodpeckers.

The male Cooper's hawk builds broad, flat stick nests in trees, usually somewhere near the trunk (Peregrine Fund 2015). The female lays 3-6 off-white eggs which are incubated for about one month. The young fledge 4-5 weeks later and are able to have young of their own when they are about 2 years old.

Cooper's hawk has been reported in the park (CDFW 2015). Protection for this species is afforded by state and federal laws (see Nesting Raptors and Migratory Birds below).

**Sharp-shinned hawk** (*Accipiter striatus*) – This raptor is the smallest hawk species (adult wingspan of 20-27 inches) in North America and is a year round resident in some areas of northern California (Cornell 2015, Peregrine Fund 2015). They have distinctive proportions: long legs, short wings, and very long tails, which they use for navigating through dense woods in pursuit of songbirds and mice, which make up the bulk of their diet. They do not stoop on prey from high overhead, but fly through thick vegetation, which they use as cover when pursuing prey. They may also pounce from low perches.

In California sharp-shinned hawks occupy cismontane woodland, lower montane coniferous forest, riparian forest, and riparian woodland habitats. They build stick nests lined with bark and greenery usually each year in a dense stand of trees. The female lays 2-5 eggs that are incubated for 30-32 days. The young fledge 3-4 weeks later and are able to have young of their own the following year.

The sharp-shinned hawk has been reported in the park (CDFW 2015). Protection for this species is afforded by state and federal laws (see Nesting Raptors and Migratory Birds below).

**Tricolored blackbird** (*Agelaius tricolor*) – This state endangered avian species is native to California, with only small nesting colonies found locally in Oregon, Washington, Nevada, and coastal Baja California (Shuford and Gardali 2008). Tricolored blackbird forms the largest breeding colonies of any North American land bird (Cook and Toft 2005).

With the loss of a natural flooding cycle and most native wetland and upland habitats in the Central Valley, tricolored blackbirds now forage primarily in artificial habitats. Tricolored blackbirds breed approximately mid-March through mid-July (Shuford and Gardali 2008). Most native habitats that once supported nesting and foraging tricolored blackbirds in the Central Valley have been replaced by urbanization and agricultural croplands unsuited to their needs. Currently, breeding habitat typically consists of cattails, bulrushes, Himalaya berry, and agricultural silage near accessible open water (Hamilton 2004).

The greatest threats to this species are the direct loss and degradation of habitat from human activities (Beedy and Hamilton 1999).

Potential breeding habitat for tricolored blackbirds occurs in scattered locations of the park that contain small water bodies (e.g. remnant stock ponds).

**Golden eagle** (*Aquila chrysaetos*) – Golden eagle is a California Fully Protected species and also afforded protection by federal law. Adults have a wingspan of 6.5 to 7.5 feet, weights that range from seven to 13 pounds, and are a dark brown color with a golden sheen on the back of the head and neck (Cornell 2015, Peregrine Fund 2015). Golden eagles inhabit numerous habitats in California, including grasslands and broadleaved and coniferous forests. They prey mainly on small to medium-sized mammals, including rabbits and ground squirrels. When live prey is scarce, golden eagles are known to feed on carrion or animals that are already dead.

These powerful birds build large platform nests in isolated sites on cliffs, ledges and large trees in open areas (Cornell 2015, Peregrine Fund 2015). The female lays 2-3

large white eggs that are incubated for about 45 days. Normally only one chick survives to fledge.

Human disturbance at active nest sites, loss of foraging habitat, and electrocution on power poles are known factors impacting golden eagle populations.

The golden eagle has been observed in the park (DPR 1985).

**Great blue heron** (*Ardea herodias*) – The great blue heron is the largest heron species in North America (adult wingspan of 5.5 to 6.5 feet), possessing a long neck and legs, and a thick, dagger-like bill (Cornell 2015). Its head, chest, and wing plumes give this species a shaggy appearance. The great blue heron has no state or federal listing status, but is by protected by state and federal laws (see Nesting Raptors and Migratory Birds below). It is a year round resident in California and utilizes both saltwater and freshwater habitats, including marshes, sloughs, riverbanks, and lakes.

Great Blue Herons prey generally consists of fish, amphibians, reptiles, small mammals, insects, and other birds (Cornell 2015). They nest primarily in trees, but are known to nest on the ground, on bushes, and on structures such as duck blinds, channel markers, or artificial nest platforms. Females lay two to six eggs per brood, with a 27 to 29 day incubation period and fledge at 49 to 81 days after hatching.

Potentially suitable habitat for this species occurs in MDSP.

**Burrowing owl** (*Athene cunicularia*) – This owl species (adult wingspan of 21 to 24 inches) is active day and night, hunting insects during daylight hours and small mammals at night, although dusk and dawn are the most active times for catching prey (Cornell 2015, Peregrine Fund 2015). Open, dry annual or perennial grasslands characterized by low-growing vegetation are the preferred habitats; however, burrowing owls are known to utilize human created habitats such as rubble piles and golf courses.

The burrowing owl nests underground, usually in burrows dug by mammals such as the California ground squirrel (Cornell 2015, Peregrine Fund 2015). They typically nest in loose colonies, sometimes up to 100 individuals or more. Females lay up to a dozen eggs in a clutch, with the incubation period lasting about 30 days. Hatched chicks fledge in about four to six weeks.

Potentially suitable breeding habitat for this SSC species occurs in MDSP.

**Ferruginous hawk** (*Buteo regalis*) – The ferruginous hawk is the largest American hawk, with an adult body length of 22-27 inches and a wingspan measuring 4 to 5 feet (Cornell 2015, Peregrine Fund 2015). In California it inhabits open grasslands, sagebrush flats, desert scrub, and the fringes of pinyon-juniper woodland during the winter, but breeds outside of the state.

Ferruginous hawks construct large stick nests lined with grass and bark typically in trees or bushes, on cliff ledges, power poles, and artificial platforms (Cornell 2015, Peregrine Fund 2015). Females usually lay three to five eggs that are incubated by both parents for a period of about one month. The young fledge at five and a half to six weeks of age and reach maturity two years later.

The ferruginous hawk has no state or federal listing status, but is by protected by state and federal laws (see Nesting Raptors and Migratory Birds below). Potentially suitable wintering habitat for this species occurs in MDSP.

**Swainson's hawk** (*Buteo swainsoni*) – The state threatened Swainson's hawk is a medium sized buteo hawk with relatively long, pointed wings (adult wingspan of 4 to 4.5 feet). This migratory species arrives in California's Central Valley from wintering grounds in Argentina in March or early April, and breeds in stands with few trees in riparian areas and in oak savannah in the Central Valley (Zeiner et al., 1990a). They feed mainly on insects such as grasshoppers, locusts, and beetles at most times during the year, but change to larger prey such as bats, mice, ground squirrels, young rabbits, other birds, and a variety of snakes during breeding season (Peregrine Fund 2015).

Swainson's hawks are locally common to rare breeders in California, with the majority of known territories located in the Central Valley and Great Basin bioregions. In the Central Valley, Swainson's hawk nest sites are strongly associated with riparian forest vegetation due to the availability and distribution of suitable nesting trees in proximity to high-quality foraging habitat (Woodbridge 1998). The female will usually lay 2-3 eggs that must be incubated for about one month. Fledging occurs about 6 weeks after hatching.

Swainson's hawks are currently absent from much of their historic breeding range in the central and southern portions of California, and may have declined by as much as 90%. Population declines are largely due to loss of nesting habitat in mature riparian forest, loss or adverse modification of high-quality foraging habitat, and high mortality due to pesticide use on migration route and wintering areas (Woodbridge, 1998).

Although a historic 1898 observation has been reported for the park (2015b) most observations and more suitable breeding habitat is available nearby in lowland areas along major streams, especially in the Sacramento-San Joaquin Delta and riverine locations of the Central Valley.

**Northern harrier** (*Circus cyaneus*) – This SSC species is larger than the Accipiter hawks (e.g. Cooper's hawk and sharp-shinned hawk) with an adult wingspan of 3.5 to 4.5 feet. This species prefers more open habitat such as grasslands and scrub (coastal scrub and riparian scrub) than the Accipter hawks (CDFW 2015, Peregrine Fund 2015) Northern harriers prey on mammals (voles, mice and ground squirrels), birds, reptiles, insects, and carrion by using a low, slow flight over the ground, then plunging on to their prey.

They nest on or near the ground in dense grass, shrubs, or other vegetation. Depending on the abundance of prey, the female lays 3-6 white eggs which incubate for 4 to 5 weeks. Fledging occurs after about 4 to 5 weeks.

Although the Northern harrier has been observed in the park (DPR 1985), more suitable breeding habitat exists in marsh areas of the Sacramento-San Joaquin Delta and the Pacific coast.

**White-tailed kite** (*Elanus leucurus*) – This FP species is similar in size to Cooper's hawk (adult wingspan of 3 feet), but like the northern harrier prefers open habitat types such as grasslands and marshes (The Peregrine Fund 2015). White-tailed kites are

year round residents in much of California. They prey on small mammals such as mice and voles, but will also occasionally hunt birds, reptiles, and amphibians. Their characteristic hunting behavior consists of soaring, flapping or hovering flight, then swooping down onto their prey.

White-tailed kites build stick nests lined with grass, hay, or leaves typically in the upper branches of trees or sometimes shrubs (Cornell 2015, Peregrine Fund 2015). The female lays 3-5 variously colored eggs that are incubated for about 30 days. The young fledge about 35 days after hatching.

Potentially suitable breeding habitat for this species occurs in MDSP.

**California horned lark** (*Eremophila alpestris actia*) – The California horned lark has no State or Federal listing status, but is identified by the CNDDB as a State Rank S3 species, which means it is vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state CNDDB 2015). In addition, California horned lark is protected by State and federal laws (see Nesting Raptors and Migratory Birds below).

California horned larks are year round residents in California inhabiting grasslands, open coastal plains, fallow grain fields, and alkali flats (CDFW 2015, Cornell 2015). These small, long-bodied songbirds (wingspan of 12- 14 inches, 6-8 inch body length) nest on the ground utilizing natural depressions or scooping out a cavity from the bare soil. Nests are lined with fine grass or other plant materials. The female lays 2–5 eggs which incubate over 11 to 12 days. The young fledge in about 8 to 10 days and the female may produce up to 3 broods per year.

Potentially suitable breeding habitat for this species occurs in MDSP.

**Merlin** (*Falco columbarius*) – Merlins are small falcons (adult wingspan of 20-29 inches) that inhabit grasslands and estuaries of the western U.S during the non-breeding winter season (Cornell 2015, Peregrine Fund 2015). They migrate north (e.g. Canada and Alaska) for breeding.

The merlin's prey consists of small to medium birds, but also bats, insects, reptiles, and small rodents (Peregrine Fund 2015). This falcon species usually catches prey in the air after swooping from a perch or while flying low over the ground.

Merlins utilize abandoned stick nests from crows, magpies, and hawks or nest on cliff ledges and in natural cavities. The female lays 3-6 rusty brown eggs that incubate for about 27 to 32 days. The young fledge in about a month.

The merlin has no state or federal listing status, but is by protected by state and federal laws (see Nesting Raptors and Migratory Birds below). Potentially suitable wintering habitat for this species occurs in MDSP.

**Prairie falcon** (*Falco mexicanus*) – This large falcon (adult wingspan of 3.5 feet) inhabits dry, open hilly or level terrain in grasslands and scrub vegetation (CDFW 2015b, Cornell 2015, Peregrine Fund 2015). Prairie falcons are year round residents in California. Their prey consists of medium-sized birds, ground squirrels, other small mammals, lizards, and insects.

The female lays 3-6 eggs which must be incubated for about 29 to 39 days (Cornell 2015, Peregrine Fund 2015). The young fledge in about 5 to 6 weeks.

The prairie falcon has been observed in several locations of the park, including the Knob Point area and the bottom of Jackass Canyon (DPR 1985, CDFW 2015b). The prairie falcon has no state or federal listing status, but is by protected by state and federal laws (see Nesting Raptors and Migratory Birds below).

**Yellow warbler** (*Setophaga petechia*) – The yellow warbler is a SSC species that inhabits riparian locations with cottonwoods, sycamores, ash, and alders and various species of shrubs (CDFW 2015b). This small songbird measures about 5 inches in length with a wingspan of about 6 to 8 inches.

Yellow warbler breeds in riparian thickets during the summer and migrates to Central and South America for the winter. Nests consist of grasses, bark strips, and plants such as nettles lined with items such as deer hair, feathers, and fibers from cottonwood, dandelion, willow, and cattail seeds (Cornell 2015). The female lays 1 to 7 eggs that are incubated for 10 to 13 days; fledging occurs in 9 to 12 days after hatching.

Threats include habitat loss and nest failure due to brown-headed cowbird brood parasitism. Potentially suitable breeding habitat for this species occurs in riparian areas of MDSP.

**MAMMALS**

**Sensitive bat species** – Potentially suitable roosting and/or breeding habitat occurs in MDSP for the following bat species:

**Pallid bat** (Antrozous pallidus) – SSC
**Townsend's big-eared bat** (*Corynorhinus townsendii*) – SSC
**western mastiff bat** (*Eumops perotis californicus*) – SSC
**western red bat** (*Lasiurus blossevillii*) – SSC
**Yuma myotis** (Myotis yumanensis) – no listing status, WBWG low to medium priority
**hoary bat** (Lasiurus cinereus) – no listing status, WBWG medium priority

The first four bats listed above are CDFW identified Species of Special Concern. The Yuma myotis and hoary bat are identified by the Western bat Working Group (WBWG) with at least a low to medium priority; the CNDDB tracks bat species that are at least low to medium priority and are protected under provisions of CEQA.

In California bats are found in a variety of habitats, including riparian, arid scrublands and deserts, and forests (Organization for Bat Conservation 2010, WBWG 2015, Zeiner et. al. 1990b). Roosting areas include coniferous and deciduous trees, bridges, buildings, cliff crevices, caves, and mines. Bat diets consist of various insects and other invertebrates such as antlions, beetles, centipedes, cicadas, crickets, grasshoppers, Jerusalem crickets, katydids, moths, butterflies, praying mantids, scorpions, solpugids, and termites. The pallid bat has been known to consume geckos, lizards, skinks, and small rodents. Some of these species have a limited diet; for example, Townsend's big-eared bat is a moth and butterfly specialist, with over 90% of its diet composed of lepidopterans (WBWG 2015).

The mating season for these bat species ranges from late summer to late winter. Females give birth early spring to mid-summer. The number of pups generally ranges from 1 to 2 (up to four for hoary bat; five for western red bat).

Threats to bats includes loss of roosting habitat due to pesticide application, agricultural conversion, timber harvest, loss of riparian vegetation, recreational activities such as rock climbing, mining activities (e.g. renewed mining or mining reclamation), and demolition and/or modification of man-made structures ((WBWG 2015).

**Berkeley kangaroo rat** (*Dipodomys heermanni berkeleyensis*) – The Berkeley kangaroo rat has no State or federal listing status, but is identified by the CNDDB as State Rank S1 (CNDDB 2015). The S1 designation means it is critically imperiled in the state because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines, making it especially vulnerable to extirpation from the state.

This small mammal (type specimen 12 inches in total length, including tail), like all kangaroo rats, is adapted to arid conditions, has nocturnal foraging habits and other physiological adaptations to conserve water (USFWS 2002b). Their diet consists of seeds but they may also eat herbaceous vegetation and insects. Not much is known about the Berkeley kangaroo rat habitat, but based on closely related kangaroo rat species, burrows are typically excavated beneath a protecting rock or shrub, with a main burrow and multiple entrances/exits.

The breeding season is early spring through summer, with multiple litters per year. Life expectancy is probably not much more than 1 year. Threats to this species include habitat destruction or degradation, feral cat predation, and rodent poisoning programs (USFWS 2002b).

Historical collections of Berkeley kangaroo rat in MDSP are reported in the CNDDB (DPR 2015b).

**San Francisco dusky-footed woodrat** (*Neotoma fuscipes annectens*) – The San Francisco dusky-footed woodrat is a SSC species that lives in chaparral and redwood forest habitats. They are medium-sized rodents, about the size of an adult rat, with a body around 7 inches long, nose to rump, and a furred tail (SCMBC 2015).

Woodrats build mounded stick lodges comprised of shredded grass, leaves, and other miscellaneous materials such as bird feathers (Zeiner et al. 1990b, SCMBC 2015). The lodged or houses range in size from 3 to 8 feet across at the base and as much as 6 feet tall, and they tend to live in colonies of lodges numbering 3 to 15 or more. Each lodge is occupied by a single adult.

The San Francisco dusky-footed woodrat breeds from December to September, with a peak in mid-spring. Litter size ranges from 1 to4, with an average of 2 to 3 (Linsdale and Tevis 1951, Verner and Boss 1980).

Potentially suitable habitat for this species occurs in MDSP.

**San Joaquin pocket mouse** (*Perognathus inornatus*) – The San Joaquin pocket mouse is a small nocturnal mammal inhabiting dry, open grasslands or scrub areas on fine-textured soils (Zeiner et al. 1990b). This species has no State or Federal listing

status, but is identified by the CNDDB as State Rank S2 (CNDDB 2015). The S2 designation means it is imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state.

The San Joaquin pocket mouse digs burrows for cover and nesting purposes. Seeds constitute the majority of its diet, but this species will also eat green vegetation and insects (Zeiner et al. 1990b). Reproduction probably occurs during spring and early summer.

Potentially suitable habitat for this species occurs in MDSP.

**American badger** (*Taxidea taxus*) – This SSC species primarily inhabits grasslands, parklands, farms, and other treeless areas with friable soil (i.e. breaks or crumbles easily) and a supply of rodent prey (USFS 2010). Adult badgers range in length from 21 to 35 inches and 9 to 27 pounds in weight (Shefferly 1999). Their prey mainly consists of small rodents, including ground squirrels, pocket gophers, woodrats, kangaroo rats, voles, and deer mice. They usually capture prey by digging up their burrows.

Badgers are excellent diggers and they possess powerfully built forelimbs allow them to tunnel rapidly through the soils as well as harder materials such as pavement (Shefferly 1999). Their burrows are constructed mainly in the pursuit of prey, but they are also used for sleeping. A typical badger can extend 10 feet below the surface and contain about 35 feet of passageways. Badgers use multiple burrows and they may not use the same burrow more than once a month. In the summer months they may dig a new burrow each day

The American Badger mates in late summer or early autumn, but embryos are arrested early in development (Shefferly 1999). Although a female is technically pregnant for 7 months; gestation is a mere 6 weeks. Litters range from 1 to 5 offspring, with an average of 3, which are born in early spring.

Potentially suitable habitat for this species occurs in MDSP.

**San Joaquin kit fox** (*Vulpes macrotis mutica*) – The San Joaquin kit fox is listed as federally endangered and state threatened. It ranges in the San Joaquin valley and in the surrounding foothills of the Coast Ranges, Sierra Nevada, and Tehachapi Mountains, from southern Kern County north to Contra Costa; Alameda and San Joaquin counties on the west and near La Grange, Stanislaus County on the east (ECCCHC 2015). In the northern part of its range (including San Joaquin, Alameda and Contra Costa Counties) where most habitat on the valley floor has been eliminated, kit foxes now occur primarily in foothill grasslands (Swick 1973, Hall 1983, Williams et al. 1998), valley oak savanna, and alkali grasslands (Bell 1994).

The San Joaquin Kit Fox is distinguished by its small size (four to six pounds), large ears, long legs, buffy tan color and black-tipped tail. This species occurs in a variety of habitats, including grasslands, scrublands, vernal pool areas, alkali meadows and playas, and an agricultural matrix of row crops, irrigated pastures, orchards, vineyards, and grazed annual grasslands (Williams et al. 1998). They feed primarily on ground squirrels, kangaroo rats, desert cottontails, mice, insects, carrion and ground-nesting

birds. Kit Foxes are adapted to dry conditions, mostly obtaining their water from their prey.

San Joaquin kit foxes use numerous dens throughout the year (ECCCHC 2015). They are used for temperature regulation, shelter from inclement weather, escape from predators, and reproduction. Mating occurs in late December or early January and litters of 2 to 6 pups are born sometime between February and late March. During nursing the female is rarely seen hunting; it is thought that the male does most of the hunting. Pups emerge from their den at one month of age, and may already be weaned.

Threats to San Joaquin fox include loss, fragmentation, and degradation of habitat by agricultural, urban, and industrial development. This contributes to a decrease in the carrying capacity of remaining habitat throughout the kit foxes range.

The closest reported occurrences of San Joaquin kit fox are to the east and north of the park, including East Bay Regional Park District properties (Black Diamond Mines, Round Valley).

Potentially suitable habitat for this species occurs in eastern, lowland portions of MDSP.

### Sensitive Natural Communities

Sensitive plant communities are those that are regionally uncommon or unique, unusually diverse, or of special concern to local, state, and federal agencies. Removal or substantial degradation of these plant communities constitutes a significant adverse impact under CEQA. The California Department of Fish and Wildlife's California Natural Diversity Database (CNDDB) maintains a list of the state's plant communities (also known as alliances) and identifies those of high inventory priority due to their rarity and threat. These are considered sensitive natural communities by regulatory agencies.

Six of the plant communities described above are recognized by CDFW as sensitive natural communities and any impacts must be addressed through the CEQA process.

### Sudden Oak Death and other pathogens

Discovered in 1995, Sudden Oak Death (SOD) is caused by the pathogen *Phytophthora ramorum*, which has infected and killed thousands of tanoak, coast live oak, Shreve oak, and California black oak trees in coastal forests from Humboldt County to Monterey County (COMTF 2008). This water mold also infects many other species, including California bay laurel (*Umbellularia californica*), Pacific madrone (*Arbutus menziesii*), California buckeye (*Aesculus californica*), coast redwood, Douglas-fir, big leaf maple (*Acer macrophyllum*), California honeysuckle (*Lonicera hispidula var. vacillans*), California coffeeberry (*Rhamnus californica*), toyon (*Heteromeles arbutifolia*), rhododendron (Rhododendron spp.), manzanita (*Arctostaphylos* spp.) and huckleberry (*Vaccinium* spp.).

SOD may be spread when host plants, wood chips, burls, other host plant products or soils contaminated with the pathogen's spores are moved to previously uninfected areas (COMTF 2009). SOD thrives in cool, wet to moist climates, and living plants and its spores can be found in soil and water as well as plant material. The risk of SOD spread is greatest in muddy areas and during rainy weather where spore-harboring

hosts are present. Detached plant leaves, organic material, and soil, which may harbor spores of the pathogen, are more likely to stick to vehicles, equipment, and humans when they are wet.

Contra Costa County is one of 14 California counties to have confirmed SOD findings and is under state and federal quarantine regulations governing the movement of affected plants or plant material out of the quarantined area (COMTF 2015). The California County Agricultural Commissioners are the enforcement agents for state and federal regulations governing *Phytophthora ramorum*.

The water mold pathogens *Phytophthora cinnamomi* and *Phytophthora tentaculata* have recently been discovered in the Bay area. These pathogens are now known to infect some native shrubs and trees, including *Mimulus aurantiacus* (bush monkey flower) and *Heteromeles arbutifolia* (toyon). Although not currently documented in MDSP these pathogens have the potential to be introduced to the park inadvertently in the same manner as SOD.

#### WATERS OF THE UNITED STATES, WETLANDS, AND RIPARIAN ZONES

The federal Clean Water Act (CWA) is a 1977 amendment to the Federal Water Pollution Control Act of 1972, which set the basic structure for regulating discharges of pollutants to waters of the United States. The intent was to maintain the chemical, physical, and biological integrity of the nation's waters [Federal Water Pollution Control Act/Clean Water Act, 33 U.S.C. 1251, §101(a), 2002]. It was also intended to provide a mechanism for regulating discharges of pollutants into the waters of the U.S and gave the U.S. Environmental Protection Agency (USEPA) authority to implement pollution control programs, such as setting wastewater standards for industry and water quality standards for all contaminants in surface waters.

Section 404 of the CWA establishes programs to regulate the discharge of dredged and fill material into waters of the United States, including wetlands. The term "waters of the U.S." applies to the jurisdictional limits of the authority of USACE to regulate navigable waters under Section 404 of the CWA. Navigable waters are defined in Section 502(7) of the Act as "waters of the United States, including the territorial seas." By definition, navigable waters include all wetlands and tributaries to "waters of the United States." Under Section 404 of the Act, the USACE has authority to regulate the discharge of dredged or fill material into navigable waters. The authority for the USACE to regulate navigable waters is also provided under Section 10 of the federal Rivers and Harbors Act of 1899. Under this statute, the USACE regulates excavation or filling operations or the alteration or modification of the course, location, condition, or capacity of any navigable water of the United States.

The CWA and USACE define wetlands as areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The majority of USACE-jurisdictional wetlands meet three wetland delineation criteria: (1) hydrophytic vegetation, (2) hydric soil types, and (3) wetland hydrology. Small USACE-jurisdictional wetlands occur in scattered locations of the park, including areas that are adjacent to the park's roads and trails.

For purposes of Section 404 of the Clean Water Act, the lateral limits of USACE-jurisdiction over non-tidal water bodies (e.g. streams) extend to the ordinary high water mark (OWM), in the absence of wetlands (USACE 2005). The RTMP could include construction/maintenance activities within the OWM of perennial streams and intermittent streams; hence these streams are subject to Section 404 regulation by the USACE.

The State Water Resources Control Board regulates the alteration of any federal water body, including the streams identified above, through Section 401 of the Clean Water Act. The appropriate Regional Water Quality Control Board(s) certify that water quality of the affected water body is not subject to unacceptable environmental impacts through provisions of the 401 certification program (SWRCB 2015).

Pursuant to Section 1600 of the Fish and Game Code the CDFW regulates any work undertaken in or near a lake or a river/stream that flows at least intermittently through a bed or channel. The RTMP identifies construction/maintenance activities that could be subject to the jurisdictional authority of the CDFW.

| | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| **WOULD THE PROJECT:** | | | | |
| a) Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a sensitive, candidate, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service? | ☐ | ☐ | ☒ | ☐ |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service? | ☐ | ☐ | ☒ | ☐ |
| c) Have a substantial adverse effect on federally protected wetlands, as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | ☐ | ☐ | ☒ | ☐ |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | ☐ | ☐ | ☒ | ☐ |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | ☐ | ☐ | ☐ | ☒ |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | ☐ | ☐ | ☐ | ☒ |

**DISCUSSION**

Project activities identified in the Plan include road-to-trail conversion, removal and rehabilitation of non-system trails, rebuilding/re-engineering of existing roads and trails (e.g. re-route of trail sections), and various maintenance activities such as annual or emergency drainage repair, vegetation clearing, road/trail tread maintenance, and brushing performed on a re-occurring basis.

MDSP supports a diverse assemblage of plant communities and habitats that in turn provide a suitable environment for numerous special status plant and wildlife species. Project and maintenance activities have the potential to impact sensitive biological resources both directly (e.g. removal, injury or death) or indirectly (e.g. habitat modification). Negative impacts produced by each activity or project needs to be assessed on a case by case basis in order to develop the appropriate CEQA compliance determination. Measures and/or requirements to mitigate, minimize or eliminate impacts are described below.

a) (i) **Special status plant species**.
As described above in the Environmental Setting suitable habitat occurs within MDSP for 40 special status plant species, 30 of which have been reported to occur in the park (see also Appendix 1). Road and trail projects and maintenance activities have the potential to impact special status plant species. Integration of Standard Project Requirement BIO-3 through BIO-6 and BIO-16 and BIO-17 would ensure that impacts from project/maintenance activities would remain at a less than significant level.

(ii) **Bridges' Coast Range shoulderband and Molestan blister beetle**.
As described above in the Environmental Setting, suitable habitat occurs within MDSP for two special status invertebrate species, Bridges' Coast Range shoulderband and Molestan blister beetle. Compliance with Standard Project Requirement BIO-36 would ensure that impacts from project activities would remain at a less than significant level.

(iii) **California tiger salamander and California red-legged frog.**
As described above in the Environmental Setting, suitable breeding and non-breeding habitat occurs within MDSP for the federally and state Threatened California tiger salamander and the federally Threatened California red-legged frog. Compliance with Standard Project Requirement BIO-53 would ensure that impacts from project activities would remain at a less than significant level.

(iv) **Foothill yellow-legged frog.**
As described above in the Environmental Setting, limited suitable habitat for foothill yellow-legged frog occurs within MDSP. This very aquatic species rarely leaves the water; therefore only projects that involve streams and adjoining habitat could have an effect on resident foothill yellow-legged frog. Compliance with Standard Project Requirement BIO-51 would ensure that impacts from project activities would remain at a less than significant level.

(v) **Western pond turtle**.

As described above in the Environmental Setting, limited suitable aquatic and adjoining habitat for western pond turtle occurs within MDSP. Compliance with Standard Project Requirement BIO-52 would ensure that impacts from project activities would remain at a less than significant level.

(vi) **Sharp-tailed snake**.
As described above in the Environmental Setting, suitable habitat occurs within MDSP for sharp-tailed snake, which has no listing status. Project activities associated with road and trail work would not create significant impacts to this species.

(vii) **Alameda striped racer**.
As described above in the Environmental Setting, the entire park is within USFWS designated critical habitat for Alameda striped racer, a state and federally listed as threatened species. Compliance with Standard Project Requirement BIO-49 would ensure that impacts from project/ maintenance activities would remain at a less than significant level.

(viii) **Coast horned lizard**.

As described above in the Environmental Setting suitable habitat occurs within MDSP for coast horned lizard. Compliance with Standard Project Requirement BIO-49 would ensure that impacts from project activities would remain at a less than significant level.

(ix) **Nesting raptors and migratory birds.**
As described above in the Environmental Setting suitable habitat occurs within Mount Diablo State for numerous species of raptors and migratory birds. Nesting raptors and migratory birds are protected by the federal Migratory Bird Treaty Act (16 U.S.C. 703-712), and by the state Department of Fish and Wildlife Fish and Game Code (Sections §3503, §3503.5, and §3513). Under these laws, all raptors and migratory birds and their nests are protected. Road and trail projects and maintenance activities have the potential to impact special status avian species. Compliance with Standard Project Requirement BIO-40 and BIO 41 would ensure that impacts from project/ maintenance activities would remain at a less than significant level.

(x) **Sensitive bat species**.
As described above in the Environmental Setting, several sensitive bat species may occur within MDSP. Compliance with Standard Project Requirement BIO-40 and BIO-41 would ensure that impacts from project/ maintenance activities would remain at a less than significant level.

(xi) **Berkeley kangaroo rat, San Francisco dusky-footed woodrat, San Joaquin pocket mouse, and American badger**.
As described above in the Environmental Setting suitable habitat occurs within MDSP for Berkeley kangaroo rat, San Francisco dusky-footed woodrat, San Joaquin pocket mouse, and American badger. Compliance with Standard Project Requirement BIO-47 would ensure that impacts from project activities would remain at a less than significant level.

(xii) **San Joaquin kit fox**.
As described above in the Environmental Setting potentially suitable habitat for the federally endangered and state threatened San Joaquin kit fox occurs in eastern, lowland portions of MDSP. Compliance with Standard Project Requirement BIO-48 would ensure that impacts from project activities would remain at a less than significant level.

b) As described above in the Environmental Setting six vegetation types in MDSP are recognized by the CDFW as special status natural communities. These six are:

- Leymus triticoides Herbaceous Alliance
- Nasella pulchra Herbaceous Alliance
- Platanus racemosa Woodland Alliance
- Poa secunda Herbaceous Alliance
- Populus fremontii Forest Alliance
- Umbellularia californica Forest Alliance

Although project/maintenance activities identified in the RTMP would unlikely cause significant impacts to special status natural communities, compliance with Standard Project Requirement BIO-16 would ensure that impacts on natural communities from project activities would remain at a less than significant level.

Sensitive riparian areas exist within the park and project/maintenance activities could create impacts. Implementation of measures to address impacts would be identified in a CDFW 1602 Lake or Streambed Alteration Agreement as described in Section c) below.

c) Numerous permanent and intermittent streams and USACE-jurisdictional wetlands occur within MDSP. As described in the Environmental Setting above, the RTMP identifies construction/maintenance activities that could be subject to the jurisdictional authority of the USACE, RWQCB, and CDFW requiring 401 and 404 permits and a CDFW 1602 Lake or Streambed Alteration Agreement prior to the start of work to address impacts.

In addition to Best Management Practices (BMP's) identified in the Hydrology Section all permits necessary to conduct the proposed project or maintenance activity, as determined by a DPR-approved biologist, would be obtained prior to the start of any work. All permit/agreement conditions would be implemented, reducing any potential impacts to a less than significant level.

d) It is not expected that any maintenance activities or projects would interfere substantially with the movement of any native resident wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Although unlikely, depending on location construction/maintenance activities identified in the RTMP could temporarily affect fish passage. No state or federally listed fish species are known to occur in park streams; therefore any potential impact would be addressed by conditions identified in a CDFW 1602

Lake or Streambed Alteration Agreement. Implementation of all 1602 Agreement conditions would reduce any potential impacts to a less than significant level.

e) DPR is not subject to local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; however, Department policy and its Mission Statement incorporate the protection of natural resources into the short-term and long-term management goals for its park units. No impact.

f) On adjoining lands the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (ECCC HCP/NCCP) enables Contra Costa County, the Contra Costa County Flood Control and Water Conservation District the East Bay Regional Park District, (EBRPD), and the Cities of Brentwood, Clayton, Oakley, and Pittsburg to control endangered species permitting for activities and projects in the region that they perform or approve. The Department is not subject to the ECCC HCP/NCCP. No impact.

**MITIGATION MEASURE BIO-**

None Required.

# V. Cultural Resources

This section provides a description of cultural resources known to exist in MDSP or, which have the potential to occur in the Park. A cultural resource is a resource that exists because of human activity. This term, commonly used to include prehistoric-era sites and artifacts as well as historic-era (post-European contact) sites, buildings, structures, objects, and districts.

The cultural resources encountered in MDSP are the result of human behaviors in, and adaptations to the environment. Settlement in the region both prehistorically and historical were directly influenced by the environmental conditions and the availability of resources. The topography, weather, and wide array of natural resources in the area encompassing the Park provided an ideal setting for human utilization and occupation. Present within the park is an array of cultural resources that contribute to the rich and diverse cultural resource heritage of California.

To develop a better understanding of the origins and meaning of these resources, both the environmental and cultural contexts (settings) need to be established. The following paragraphs briefly summarize cultural developments through the prehistoric, ethnographic, and historic past.

### ENVIRONMENTAL SETTING

Mount Diablo, often referred to as “Island Mountain” stands alone on the edge of California’s Great Central Valley at the northern end of the Diablo Range in the Coast Range Geomorphic Province. Slopes vary from slight (0-8%) to greater than 50 percent. Terrain in approximately 60 percent of the park is within the category of steep slopes (greater than 50%) and 30 percent, considered moderately steep (25-50%). The park’s geology is complex with a wide variety of geological formations. The central mass of Mount Diablo is four to five miles in diameter and composed of Jurassic Period Franciscan Complex and a sequence of rocks referred to as Coast Range Ophiolites Greenstones altered from basalt, greywacke, chert, shale, slate, and schist comprise the Franciscan Complex. Ophiolites consist of diabase, pillow basalts, basalt flows, and volcanic breccia. A narrow band of serpentine separates the two formations. Exposed on the flanks of the mountain are unaltered marine sediments. Gold, silver, copper, and mercury exploration occurred in areas of the park, though mercury was the only ore extensively mined on Mount Diablo. The primary sources of mercury ore in the area are cinnabar and metacinnabar associated with serpentine and silica-carbonate rocks. The largest mine in the area is the Diablo Mine on Morgan Territory Road.

Soils on Mount Diablo developed primarily in materials weathered from bedrock, and in colluvium (material that have fallen or slid down the mountain and hill slopes). Floodplain soils are not widespread but important in supporting riparian vegetation along several drainages. MDSP has seven major drainages (Marsh Creek, Mount Diablo Creek, Pine Creek, Green Valley Creek, Sycamore Creek, Alamo Creek, and Tassajara Creek). Generally, the drainages flow from the peak of Mount Diablo, which is typical of drainages in the Coast Ranges where deep canyons and ridges dominate.

Creeks and streams are typically intermittent, influenced on the distribution of seasonal rainfall.

Native vegetation is diverse, dependent on elevation, geology, topography, and exposures. Etter and Bowerman (2002) report 841 species, subspecies, and varieties of plants present at the park. Six major terrestrial biotic communities are present including riparian woodland, grassland, chaparral, foothill woodland, coniferous woodland, and rocky areas and cliffs and support a diversity of wildlife. Over 250 species of fish, amphibians, reptiles, birds, and mammals inhabit the park with even greater numbers of invertebrates.

For Native Americans in the area, the mountain provided an expansive collection area for natural resources (Parkman 2008). Prehistorically, and during early historic occupations, the familiar assemblage of central California birds, mammals, reptiles, amphibians, etc., would have occupied or used the region including Grizzly Bears, Puma, Mule Deer, Tule Elk, coyote, rabbits, and hare, badgers, and raccoons, migratory and resident birds, and many others available for human exploitation and in the adjoining riparian zones (Wiberg 2010).

## CULTURAL RESOURCE SETTING

### *Prehistoric Overview*

Development of the Central California Taxonomic System (CCTS) provided a framework for comparing different archaeological sites in Central California (Lillard et al. 1939, Heizer 1949). Cultural taxonomic sequences developed for the Central California region have recognized several discrete prehistoric temporal periods marked by changes in settlement distribution, subsistence orientation, and morphologically distinct artifact types (Beardsley 1954; Fredrickson 1974a; Bennyhoff and Hughes 1987; Milliken and Bennyhoff 1993). The earliest versions of the CCTS focused on the concept of cultural Horizons (now referred to as Periods); however, the concept proved too broad and eventually refined into cultural Patterns (Bennyhoff 1968), and later subdivided into Phases or aspects. A number of refinements to the taxonomic system added more subdivisions (Willy and Phillips 1959) and broke the system up by geographical and temporal variations (Bennyhoff 1977).

Fredrickson (1973, 1974), in the early 1970s proposed a sequence of cultural manifestations (or Patterns) based primarily on data from the North Coast Ranges and placed them in a framework of cultural periods he believed were relevant to California as a whole. This concept of cultural patterns differed from previous researchers (Beardsley 1954; Meighan 1955), who typically emphasized assemblages of material goods as the basis for their classifications. Fredrickson took a much broader approach of archaeological material culture and defined the pattern as "…an adaptive mode share in general outline by a number of analytically separable cultures over an appreciable period of time within an appreciable geographic space" (Fredrickson 1973). Characteristics of the various culture modes include (DPR 2012):

- Specific Cultural Items – similar technological skills and devices;
- Production, Distribution, and Consumption – similar economic modes including participation in trade networks and practices surrounding wealth (often inferential); and
- Similar mortuary and ceremonial practices (Fredrickson 1973).

Fredrickson acknowledged that the economic/cultural component of each pattern could manifest in neighboring geographic regions according to the presence of stylistically different artifact assemblages. He introduced the term aspect as cultural subset of the pattern, defining it as a set of historically related technological and stylistic cultural assemblages (DPR 2012). Given the coexistence of more than one of these cultural patterns, operating at any given point in time in California prehistory, Fredrickson argued keeping these temporal periods separate from defining and dating specific patterns (Fredrickson 1974). This integrative framework permits discussion of temporally equivalent cultural patterns across a broad geographic space.

Earliest documentation of entry and dispersal of humans into California began at the start of the Paleo-Indian Period (10,000-6000 B.C.). At this time, social units appear to be small and highly mobile. Typically, identification of such sites has been in the context of ancient pluvial lakes shores and on coastlines with the presence of hunting tools such as fluted projectile points and chipped stone crescent forms. Various researchers working in the region since the early 1900s have identified in the archaeological record prehistoric adaptation over the ensuing centuries. Fredrickson (1974) and Moratto (1984) have summarized the results of these past investigations.

In the valley, few archaeological sites have been located that date to the Paleo-Indian or Lower Archaic Period (6000-3000 B.C). This lack of data (sites) may be due to high sedimentation rates, leaving the earliest sites deeply buried and difficult to access. In contrast, archaeologists have recovered significant amounts of data from sites occupied in the Middle Archaic Period (300-500 B.C.). During this period subsistence strategies focused on broad regional patterns of foraging, developed into more intensified procurement practices with diversified subsistence economies. This diversification may have included introduction of acorn processing technology. At this time, occupation of more diverse settings occurred and populations increased. Establishment of permanent villages inhabited year round also marked this period. Most often, these villages were located along major waterways. The Upper Archaic Period (500 B.C. – A.D 700) suggests the onset of a more complex sociopolitical organization including status distinctions. Seen for the first time is a more formalized and complex exchange system, with evidence indicating regular, sustained trade between groups.

Numerous social and technical changes, including the introduction of the bow and arrow, which ultimately replaced the dart and atlatl, define the Emergent Period (A.D. 700-1800). During the Emergent Period, territorial boundaries between groups became more definitive. Also notable is that it was increasing common that distinction in an individual's social status was associated to acquired wealth. Between groups, the exchange of goods including entry of raw materials into exchange networks became more standardized. In the latter part of this period (A.D. 1500-1800), extremely sophisticated and standardized exchange relationships developed. Specialists arose to govern the various aspects of production and exchange (DPR 2012). Increasing

quantities of trade items moved greater distances and the clamshell disk bead became a monetary unit of exchange.

Under the CCTS, Fredrickson divided his Middle and Upper Archaic Periods, and the Emergent Period further into patterns. These patterns based on similar technology, economic practices, mortuary patterns, concepts of wealth, and changes in amount, type, and direction of trade. Rather than assigning patterns to specific time-periods, emphasis was on relative chronology (Wiberg 2010). Several of these cultural patterns (Windmiller, Berkeley, and Augustine Patterns, and the Meganos Tradition of the Berkeley Pattern) are applicable to the project area (MDSP).

*Windmiller Pattern (2050 B.C.-500 B.C) –*
This pattern largely defined by archaeological assemblages that demonstrate an increased emphasis on the use of acorns in addition to continuation of hunting and fishing activities. Manos, mutates, and mortars were used but rare. The low frequency of milling tools implies there was a greater emphasis on hunting. Large non-obsidian stemmed dart and spear points characterize the hunting equipment. The hallmarks of the Windmiller culture were ground and polished charmstones, twined basketry, baked clay artifacts, and worked bone and shell. Trade patterns were wide ranging bringing in goods from neighboring groups as well from the Coast Ranges and trans-Sierran. Mortuary practices associated with Windmiller sites most often consist of unique artifacts (perforated charmstones) and extended burials oriented in a westerly direction.

Interpretation of site dating to this time reflects the emergence of logistically organized settlement organization, centered along river corridors of the Sacramento and San Joaquin Valleys (Rosenthal et al. 2007:153).

*Berkeley Pattern (Middle Period 500 BC-AD 700) -*
Hunting appears to have been less significant than at Windmiller assemblages. Large and small cobble mortars and various pestle types are common in assemblages dating to the Berkeley Pattern, indicating increased dependence on acorns as a food source than previously seen. Distinct stone and shell artifacts distinguish the Berkeley Pattern from earlier and later cultural expressions. Site assemblages exhibit a decrease in chipped stone projectile points, with the dominance of contracting-stemmed and large expanding stemmed forms. Berkeley Pattern assemblages display a greater emphasis on bone implements. Flexed burials with no patterned orientation, randomly interred in residential middens accompanied by fewer artifacts (with little emphasis on wealth), and occasional expressions of cosmological beliefs in the form of animal burials, charmstones, quartz crystal, and bone whistles characterize this pattern (Farquhar, Garlinghouse, Brady, Ellison 2013). Dating of the Berkeley Pattern varies across central California. In some regions, the Windmiller Pattern continued longer than in other areas, gradually giving way to the changes that marked the Berkeley Pattern (DPR 2012).

*Meganos Tradition*
The disappearance of Windmiller cultural traits in central California was not sudden or complete. Sometime during the Middle Period, an influx of people with their own distinctive cultural traits defined as the Meganos Aspect emerged. The Meganos Aspect of the Berkeley Pattern represented a localized intrusion of Windmiller people in

the Stockton district (Bennyhoff 1982). These people combined of the traits of Windmiller and Berkeley Patterns, evidenced in mortuary practices and the stone tool industry. A particular aspect of the Meganos culture was a tendency for burials placed in non-midden cemeteries on the tops of sand mounds near the mouths of the Sacramento and San Joaquin Rivers (Bennyhoff 1968). Bennyhoff (1994) suggested that the Meganos Pattern reflects a semi-sedentary settlement arrangement, marked by increased seasonal movement of villages, a departure from earlier, more sedentary patterns (Farquhar et al. 2013 ).

Augustine Pattern (Middle Late Transition and Late Periods AD 700-AD 1800) -
The Augustine Pattern is composed of three temporal phases: Middle/Late transition, Late Period Phase 1, and Phase 2. Together these phases delineate a progressive intensification of localized economic systems and greater distinctions in social ranking, possibly the result of intrusive traits accompanying the southward movement of Wintuan peoples in the lower Sacramento Valley (Wiberg 2010:29)

This period displays increasing populations, more intensive food procurement strategies, noticeable changes in burial practices, and an increase in trade activities. Intensive fishing, hunting and gathering, complex exchange systems, and a wider variety in mortuary practices were all the hallmarks of this period. Bow and arrow technology was present and fishing implements became more common. Mortars and pestles displayed careful shaping, and for some individuals of higher status cremations were used (DPR 2012).

*Ethnographic Overview*

At the time of European contact, California was home to approximately 310,000 indigenous peoples with a complex culture defined by different linguistic affiliations and territorial boundaries (Kroeber 1925; Cook 1978: p. 91; Heizer 1978a; Ortiz 1983; d'Azevedo 1986). At least 70 distinct native Californian cultural groups with even more subgroups inhabited the spans California. These groups and subgroups spoke between 74 and 90 languages and within these language groups was large variation in dialect (Shipley 1978: p. 80; University of California at Berkeley 2009-2010). Linguists assigned these groupings to five primary language families (Athabaskan, Algic, Uto-Aztecan, Penutian, and Hokan) and two unaffiliated families (Chumashan and Yukian) (Golla 2007: p. 80). These language families are present in other parts of North American as well.

In the 1770s at the time of Spanish contact, the Penutian-speaking group known as the “Bay Miwok” most commonly associated with Mount Diablo and Delta region. The Miwok language family consisted of multiple groups inhabiting a diverse range of territory - distinguished both linguistically and geographically (Farquhar et al. 2013). The Bay Miwok occupied the inner core of the Coast Ranges and confined primarily to the eastern region of Contra Costa County. Their territory extended from the Sacramento-San Joaquin Delta along the southern shore of Suisun Bay and south, past the eastern slopes of Mount Diablo to the area encompassing the city of Danville. An estimated twenty-seven hundred Indians occupied the region now defined as Contra Costa County (Milliken 1995). The Bay Miwok lived in close proximity to other groups including the Yokuts to the southeast, the Plains Miwok to the northeast, the Patwin to

the north, and the Coastanoan-Ohlone to the south and west. Archaeological and linguistic evidence indicate the ancestral Miwok arrived in the area around 2000 years ago, entering into the lower Sacramento and Delta region, perhaps, displacing a previously established group of Hokan speakers (Moratto 1984).

Compared with other Miwok language speaking groups, information on past lifeways of the Bay Miwok is limited. Exposure and pressures associated with the arrival of European exploration and settlers occurred significantly earlier for Native American groups within the San Francisco Bay Area than for other, more insulated groups in Northern California. Arrival of Spanish explorers in the Bay Area in the 1760s, transpired almost 75 years earlier than exploration in other more remote areas of the Sierra Nevada Mountains (Farquhar et al. 2013). Spanish exploration provoked a series of events that drastically affected the Bay Miwok including a population reduction, disruption of political and social organization, and alteration of their traditional territory (Farquhar et al. 2013).

Reconstruction of the past lifeways of the Bay Miwok is difficult due to a lack of ethnographic documentation, the result of early contact. What little is known comes from ethnohistoric documents including travel diaries and mission records (Farquhar et al. 2013). Felipe Arroyo de la Cuesta, a Franciscan missionary visiting San Francisco in 1821, documented the Bay Miwok language (Saclan tribelet), and is the only record of the language (Callaghan 1971:488). Not until the 20th century did intensive documentation of California Indians begin in earnest, almost 130 years after initial Euro-American contact and near obliteration of the Bay Miwok. Scarce information on the Bay Miwok was available by the time key anthropologists such as Barrett, Merriam, and Kroeber initiated intensive research studies related the Native people of California. These limitations proved difficult for anthropologist to determine territorial boundaries between the Miwok and neighboring tribes from the Bay Area and the San Joaquin Valley (Beeler 1955:201). Merriam assumed the Bay Miwok were extinct based on the reduced population and increased social disorganization (Merriam 1907:384); however, this assumption was erroneous (Farquhar et al. 2013).

Tribelets were likely the basic political unit among the Bay Miwok. This form of social organization is theorized to have considerable antiquity in California, perhaps for two millennia, and evolved as changes in population and technology allowed group boundaries to become firmly established (Wiberg 2010). The tribelet was a small independent group of usually related, intermarried families occupying a specific territory and speaking the same language or dialect (Wiberg 2010). Each tribelet occupied and maintained distinct boundaries that were generally recognized and respected by neighboring tribelets (Bennyhoff1977:17). Within each tribelet, there were linages and settlements, which ranged from 20 and 300 persons (Albion 2013). The larger villages were typically along the rivers and bay (Milliken 2003) with smaller grouping in the less productive zones (Wiberg 2010). There were six Bay Miwok tribelets according to Milliken, with each tribelet name derived from village names (Farquhar et al. 2013). Tribelets included Chupcan, Volvon, Ompin, Saclan, Tatcan, and Julupun. The Volvon tribelet (called Wolwon or Bolbon by other researchers), resided closest to Mount Diablo (Farquhar et al. 2013) and lived along the Marsh Creek drainage and the base of the mountain. The principle village of Volvon was reportedly located at the southeast flank

of Mount Diablo (Bennyhoff 1977; Levy 1978a: 398) and held the peak of Mount Diablo (Wiberg 2010).

The natural resources available in the region provided for most of the needs of the aboriginal Bay Miwok populations. The prehistoric Bay Miwok were “hunters and gatherers” who adapted and managed their abundant local environments so well that some places were occupied for thousands of years (Wiberg 2010). The Miwok were adept at living in and managing numerous environs, some rich enough to afford large villages of “collectors,” and others less abundant and encouraged a more mobile, forager way of life (Wiberg 2010). Littoral (shoreline) and riparian environments, including Delta marshlands were more productive and therefore more sought after (Wiberg 2010). The expansive grasslands of the Central Valley bordering the Delta were productive as well, and sustained more habitation. The uplands and mixed oak/conifer areas were not as productive, resulting in less intensive utilization and occupation than in other more productive areas (ocean, Bay coasts, riparian corridors, and the Delta). The acorn, as throughout California was a dietary staple of the Bay Miwok; however, a diverse number of other floral and faunal resources (particularly grass seeds) were also important. Like other native Californians, the Miwok managed their environments to improve conditions for their utilization. Annually, the native inhabitants burned grass and brush lands to improve forage for deer and other mammals, keep the land open and safe from predators and neighbors, and improve productivity of numerous resources they depended on (Wiberg 2010).

The Spanish reported relatively large permanent villages in the Diablo/Delta region in the 1770s (Farris, Davis, and McAleer 1988; Milliken 1995; Wiberg 2010) suggesting resource catchment was large, varied, and abundant. The Bay Miwok, intensive food collectors conducted most of their procurement activities within a tribelet’s territorial boundaries, and with permission, into adjoining territories for food-gathering sojourns (Kroeber 1932; Bennyhoff 1977). Important resources available on Mount Diablo included acorns, buckeye, California laurel, grey and Coulter pine seeds, and other seed and roots from various plants. Fauna available and exploited on Mount Diablo consisted of deer, jackrabbits, cotton-tailed rabbits, and tule elk (Wiberg 2010). Salmon and other fish procured on the Sacramento-San Joaquin Delta were also important to the Miwok subsistence economy (DPR 1989).

Acorns, identified as a food staple throughout Central Valley and foothills tribes are abundant on Mount Diablo. According to Baumhoff (1963), the blue oak, valley oak, and coast live oak are the preferred or more commonly used species. All three species are common in the park. Other plant species including seeds of pine trees (pine nuts) such as Pinus sabiniana are present in the park and provided an important, nutritional food source for aboriginal peoples (Farris 1982; Bocek, 1984: 248). Other plants with food/or medicinal value and available throughout MDSP include California laurel, buckeye, manzanita, toyon, and a variety of grasses (cf. Barrett and Gifford 1933: 157, 163, 174; Bocek 1984; 249, 262, and others). Chamise, the dominate plant species to the chaparral biome on Mount Diablo was used in various ways including medicinal purposes, construction material, and for making arrow foreshafts (Bean and Saubel 1972: 28; Bocek 1984:249; Timbrook 1984: 160).

Inter-tribal relationships were socially and economically necessary to supply marriage partners, and goods and services not locally available. Trade and marriage patterns were usually but not always dictated by proximity and traditional enemies typically defined by contiguity. Regional festivals and religious dances brought groups together during periods of suspended hostilities. Normally, there was a strict distinction between women's work harvesting plant foods, processing and cooking food, weaving baskets, and raising small children and men's work, which included hunting and fishing, trade, warfare, and training older sons. Textiles and basketry were extremely important throughout Central California and use ranged from baby carriers to burial shrouds, food storage, and cooking vessels. Even the common woven brush hut was a type of large basket. Fine basket making skills conferred prestige on women (Wiberg 2010).

When the Spanish arrived in the region, traditional trade patterns thousands of years old were in place (Wiberg 2010). The small tribelet groups were both independent and interdependent. Both the archaeological record and ethnographic accounts strongly demonstrate trade with neighbors for goods and wives. These relationships often moved both goods, particularly obsidian and shell beads, and sometimes individuals long distances, though again proximity was always the key factor in intensity of interaction (Milliken 1995). Through trade, the Bay Miwok procured products from sources often several kilometers away and intensified the export of resources unique to their region. Miwok groups traded most commonly with each other, but also exchanged regularly with the Ohlones, Yokuts, and other Valley groups. Trade exchange extended into the Northern Coast Ranges and included the Pomo. Archaeologically, the import of obsidian and marine mollusk shell beads and ornaments is of particular interest given the sourcing and dating applications associated with these resources. The Miwok procured obsidian from sources in the Sierra and the North Coast Range. Shell beads and ornaments, a major import from the Ohlone regions, made primarily from the shells of abalone (Haliotis), Purple Olive snail (Olivella), and Washington clam (Saxidomus) from the coast. The forms of these objects evolved over many different and definable forms through the millennia and resulted in a chronological typing of common artifacts. Today, this typing serves as key to the age and relative cultural position of archaeological complexes. Beads found in prehistoric sites up and down California and east into the Great Basin, indicate trade for thousands of years and that prehistoric peoples on the coast were part of an "international" trade system. Some central Californian groups by the time the Spanish arrived had developed a system of exchange currency or "money" based on calm shell disk beads; the extent to which the Bay Miwok participated in the system is unknown. Other common trade items included preserved foods, textiles, obsidian, and finished obsidian artifacts, feather for fletching and decoration, pigments for paint, tobacco, steatite, and other stone objects and raw materials (Wiberg 2010).

The onset of Spanish expeditions around the San Francisco Bay area in the mid to late 18th century resulted in significant alterations to the lives of the Bay Miwok. Early expeditions affected the Bay Miwok with the introduction of European ideas, weapons, material goods, and disease. The biggest change occurred to the lifeways of Bay Miwok with the establishment of two nearby Franciscan missions, San Francisco de Asís (1776) and Mission San José (1797). With the help of soldiers, relocation of the Indians to the missions was by force or corroboration to move. This gathering of many

different tribes in unfamiliar circumstance had devastating effects on traditional tribal lifeways. Missionaries focus was on the acculturation of the Indians and their indoctrination to Catholicism. They were discouraged or outlawed from performing traditional customs, rituals, or speaking their native language (Farquhar et al. 2013). The mission economy was dependent on the Indians who providing labor for agriculture and ranching, and other tasks related to the running of the missions (Castillo and Jackson 1995). The Indians during this time suffered period's punishments, food shortages, and epidemics that resulted in high mortality rates (Farquhar et al. 2013).

Forced relocation of Bay Miwok into the two missions occurred from 1794 to 1827 and resulted in at least 800-recorded baptisms of Bay Miwok from six different tribelets (Milliken 1995). According to Milliken (2008:42), by 1805 the Volvon Miwok were the only hill people left in eastern Alameda or Contra Costa Counties that had not moved to one of the missions. By the spring of 1805, the remaining Volvons began moving to Mission San Francisco de Asís and Mission San José. Following secularization of the missions some of the Bay Miwok people returned to their ancestral homes only to find their lands in possession of Mexican and soon thereafter, American settlers (Wiberg 2010).

*Sacred Mountain*

Recognized for its prominence on the landscape, Mount Diablo is a place of traditional, religious, and ceremonial significance for the Bay Miwok and other tribal groups throughout much of central California. The mountain plays an important role in Bay Miwok mythology and is ascribed supernatural power (Parkman 2008). In Miwok mythology, Mount Diablo is a place of creation and home of the spirits, where creative forces came together with Indian people and everything necessary for life. The Miwok myths related to Mount Diablo parallels those in Costanoan and Yokuts mythology (Barrett and Kroeber 1908). The mythological accounts of Mount Diablo indicate it was a place at the Center of the world, where earth and sky meet and known elsewhere as a Cosmic Mountain (Eliade 1964:266-269). These stories may vary from tribe to tribe, but the belief that Mount Diablo is a sacred place is consistent.

*Historic Overview*

In 1841 Eugene Duflot du Mofras, a French attaché to California presented first description of Mount Diablo. By 1846, Anglo immigration to the region had begun and in the late 1840s, coal was discovered in Contra Costa County. More significantly, however, gold was discovered on the American River in 1848. California filled rapidly as a result, with the Mount Diablo region being no exception (Bischoff 2004).

When California became part of the United States after the Mexican-American War, much of the land surrounding Mount Diablo eventually passed into the public domain. Prior to the conversion to public domain, however, many settlers had already settled on the land, including Alexander Rogers on Mitchell Creek, and John Donner on the creek that still bears his name. In 1849, Frances E. Matteson came to California, homesteading 160 acres in what later became part of the Blackhawk Ranch. In 1850, Jeremiah Morgan moved from the Ygnacio Valley to the east side of Mount Diablo, primarily to hunt grizzly bear (Bischoff 2004).

In July 1851, Colonel Leander Ransom, Deputy U.S. Surveyor General, and his crew established the initial point of the Mount Diablo meridian at the mountain's summit, beginning the survey of public lands in California. From this initial point, the crew established 93 township, section, and quarter section points, allowing for accurate mapping of much of central and northern California. The hills north of the Clayton area became known as the Meridian Hills (the ridge between Concord and Pittsburg) as a result. In 1852, the U.S. Coast and Geodetic Survey used Mount Diablo as a base point for its National Triangulation Survey. Further triangulation surveys were carried out on the mountain in subsequent years, including 1858, 1876, 1880, and 1892 (Bischoff 2004).

Between 1866 and 1875, lands in the southern part of what is now state park property were surveyed and opened for settlement. As a result, homesteaders began filing claims on many parcels. Areas such as the Green, Perkins, and Sycamore Valleys were well-populated, and used for the raising of stock and thoroughbred horses by the early 1870s. The increase in people settling the area led to a need for roads. By 1866, a road led from Pacheco through Mitchell Canyon to the top of Mount Diablo. The exact route of this road is not clear, nor is its condition. It likely was a wagon road only up to the top of Mitchell Creek, and was little more than a horse trail from there, through Deer Flat, to the summit. While this road was an early attempt at gaining easier access to the summit, it led to greater interest in the mountain and in its draw to people from throughout the greater area (Bischoff 2004).

On October 30, 1873, Joseph Seavey Hall gathered a group of Contra Costa County's prominent citizens in Pacheco to promote a project. Among those in attendance were Hiram Mills, county district attorney; Michael Kirsch, a carriage maker from Walnut Creek; and Albert Sherburn, who owned a general store in Walnut Creek with the publisher of the Contra Costa Gazette, C.B. Porter. Hall discussed the recreational potential of Mount Diablo as having "more rare attractions to the lover of nature and fine mountain scenery than any mountain of the same altitude, perhaps in the world." In order to draw people to this natural wonderland, however, a road was needed, along with a hotel at the summit. At this meeting, Porter introduced the motion to incorporate the Mount Diablo Summit Road Company. The Mount Diablo Summit Road Company would construct a road from Ygnacio Valley through Pine Canyon up the mountain. In addition, the Green Valley and Mount Diablo Road Company was officially incorporated on February 17, 1874. This company would build the second road up the south side of the mountain. When constructed, it ran from Danville through Green Valley, intersecting with the first road (known as Mount Diablo Summit Road) at a tollhouse. Once Hall secured financing for the road, he began to promote the mountain's attractions. Porter made sure the Contra Costa Gazette informed its readers of the wonders they could see from Mount Diablo (Bischoff 2004).

Hall completed a hotel one mile below the summit, known as Mountain House. Two stages made daily trips to the 16-room hotel, one coming from Concord and the other from Danville. The hotel was located approximately 100 feet west of the intersection of the North and South Gate Roads. A eucalyptus tree and century plant apparently were all that remained to mark the location of the hotel following its burning several years later. During its first month of operation, 800 people used the road to the summit. San

Francisco visitors were told they could make it to the summit of Mount Diablo and back in a single day using the new roads built by Hall and Cameron. Visitors could catch stages from either Martinez or Hayward once they got to either of these spots from San Francisco. Despite its early successes, the Mountain House hotel suffered declines by the early 1890s (Bischoff 2004).

Over the next decade, several major fires scarred the slopes of Mount Diablo. As many of these fires were said to have been started by careless hikers and campers, landowners began to call for closure of the mountain to the public. On July 4, 1891, a fire broke out in Morgan Territory, and swept up to the top of the mountain from the east. By 1895, the hotel was abandoned. From then on, fewer people visited the top of the mountain. Ranchers didn't want visitors crossing their cattle ranges, and they succeeded in convincing the Contra Costa County Board of Supervisors to close the Mount Diablo roads. Sometime thereafter (in 1901, according to some sources), ranchers burned the hotel building to prevent it from being used by wandering hikers or campers. From this point, interest declined in Mount Diablo for a number of years, with visitors primarily consisting of University of California professors (Bischoff 2004).

Despite this early downturn in interest in Mount Diablo, investors were still interested in turning it into a destination. In 1912 a group called the Mount Diablo Development Company, led by Robert N. Burgess purchased 10,000 acres of Oakwood Park Stock Farms from Louise Boyd. This land included an area that extended from Green Valley to Sycamore Valley and Curry Creek, and also included Dan Cook Canyon, Fossil Ridge, Rock City, Live Oak, the southern road to the summit and much more. Burgess hoped to subdivide much of the land and open Mount Diablo to tourism. Part of his plans called for the creation of an exclusive residential park. A country club was established from Cook's clubhouse. Transportation to the top of the mountain remained a problem, however. To solve this, the Mount Diablo Scenic Boulevard Company was formed in order to construct a new road to the summit. The road was completed in 1915. Running time from Diablo to the summit was said to be one and a half hours (Bischoff 2004).

In 1916, the Mount Diablo Development Company planned to construct a tower-hotel at the summit, to be known as "Torre de Sol." The plan appeared to have promise, particularly with expected investment and national publicity by William Randolph Hearst. With American entry into World War I, Hearst's interested waned, and the toll road remained underutilized. The company faced financial difficulties, and little of their planned developments were finished. By 1922, the northern branch of the Mount Diablo Scenic Boulevard was closed due to lack of traffic. The southern route, however, remained open due to continued use. Because it was closer to centers of population, it remained a more popular route (Bischoff 2004).

Prior to this decline, in 1917 Burgess sold 1,200 acres of his land to Ansel Mills Easton and his son-in-law William A. Ward. Easton and Mills started the Blackhawk Ranch. Meanwhile, Portuguese immigrant Frank Macado and his wife Isobel moved to land owned by George McNair in 1910, operating the ranch until 1920. At that point, Macado purchased 825 acres for himself, and operated a ranch there until 1936, when it was turned over to his son. Frank Macado, Jr. continued to operate the ranch until the 1959

when it was acquired by the state of California and eventually became part of the park (Bischoff 2004).

Prior to the official creation of MDSP, and prior even to the establishment of the state park system (1927), the State of California set aside land on the summit of the mountain. In 1921, the California Legislature created a state park and game refuge consisting of 630 acres near the summit. The land was largely obtained from the Mount Diablo Development Company, and was administered by the MDSP Commission. The commission filed a report urging for the acquisition of this property and recommended that the land itself be acquired, along with an existing toll road, and that buildings be constructed, water supply improved, a reforestation plan enacted, and a game preserve established. Plans at that time called for a lodge to be built at the summit, as well as the Naval observatory at Mare Island to be moved to the top of the mountain. A second road was also planned to be constructed to the summit (Bischoff 2004).

On April 20, 1931, land encompassing Mount Diablo became a part of the California State Park system. The new park was opened to the public on Sunday, April 26, 1931. Only a third of its present size, it consisted mainly of tracts of land on either side of the South Gate and Summit Roads. Between 1931 and 1936, State Park Bond monies with matching funds were used to acquire 1,700 acres of land from the Diablo Development Company. This acreage centered along the Mount Diablo Scenic Boulevard, and became the core of MDSP (Roland and Sampson 1990). The summit was finally acquired in 1936 (Bischoff 2004).

The State acquired the park properties at the height of the Great Depression. During the Great Depression President Franklin D. Roosevelt's administration established several programs in an effort to offer relief from rampant unemployment. These programs were generally known by their acronyms (WPA, ECW, etc.), and collectively made up what was termed the New Deal. The New Deal sought to employ people from all kinds of backgrounds on important public improvement projects. A great deal of government money was infused into the programs, designed to primarily go to wages for those unemployed. One of the most well-known of these programs was the Civilian Conservation Corps (CCC), or the Emergency Conservation Work (ECW) as it was first officially known. The Emergency Conservation Work (ECW) Act of 1933 provided funding in order to employ men between the ages of 18 and 25 (later expanded to 17 to 28) to work on conservation projects across the country. In 1937, the ECW was officially changed to the name it had become well known by, the CCC (Bischoff 2004).

The CCC organization included a state parks division, which allowed the NPS to officially oversee work occurring in the state parks. Within NPS, chief planner, Conrad Wirth headed the state parks division. This division was organized into four regions, with the Western Region headquartered in San Francisco. At the outset of the 1930s, most of the state's parks were undeveloped and lacked adequate staffing and funding. As a result, park administrators gladly accepted NPS plans and guidelines, and CCC labor to implement them. In fact, California's state parks were very dependent on the ECW and NPS for park development prior to World War II (Bischoff 2004).

Because there were so many unskilled people out of work during the depression, most of the CCC projects involved public construction work that required little in the way of

machinery and materials, but was labor intensive. In this way, most of the money spent went to wages. As the program progressed throughout the 1930s, the CCC camps were improved, plans became better and more defined, and many skilled craftsmen (with experience gained on CCC projects) were able to bring their talents to bear upon many fine projects (Bischoff 2004).

Federal relief work at Mount Diablo SP took place from Camp Mount Diablo (given the number SP-9). The camp was first occupied in October 1933, and housed five different CCC companies during its existence (590, 1921-V, 2932-V, 3357, 3860). Many of these companies also worked at Calaveras Big Trees State Park in the summer, and spent winters at Mount Diablo. The men in Mount Diablo's five CCC companies completed numerous improvement projects at the state park. Projects included building new structures, improving the road system, establishing camp and picnic grounds, planting, brush clearing, and building horseback riding and hiking trails (Bischoff 2004).

The men of the CCC at Mount Diablo completed work on road improvement and construction, hiking and fire trail construction, building of residences and maintenance facilities, development of campground and picnic facilities, completion of drainage features, among many others. This work represents virtually every type of project completed by the CCC across the country, making Mount Diablo a microcosm of their work. By the end of the CCC work, the park could boast of vast improvements and by the early 1940s, Mount Diablo was receiving over 27,000 visitors per year on average, one of the highest visitor rates in the state park system (Bischoff 2004).

## EXISTING CULTURAL RESOURCES IN MDSP

*Archaeological (Native American/ Historic), and Historic (Built Environment)*

DPR conducted a record search of the cultural resource files retained in by department to review existing recorded historical and cultural conditions within MDSP. The results of the record search determined that on intermittent bases since the 1950s, small-scale cultural resource investigations have occurred at Mount Diablo. In the 1980s, DPR cultural resource staff conducted the most comprehensive cultural resource inventory in the park to identify archaeological (prehistoric and historic) sites, artifacts, and feature as well as historic-era (post-European contact) sites, buildings, structures, objects, and districts for the preparation of the general plan. These investigations were in select areas of the park and situated primarily along roads, trails, campgrounds, day-use areas, and at other park facilities. Areas of concentration included the Mitchell Canyon, Back Canyon, the summit area, Curry Canyon, Devil's Slide, Dan Cook Canyon, Fossil Ridge, Pine Canyon, Moses Rock Ridge Deer Flats, and Prospectors Gap (Sampson and Roland 1990). These investigations consisted of pedestrian surveys, limited subsurface testing, and inventory and recordation of the built environment and prehistoric and historic archaeological sites. Cultural resource investigations following the work of the 1980s has primarily been project driven for compliance with CEQA and California Public Resource Code (PRC) 5024 and PRC 5024.5. These projects include large major capital outlay projects, deferred maintenance, accessibility improvements, fuels reduction, road and trail repairs, facilities improvements, and maintenance work.

Though cultural resource surveys cover, only a fraction of the 20,000 plus acres of parkland, these investigations resulted in the documentation of well over 200 cultural

resources within MDSP. These resources include approximately 36 prehistoric sites, 17 historic archaeological sites, and copious facilities, structures, and features associated with pre-park occupation, park development of the 1930s -1940s, and post war park improvements and other land use activities.

Native American resources consist of sites, features, and artifacts associated with resource procurement and processing, occupation, and areas for ceremonial or spiritual purposes. Historic resources include sites, structures, features, objects, and artifacts related to park development and the CCC era; ranching, homesteading, and more recent habitation; rock quarries; mining exploration and mineral procurement; transportation (roads and trails); water conveyance systems and storage; and recreation.

Listed in 1976 as California Landmark No. 905, Mount Diablo has been a home of spiritual significance to the Costanoan Indians for at least 500 years when Spanish explorers first observed the mountain in 1772. Mount Diablo, selected in 1851 as the initial point for land surveys of Northern California and Nevada. Mount Diablo Base and Meridian lines originated from the peak. Mount Diablo is also a preserve to a wide diversity of plant and animal life due to the mountain's variations in wind, rainfall, and temperatures. Mount Diablo is on the National Register of Historic Places (NPS-76000526) because of its status as a landmark.

*Archaeological Resources*

Native American Archaeological Resources - The Native American archaeological resources found within MDSP fall into seven different categories and/or types (Sampson and Roland 1990) and include:

1. Food processing bedrock mortars and ceremonial cupule petroglyphs are the defining elements of these sites.
2. Plant Food processing stations defined by the presence of bedrock mortars only with no other cultural features or archaeological deposits.
3. Petroglyph sites that exhibit cupules only and reportedly focal points for aboriginal ceremonialism.
4. Aboriginal chert quarries which display evidence of procurement of raw lithic materials.
5. Aboriginal campsites associated with short-term occupation, which lack of plant food processing features.
6. Hunting locations include artifacts and features indicative of such activities.
7. Ceremonial sites inferred from the presence of enigmatic rock features or rock art.

Historic Archaeological Resources – Historical archaeological resources identified within MDSP include the following categories or types:

1. Settlement Sites – homestead sites (no longer extant) with archaeological remains indicative of habitation including features (foundations, trails, roads, rock walls, depressions, etc.) and historic debris (glass, metal, ceramics, wood, etc.).
2. Mining and Prospecting – early prospecting and mining sites that include prospect holes, tunnels, shafts, and associated features; building debris; and artifacts associated to work related activities and habitation.

3. Ranching Sites – remains of no longer extant building or features (possible storage sheds, outbuildings, water storage, cellars, fences, roads and trail, or barns) includes foundations, depressions, remnants of lumber, hardware, and other building materials, and archaeological debris.
4. Roads and Trails – historic travel routes used to access the Mount Diablo through the various period of occupation and development.
5. Early Recreational Development – remains of early recreation including lodging sites (Mountain House Hotel), access roads, and no longer extant recreation facilities (Mitchell Canyon Park).
6. CCC /WPA Era Park Development – includes archaeological remains of former structures, features, objects, and archaeological debris indicative of this era of development and occupation.
7. House Sites (Post WWII) - remains of former structures and debris, most often the charred remains of properties added to the park unit after WWII.

***Historic Resources***

Park Service Area –

Six historic-era buildings are located in the Park service area, including three residences, one office, and two maintenance shops. During the 1930s, the Civilian Conservation Corps constructed a number of buildings, campgrounds, culverts, and retaining walls at the park. These facilities constitute a cultural resource base with a high level of historic and architectural significance. These resources are excellent examples of "rustic park architecture," a distinctive style developed between 1915 and 1942 by the National Park Service. Drawing on folk traditions, the rustic ethic emphasized the use of natural and local materials, handcrafting, and harmonious integration of human-made structures with the natural environment. During the 1930s, the National Park Service administered CCC work in the nation's state and local parks.

There are seven buildings constructed by the CCC at Mount Diablo State Park; six of these are located in the park service area. There are three residences: the Warden's Cottage, a Park Residence, and a Seasonal Residence. All are built in a rustic cottage style, and exhibit simple, handcrafted decorative details, such as notched gable ends, wide-plank entry doors, hand-split shakes, and hand-forged metal hardware. The interior of the Park Residence is particularly noteworthy for its careful detailing and high level of integrity.

The remaining structures in the service area include the Maintenance Office, the Carpentry and Maintenance Shop, and the Auto and Welding Shop. All are simple wooden structures that have been minimally modified since their construction in the 1930s.

Summit Area -

The Summit Building, which contains the Lookout Tower, is the most well-known historic structure in the park. It is considered by many to be the CCC's most important accomplishment in the park's built environment. Finally completed in 1941, it is constructed of native sandstone boulders and blocks, and retains a high degree of

historic integrity. In addition to the Summit Building and Tower, a restroom was also completed at the summit in 1940.

Individual Stonework Culverts -
Each of the Park's 129 stonework culverts is unique, ranging in design from simple, square rockwork basins to elaborate structures, incorporating basins, retaining walls, rock drains, and free-stranding walls. Some contain both inlet and outlet structures, while others consist of only one of the two.

Campgrounds and Picnic Areas -
The 29 campgrounds and picnic areas, which date to the Park's historic period are consistent with the principles of rustic architecture. The campgrounds that have retained their historic integrity include Rock City, Arroyo, Buckeye, Barbeque Terrance, Wildcat, Bridal, and Maple Nooks.

Post-War Buildings -
In the decade following World War II, the Division of Beaches and Parks built upon work completed by the CCC in the 1930s. This so-called Postwar Period (1948-1953), characterized by standardized building plans applied to the exigencies of the site in which they were placed. At MDSP, the department constructed six new consisting of the following:

- Headquarters Building
- Tool and Plumbing Shop
- South Gate Residence and Garage
- North Gate Residence and Garage
- Arroyo Residence and Garage
- Tin City Residence and Garage

In addition, the Division of Beaches and Parks continued to build stone stoves and picnic furniture, as well as replace ones that had deteriorated. Though the Postwar features were similar to those constructed by the CCC, there are stylistic differences. For the most part, the picnic furniture constructed by the Division of Beaches and Parks is interspersed with those of the CCC. The Live Oak Campground contains many Post-war features, as do many of the sites located along Summit Road.

In addition to the CCC and postwar structures, there are two historic ranch houses Murchio House and the Macedo Residence in the park, with several related structures such as barns and sheds that are of local interest, relating to the ranch history of Contra Costa County. Historic-era dams are also present on Mitchell and Perkins Creeks within the Park boundaries. Thirty-five sites of minor historical significance are recorded on the mountain. These include a number of structures, structure sites, trash deposits, and mining sites.

***Cultural Preserve -***
A Cultural Preserve is a category unique to the State Park System. It is the highest level of resource protection afforded for management and interpretation by State Parks, with the goal of maintaining complete integrity of the resource. No structures or

improvements, which conflict with such integrity is permitted. As defined in PRC Section 5019.74, Cultural Preserves consist of distinct non-marine areas of outstanding cultural interest established within the boundaries of California State Park units and includes such features as sites, buildings or zones that represent significant places or events in the flow of human experience in California. Within MDSP lies a 640 acre Cultural Preserve (designated by California State Park and Recreation Comission Resolution 50-89, November 9, 1989), established to preserve structures and facilities constructed by the CCC between 1933 and 1941.

The current Cultural Preserves encompass several noncontiguous day use areas and a complex of buildings. This area encompasses resources along the South Gate Road and includes Rock City, Arroyo, Horseshoe, Buckeye, Barbeque Terrace, Wildcat, Bridal Nook, and Maple Nook. The maintenance shop area is also included (Bischoff 2004).

Sacred Mountain

Mount Diablo is widely recognized by Native Americans as a place of religious and ceremonial significance. Mount Diablo played a central role in Native American mythology. It is the focal point for the Costanoan creation myth and for a number of Miwok legends. These myths and legends are an integral part of traditional Native American religious beliefs.

| | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| **WOULD THE PROJECT:** | | | | |
| a) Cause a substantial adverse change in the significance of a historical resource, as defined in §15064.5? | ☐ | ☐ | ☒ | ☐ |
| b) Cause a substantial adverse change in the significance of an archaeological resource, pursuant to §15064.5? | ☐ | ☐ | ☒ | ☐ |
| c) Disturb any human remains, including those interred outside of formal cemeteries? | ☐ | ☐ | ☒ | ☐ |

**DISCUSSION**

Construction of new roads or trails, the maintenance of existing facilities, or changes in use with the implementation of the Mount Diablo Roads and Trails Management Plan could lead to substantial adverse changes in the significance of historical or cultural resources, or to an encounter of human remains within MDSP. With the implementation of Project Requirements including General, Standard, and Specific, no adverse effects would result, the impact would be less-than-significant, and no mitigation necessary.

The following discussion provides a tool for addressing impacts to cultural and historical resources from projects and maintenance activities identified in the Mount Diablo Roads and Trails Management Plan. To provide a sustainable park road and trail system, the Plan identifies a framework for design, construction, and maintenance. Project activities

outlined in the Plan include road-to-trail conversion, removal and rehabilitation of non-system trails, rebuilding/re-engineering of existing roads and trails (e.g. re-route of trail sections), and various maintenance activities such as annual or emergency drainage repair, vegetation clearing, road/trail tread maintenance, and brushing performed on a re-occurring basis.

Implementation of the various activities associated with the Plan could result in substantial changes to significant identified historical and cultural resources, or those resources considered eligible for the National Register or the California Register listing. According to CEQA Guidelines Section 15064.5(b)(1), a substantial adverse change in the significance of a historical resource involves the "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical would be materially impaired." Data obtained from cultural resource files retained and maintained by State Parks, indicate cultural resource surveys are limited, making it probable that many cultural and historic sites found both on the surface and in subsurface context remain for discovery.

Road and trail maintenance and construction could cause substantial adverse changes to such significant cultural and historical resources. Causes of potential adverse changes include ground disturbance related to construction activities (i.e. excavation, grading, trenching), and by alterations to potentially historic buildings or structures that could impair the physical characteristics of a resource that convey its historical significance. Lands previously not surveyed could contain cultural and/or historical resources. Future road and trail management in these unsurveyed areas could unearth and possibly damage such resources. Changes in use could introduce more activity in sensitive resource areas.

a) Proposed construction activities have the potential to damage historic trail alignments and associated CCC-constructed trail features such as rock retaining walls and possibly culverts. The historic trail features constructed by the CCC in the 1930s form an important part of a historic landscape at Mount Diablo SP. This landscape also includes picnic and campground furniture, rock- lined culverts along the paved roads, and a few buildings. Reclassifying some trails may lead to necessary trail improvements or reroutes. However, the minor alterations of some trail alignments would not have a significant adverse effect on the historic landscape. The appearance of historic alignments or roadways would not be significantly altered. The proposed RTMP would allow the park to maintain trails and prevent further erosion issues on existing trails. Implementation of the following Specific Project Requirements Cul-9 and Cul-10 and Standard Project Requirements Cul10-13 would reduce any other potential impacts to a less than significant level.

b) MDSP supports a diverse assemblage of archaeological resources that extend back hundreds of years. Identification of these resources occurred during previous cultural resource investigations in the park. These studies resulted in the documentation of over 50 archaeological sites. Archaeological resources include sites, features, and artifacts associated with prehistoric, ethnographic, and historic utilization of the area. The majority of these documented archaeological assemblages are located

along roads and trails and in other developed areas of the park where prior investigations focused. It is probable that many more archaeological resources are located within the park, since only a fraction of the 20,000-acre State Park have been inventoried for cultural resources.

Not only is MDSP rich in archaeological resources, the mountain is a site Native Americans associate with traditional religious significance. The department shall strive to manage facilities in the unit, particularly those at the summit in a manner consistent with the traditional religious and ceremonial significance, which Native Americans accord to the mountain (DPR 1989).

Project and maintenance activities have the potential to affect significant archaeological resources both directly or indirectly. Negative impacts produced by each activity or project must be assessed on a case-by-case basis in order to develop the appropriate CEQA compliance determination. Implementation of Specific Project Requirements Cul-14-19 and Standard Project Requirements Cul-20-25 described below would reduce potential impacts to archaeological resources to a less- than significant- level.

The various project activities associated with the Plan have the potential to affect the archaeological resources in different ways. Surface observations from terrestrial archaeological surveys and limited subsurface investigation generally determine the boundaries of archaeological sites. The reliability of these surveys depends on ground visibility and the extent of the surface manifestation associated with the archaeological deposits. Given the inherent nature of archaeological deposits, often located below the surface, a clear definition of these sites is unlikely at this time. The development of these Project Requirements will help to insure that archaeological resources receive adequate consideration during the planning process

c) Native American groups used the area encompassing MDSP and the surrounding region for thousands of years. Given the extensive utilization of the area and the religious significance of Mount Diablo, it is not surprising that human remains associated with Native American burial practices have been located in areas outside of the park. Although such discoveries have not been located in the park, the potential to unearth such finds during ground disturbing activities associated with project work exists.

In the event of an inadvertent discovery of human remains during any project work, DPR and the Native American Heritage Commission (NAHC) have developed a protocol for the treatment of such finds to reduce impacts to a “less than significant level.” Standard Project Treatment Measure Cul-23 identifies this protocol.

SPR CUL 23: If anyone discovers previously undocumented cultural resources during project construction or ground-disturbing activities, work within 50 to 100 feet of the find will be temporarily halted. The DPR State Representative will be notified immediately, and work will remain halted until a qualified Cultural Resources Specialist or archaeologist evaluates the significance of the find and determines and implements the appropriate treatment and disposition in accordance with the Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation.

If ground-disturbing activities uncover cultural artifacts or features (including but not limited to dark soil containing shellfish, bone, flaked stone, groundstone, or deposits of historic ash), when a qualified Cultural Resources Specialist is not onsite, **[insert who]** will contact the DPR State Representative immediately and **[insert who]** will temporarily halt or divert work within the immediate vicinity of the find until a qualified Cultural Resources Specialist or archaeologist evaluates the find and determines and implements the appropriate treatment and disposition of the find.

If feasible, **[Insert who]** will modify the project to ensure that construction or ground-disturbing activities will avoid the unanticipated discovery of a significant cultural resources (historical resources) upon review and approval of a **[insert who]**.

**MITIGATION MEASURE CULTURAL-**
None Required

# VI. Geology and Soils

## ENVIRONMENTAL SETTING

*Geology*

MDSP is located in the Diablo Range in the central Coast Range Geomorphic Province of California. The mountain began to emerge within the last four million years as compressive forces pushed up a large fold (anticline) within the developing Coast Range (Werminski, 1993). The mountain is still rising along the Mount Diablo Fault at a rate of about three millimeters/year.

This province consists of a northwest trending series of mountain ranges and intermountain valleys. Unconsolidated alluvium, terra deposits and bay mud occupy the lowland areas. These earth materials consist of sand, silt, clay and gravel. Soil loss in the County is affected by land use, wind erosion and water erosion.

MDSP is designated as a National Natural Landmark by the National Park Service. This program recognizes and encourages the conservation of sites that contain outstanding biological and geological resources. Mount Diablo State Park contains the best examples of igneous intrusion geologic processes in the South Pacific Border biophysiographic province. It is one of the few places in the region where geologic strata of Jurassic, Cretaceous, and Tertiary age can be seen in an aggregate thickness of 42,000 feet. The site also possesses a great diversity of native plant species and associations. (National Park Service, 2012)

*Topography*

MDSP encompasses approximately 18,000 acres, with an elevational range of 381 to 3,849 feet. Slopes vary from slight (0-8%) to greater than 50%. Terrain in approximately 60% of the park is within the steepest slope category (greater than 50%); thirty percent are moderately steep (25-50%).

*Seismicity*

MDSP is located within a region of high seismicity; the San Francisco Bay Region has been impacted by severe earthquakes during historic time. In order to provide safety of structures for human occupancy, the Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazards. This state law was a direct result of the 1971 San Fernando Earthquake, which was associated with extensive surface fault ruptures that damaged numerous homes, commercial buildings, and other structures. Surface rupture is the most easily avoided seismic hazard. The law requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps.

Contra Costa County is a seismically active area, subject to earthquakes from seven local faults – Greenville in the southeast, Hayward North and South in the west, Concord/Green Valley in the central north, Mount Diablo in the central south and the east, Greenville in the east, Great Valley in the northeast, San Andreas in the very northeast, and the Northern Calaveras to the central south.

The last major earthquake on any of these faults was the M 6.0 Livermore Earthquake on the Greenville fault, followed by the Great Hayward Earthquake in 1868; with an estimated magnitude of between 6.8 and 7.0 though neither of these earthquakes had epicenters within Contra Costa County. The Hayward fault has the greatest likelihood of rupturing in the next 30 years of all the faults in the Bay Area, at 31% of a magnitude 6.7 or higher. (Association of Bay Area Governments, 2014)

Three local potentially seismic faults occur near MDSP. The Greenville Fault is located approximately 3 miles east of the eastern–most portion of the park. The Concord Fault is located just outside of the park's northwest boundary at the North Gate Road entrance. Finally, the Calaveras Fault is located approximately 3 miles to the southwest of the park.

*Soils*

MDSP I s located in the Central Coast Range and Valleys Soil Region (Soil Region V). Soil Region V is characterized by large valleys, undulating hills, and steep mountain ranges. Fifteen major soil series and one rock-soil association have been mapped in the unit:

| | |
|---|---|
| Alo clay | Lodo clay loam |
| Altamont clay | Los Gatos loam |
| Cropley clay | Los Osos clay loam |
| Diablo clay | Millsholm loam |
| Dibble silty clay loam | Perkins gravelly loam |
| Gaviota sandy loam | Positas loam |
| Gilroy clay loam | Vallecitos loam |
| Zamora silty clay loam | Rockland-Xerorthents Association |

These soils derive largely from sedimentary rocks, sedimentary rock alluvium, and basic igneous rock. Surface-soils are alkaline or acidic; subsoils can be calcareous.

Vallecitos loam and the Rockland-Xerorthents Association are the dominant soil in the unit, and have formed in several types of parent materials. Vallecitos soils were formed in material weathered from metamorphosed sedimentary rock, and occur primarily in the southern portion of MDSP. Dominant types of vegetation on this soil are grassland, live oak forest, and blue oak forest and woodland. The Rockland-Xerorthents Association is the dominant formation in the northern half of the unit. These soils were formed in material weathered from sedimentary and basic igneous rock, and have a severe erosion potential. Scrub and chaparral plant communities are the dominant vegetation on this soil association. Extensive areas of live oak forest also occur on the association north of Mount Diablo. Serpentine chaparral is restricted to Rockland-Xerorthents soils derived from serpentine; the rock outcrop community occurs solely on Franciscan or igneous rocks.

Other prominent soils in MDSP include the Gilroy and Lodo soil series in the northern part of the unit, and Dibble, Lodo, Los Osos, and Millsholm soils in the southern portion

of the unit. Gilroy soils derive from basic igneous and metamorphic rocks. The remainders of the soils are underlain by sandstone and shale. Grassland, blue oak woodland/forest, and live oak forest are the principal types of vegetation associated with these soil series.

Soils in MDSP have been designated by the USDA-SCS for several land uses. Of the 15 major soil series and the rock outcrop association mapped in the unit, all have one or more severe constraints, as determined by SCS, which would affect facility development and recreational use. Principal limiting factors are slope, depth to rock, slow permeability, too clayey, shrink/swell potential and low strength.

| WOULD THE PROJECT: | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area, or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.) | ☐ | ☐ | ☒ | ☐ |
| ii) Strong seismic ground shaking? | ☐ | ☐ | ☒ | ☐ |
| iii) Seismic-related ground failure, including liquefaction? | ☐ | ☐ | ☐ | ☒ |
| iv) Landslides? | ☐ | ☐ | ☒ | ☐ |
| b) Result in substantial soil erosion or the loss of topsoil? | ☐ | ☐ | ☒ | ☐ |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable, as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? | ☐ | ☐ | ☒ | ☐ |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property? | ☐ | ☐ | ☐ | ☒ |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems, where sewers are not available for the disposal of waste water? | ☐ | ☐ | ☐ | ☒ |
| f) Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature? | ☐ | ☐ | ☒ | ☐ |

**DISCUSSION**

a) See below:

i) There are no faults mapped within MDSP although fault lines are located immediately to the northwest, southwest and southeast of the park boundaries (State of California Department of Conservation, 1982). Moreover, the project does not entail new structures within the park; it is a tool to manage recreation on roads and trails within the park. Less than significant impact.

ii) The San Francisco Bay Area is a region of high seismic activity and some element of seismic risk is assumed by every visitor to the park. Although additional park visitors could result from implementing projects under the RTMP, the increase would be negligible as most of the trails already exist. Less than significant impact.

iii) The majority of MDSP is composed of hard bedrock and as such, is not generally susceptible to ground failure including liquefaction. (Contra Costa County, 2005) Therefore, impacts would be less than significant.

b) One of the objectives of the RTMP will be to prioritize road and trail maintenance, reconstruction/re-engineering, removal, and reroute to achieve a more sustainable road and trail system. Adoption of the plan will allow the district to identify eroding trails and implement improvements to reduce erosion.

Future actions that are considered in the RTMP include potential changes in use for Oak Knoll Trail and portions of Juniper and Summit Trails. Because work plans have not been developed for these trails, project level review for change in use to these is not considered in this document and as such, additional and subsequent evaluation under the change in use process will be necessary to assess potential impacts on soil erosion resulting from physical changes to the trails.

These change in use projects on existing trails could involve the disturbance of surface soils during minor construction activities, including trail rerouting, restoration, decommissioning, rehabilitation, and installation of road/trail structures (i.e. road/trail structures, such as steps or retaining walls), as well as soil disturbance caused by use-related activities (type and intensity of use).

Impacts will be assessed by evaluating the implementation of proposed changes in use in the context of the SPRs, which were incorporated as part of the Program Environmental Impact Report (PEIR) for the Trail Change in Use Evaluation Process, adopted by DPR on May 2, 2013.

Significant erosion impacts from routine road and trail maintenance activities as well as from trail changes in use would be avoided through implementation of the SPRs GEO-1 through GEO-27 and GEO-29. This impact would be less than significant.

c) See a) ii above. Less than significant impact.

d) The project entails no structures. Therefore, no impacts would result.

e) The project does not entail installation of septic or any other waste disposal systems. Therefore, no impacts would result.

f) MDSP does contain geological formations with fossil resources. (State Park and Recreation Commission, 1989) Paleontological resources found in the State Park System require protection from damage. As such, trail improvements conducted as a result of the RTMP will be done in accordance with the Paleontological Resource Protection Policy as identified in Section 0309.2 of the Department Operations Manual. Less than significant impacts.

# VII. Greenhouse Gas Emissions

### ENVIRONMENTAL SETTING

Climate change refers to any significant change in measures of climate, such as average temperature, precipitation, or wind patterns over a period of time (Governor's Office of Planning and Research [OPR], 2010). There is a general scientific consensus that global climate change is occurring, caused in whole or in part by increased emissions of greenhouse gases (GHGs) that keep the earth's surface warm by trapping heat in the atmosphere. Climate change may result from natural factors, natural processes, and human activities that change the composition of the atmosphere and alter the surface and features of the land (Governor's Office of Planning and Research, 2010). GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively (Peters & Hertwich, 2008). The major GHGs that are released from human activity include carbon dioxide (CO2), methane (CH4), and nitrous oxides (NOx). The primary sources of GHGs are vehicles (including planes and trains), energy plants, and industrial and agricultural activities (such as dairies) (Governor's Office of Planning and Research, 2010).

Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006, recognized that California is the source of substantial amounts of GHG emissions which poses a serious threat to the economic well-being, public health, natural resources, and the environment of California (Governor's Office of Planning and Research, 2010). Potential adverse impacts of global warming include severe air quality problems, a reduction in the quality and supply of water from the Sierra snowpack, a rise in sea levels causing the displacement of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems (Health and Safety Code, section 38501) (Governor's Office of Planning and Research, 2010). In order to avoid these consequences, AB 32 established a state goal of reducing GHG emissions to 1990 levels by the year 2020 (a reduction of approximately 25 percent from forecast emission levels) with further reductions to follow.

In order to address global climate change associated with air quality impacts, CEQA statutes were amended to require evaluation of greenhouse gas (GHG) emissions (global pollutants) which includes criteria air pollutants (regional pollutants) and toxic air contaminants (local pollutants). As a result, the BAAQMD adopted CEQA thresholds of significance for criteria air pollutants and GHGs, and issued updated CEQA guidelines to assist lead agencies in evaluating air quality impacts to determine if a project's individual emissions would be cumulatively considerable. Various modeling tools are used to estimate emissions based on the type of project (i.e., land use developments, linear transportation and utility projects) (Bay Area Air Quality Management District [BAAQMD], 2014).

The 2012, Contra Costa County Climate Action Plan identifies six areas of focus where Goals and Policies to incorporate into projects to reduce impacts to climate change: Energy Efficiency and Conservation; Renewable Energy; Land Use and Transportation;

Solid Waste; Water Conservation and Government Operations. (Contra Costa County, 2012)

DPR developed the "Cool Parks" initiative to address climate change within the State Park system. Cool Parks proposes that DPR itself adapt to the environmental changes resulting from climate change. In order to fulfill the Cool
Parks initiative, State Parks is dedicated to using alternative energy sources, low emission vehicles, recycling and reusing supplies and materials, and educating staff and visitors on climate change. (DPR, 2008)

| | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| **WOULD THE PROJECT:** | | | | |
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environmental? | ☐ | ☐ | ☒ | ☐ |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | ☐ | ☐ | ☐ | ☒ |

**DISCUSSION**

a) The RTMP would not generate an increase of air pollutant concentrations. The purpose of the RTMP is to provide specific guidance and direction for implementing the goals and objectives of the park's approved General Plan and provides a roadmap for future management including specific actions for individual roads and trails. Trail construction and maintenance would continue to occur with or without the RTMP. Therefore, while trail maintenance and/or construction involving mechanical equipment would result in temporary and minor increases of greenhouse gas emissions that contribute to climate change, it would not change as a result of the adoption of the RTMP.

   Similarly, change in use projects could result in GHG emissions from construction-related equipment and an increase in operation-related vehicle trips and associated mobile-source GHG emissions. However, these potential increases would not be substantial and would not conflict with the GHG reduction goals of AB 32. Therefore, increases in GHG Emissions associated with change-in-use projects would not be cumulatively considerable and, therefore, this impact would be less than significant.

b) As mentioned above, Contra Costa County has initiated numerous programs to reduce GHG. The proposed RTMP would not violate The Cool Parks Initiative or the Contra Costa County Climate Action Plan, or any other policy at the state or county level. No impact.

**MITIGATION MEASURE GREENHOUSE GAS**

None Required.

# VIII. Hazards and Hazardous Materials

## ENVIRONMENTAL SETTING

Hazardous Materials

The California Department of Environmental Protection (CALEPA) has the responsibility for compiling (pursuant to Government Code §65962.5) information on hazardous materials sites in California that together are known as the "Cortese" list. A review of this list found that the closest hazardous materials sites to the project area are sites approximately 10 miles to the west near the community of Walnut Creek and 10 miles to the northeast near Antioch. (Department of Toxics Substance Control, 2014)

The initial area of MDSP has been a park unit since 1931 (State Park and Recreation Commission, 1989). There is no evidence of industrial use, except as related to agricultural activities, or construction of buildings in the park that could have been a source of hazardous materials. There is no known hazardous contamination and the park is not suspected of containing any hazardous wastes, debris, or soil contamination. The park is not on or adjacent to a source of or routine transportation route for hazardous materials.

The types of materials used and stored at MDAP that could be hazardous include fluids such as motor vehicle and mechanical equipment fuels, oils, and other lubricants. DPR maintains storage facilities for these fuels and lubricants within the park unit. No storage facilities, or other structures or industrial sites that could contain hazardous materials are located at the sites of the proposed project.

Airports

Buchanan Field Airport in Concord is located approximately seven miles northwest of the park. Byron Airport is located approximately 12 miles to the east. Oakland International Airport and Hayward Executive Airport are both located approximately 15 miles southwest of the park. (Google Earth, 2014)

Wildland Fire

The entirety of MDSP is located in a high or very high fire hazard area (Cal Fire, 2007). Fires are an integral part of the natural world, but historic human alteration of natural fire cycles has allowed unnatural plant succession and fire fuel build-up. DPR employs fire fuel management practices in the state park system, where wildfire hazards are present, to minimize and manage the potential risk. Cal Fire has the primary responsibility for wildland fire response. In areas closer to communities, mutual aid agreements also exist with local fire protection agencies.

DPR has adopted the DOM that provides protocols for the various aspects of park unit operations, including a Visitor Safety section. The Wildland Fire Management component (Section 1105) of the DOM's Visitor Safety Section identifies the Wildland Fire Management Responsibilities for each division of DPR. The DOM also requires preparation of a Wildfire Management Plan for each Unit of the California State Park System, which includes fire reporting and closure protocol, as well as the DPR policy regarding fuel modification. The Wildfire Management Plan for each unit includes evaluation of fire risk for the specific unit, identification of defensible space clearance

around specific structures and other facilities, protocol for fire training and fire drills, identification of fire equipment and supplies and their locations and inspection protocol (DPR, 2001). The Wildfire Management Plan also includes instructions and actions to be taken during a wildfire suppression, including identifying fire protection gear (e.g., helmets, goggles, gloves, boots), and evacuation protocol.

| | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| **WOULD THE PROJECT:** | | | | |
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | ☐ | ☐ | ☒ | ☐ |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials, substances, or waste into the environment? | ☐ | ☐ | ☒ | ☐ |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | ☐ | ☐ | ☐ | ☒ |
| d) Be located on a site which is included on a list of hazardous materials sites, compiled pursuant to Government Code §65962.5, and, as a result, create a significant hazard to the public or environment? | ☐ | ☐ | ☐ | ☒ |
| e) Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport? If so, would the project result in a safety hazard for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| f) Be located in the vicinity of a private airstrip? If so, would the project result in a safety hazard for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| LESS THAN | | | | |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☐ | ☒ |
| h) Expose people or structures to a significant risk of loss, injury, or death from wildland fires, including areas where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | ☐ | ☐ | ☒ | ☐ |

## DISCUSSION

a) The user types addressed in the proposed RTMP include OPDMDs and non-motorized recreational uses. These users do not typically handle or transport

hazardous materials. Therefore, projects implemented pursuant to the RTMP would not increase the use or transport of hazardous materials at MDSP. Typically, the only use and transport of hazardous materials is associated with maintenance, and requires common hazardous materials such as fuel and lubricants for equipment and vehicles, detergents and solvents for cleaning, and pesticides/herbicides for insect, rodent, and weed control. These hazardous materials are used consistent with EPA and OSHA standards and are stored in the park storage facilities consistent with EPA and OSHA standards. Approval of the Plan would not substantially change the operations and maintenance of the Unit and park staff would continue to use, transport, store, and dispose of these hazardous materials consistent with standard operations requirements, and OSHA and EPA regulations. In addition, SPR HAZ-3 requires coordination with utility companies when ground disturbance is necessary within existing utility alignments. This reduces potential accident conditions related to damage of gas or electrical lines. During construction, SPRs HAZ-4 through HAZ-7 require several measures to prevent accidental leaks, spills, or other emission of hazardous materials into the environment including frequent leak inspections and maintenance of construction vehicles, a Spill Prevention Plan, and a Materials Management Plan, and vehicle wash stations. No substantial increased risk of accidental upset or emission of hazardous materials would occur. This impact is therefore less than significant.

b) Existing trails may cross property where hazardous materials have been previously used or stored, including former agricultural property, and mining sites. Additionally, some areas of the park have serpentine soils containing naturally occurring asbestos. Implementation of the proposed RTMP does not include development of new trails, but rather involves prioritization of maintenance, adding or removing user types on existing Unit trails and minor trail relocation to improve sustainability. If a subsequent project under the RTMP requires trail modification that must occur in areas where hazardous materials are known to have been previously handled or stored, SPR HAZ-1 and HAZ-2 require avoidance of these areas when feasible. If avoidance is not feasible, preparation of a Phase 1 FESA by a qualified hazardous material professional and recommendations therein will be implemented (see SPR HAZ-1). The recommendations in the Phase 1 FESA could include soil removal and other minor remediation. Construction activities associated with any necessary remediation would be conducted according to EPA and OSHA standards, and would reduce potential impacts related to exposure of construction workers and user types to hazardous materials in soils. SPRs AQ-12 and AQ-13 apply to projects occurring in the areas containing NOAs. This impact is considered less than significant.

c) Approval of the RTMP will not result in hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste. Additionally, no existing or proposed schools are located within one-quarter mile park boundaries. Therefore, no impact would result.

d) There are no hazardous materials sites located within the boundaries of MDSP included on the list compiled pursuant to Government Code §65962.5. Therefore, no impact would result.

e,f) MDSP is not located within an airport land use plan and no airports are located within two miles of a public airport, public use airport or private airstrip. Therefore, no impact would result.

g) Approval of the RTMP will have no effect on any adopted emergency response plan or emergency evacuation plan. Therefore, no impact would result.

h) Many roads and trails in MDSP are located in relatively remote areas and often pass through areas with brush and trees. Most of these areas are subject to high risk of wildland fire. Except for instances where minor trail realignment is necessary (e.g., to avoid a sensitive resource), or short connections to existing and nearby non-system routes, the proposed RTMP would not result in new areas of public access. Further, trail realignment typically occurs on small segments of trail adjacent to existing trail alignments. Finally, adding new user types to existing trails under the proposed Process would not expose visitors to higher risk of wildland fire than the user groups now having access.

   Regarding potential ignition sources, existing State law (CCR Title 14, Division 3, Sections 4311 and 4314) prohibits use of fireworks within state park units and restricts smoking and campfires to designated areas. Internal combustion engines are prohibited on roads and trails designated for non-motorized uses. It is unlikely that new user types would generate sparks, increase use of campfires or other open flames, or carry fuels apart from those typically carried by some hikers (e.g., small, portable propane or other camp fuel canister). Increasing or decreasing the diversity of user types on qualifying DPR road and trail facilities would not substantially change the potential for ignition of a wildland fire. Furthermore, trail operation would remain consistent with the DPR DOM requirements for visitor safety, including the unit-specific Wildfire Management Plan.

   Construction activities could be required if a qualifying change-in-use project approved under the proposed Process requires minor modifications or realignment to accommodate the new user type(s) or to avoid existing environmental problem areas. The proposed Process includes several SPRs designed to minimize the risk of fire ignition and maximize the effectiveness of fire suppression. Implementation of SPRs HAZ-8 through HAZ-14 would reduce the risk of ignition associated with construction activities by requiring a Fire Safety Plan, reducing spark potential, reducing fuels, providing radio communication with Cal Fire, and providing water trucks. Implementation of these SPRs would minimize construction-related potential to for risk of wildland fire. The impact associated with the proposed Process is considered less than significant.

**MITIGATION MEASURE HAZARDS AND HAZARDOUS MATERIALS –**

None Required

# IX. Hydrology and Water Quality

## ENVIRONMENTAL SETTING

MDSP is situated at the northern end of the Diablo Range of the California Coast Ranges extending into three hydrologic units; the North Mount Diablo Range, the South Bay, and the Suisun hydrologic units, as defined by the California Department of Water Resources. The character of the watersheds in the park area is typical of the Coast Ranges where steep ridges and deep canyons dominate.

Climate and Precipitation

The source of surface water runoff and groundwater is from precipitation, which comes mostly as rain between the months of November and April. Annual precipitation averages 23.96 inches (609 mm). The average annual days with measurable precipitation is 65.3 days. Snowfall at Mount Diablo Junction averages 1.2 inches (30 mm) each year.

Creeks and streams in the area are mostly intermittent, reflecting the seasonal distribution of rainfall. Winter flows are higher and increase during and immediately following storms. Base flows generally decrease following the rainy season and disappear when groundwater table drops below stream channel elevations.

Watershed – Surface Water

MDSP contains part of seven major watersheds; Marsh Creek, Mount Diablo Creek, Pine Creek, Green Valley Creek, Sycamore Creek, Alamo Creek and Tassajara Creek. The general direction of flow of the major drainages radiates from Mount Diablo Peak.

Approximately 27% of the park is in the Marsh Creek watershed. This watershed is a major drainage system in the North Diablo Rangy hydrologic unit, and directs its flows toward the San Joaquin Delta Area, eventually discharging into Big Break north of the community of Oakley. Although Marsh Creek itself does not extend into the park, three of its tributaries; Dunn Creek, Perkins Canyon Creek, and Curry Canyon Creek drain the eastern portion of the park. Other hydrologic features of the watershed in the park include Alder Creek, Mountain Springs Creek, Sheepherder Springs, Sycamore Spring, Hunt Spring, Frog Pond, Hidden Pond, Chase Pond and Sheepherder Pond.

Approximately 32% if the park area is in the Mount Diablo Creek watershed. This watershed is part of the Suisun Hydrologic Unit, and its surface water runoff is directed to Suisun Bay. Mitchell Creek and Donner Creek, two major tributaries of Mount Diablo Creek, drain the northern portion of the park. A one-mile stretch of Mitchell Creek in the park has surface water flows all year. Other features in the Mount Diablo Creek watershed include Deer Flat Creek, Mimulus Spring, Big Spring, and an unnamed reservoir.

The Pine Creek watershed encompasses approximately 23% of the park, draining the western section. Surface water runoff originating in this watershed is directed into Walnut Creek, and then into Pacheco Creek, before being discharged into Suisun Bay.

The Pine Creek watershed is within the Suisun hydrologic unit. Hydrologic features in the park portion of the watershed include two major tributaries; Arroyo Del Cerro and Little Pine Creek, a number of springs, including Peach Tree Springs, Orchid Spring, Coffeeberry Spring, Silver Spring, and Moses Rock Spring, and a reservoir known as Pine Pond.

The remaining southern portion of the park (about 18% of the total park area) is in parts of the four major watersheds.

Groundwater in the park plays a minor role in the hydrology of the area. Groundwater in the area is recharged naturally by precipitation. Percolation areas are the stream channels, where a portion of the precipitation and subsequent runoff percolates into the ground. There have not been any surveys to determine the depth, quality, and quantity of the groundwater.

Flooding

All seven major drainages into which the park extends have areas that are subject to flooding. However, most of these areas are located downstream from the park, in the lower reaches of the drainages. Flood-prone areas have not been mapped in the park.

Water Quality Regulation

Contra Costa County and MDSP itself lies within the jurisdictions of both the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), which oversees the watersheds on the northwest and southwest portions of the site and the Central Valley Regional Water Quality Control Board (CVRWQB), which oversees the watersheds to the east (Contra Costa County, 2013). Per the requirements of the Clean Water Act (CWA), and the California Porter-Cologne Act, the respective regional boards have prepared a Water Quality Control Plan for the watersheds under its jurisdiction.

The San Francisco Bay Regional Water Quality Control Board Basin Plan (SFBRWQCBBP) Central Valley Regional Water Quality Control Board Basin Plan (CVRWQBBP) identify beneficial uses that exist or have the potential to exist in each water body, establishes water quality objectives for each water body to protect beneficial uses or allow their restoration and provides an implementation program that achieves water quality objectives. Per the requirements of CWA Section 303(c), the SFBRWQCBBP and the CVRWQBBP are reviewed every three years and revised as necessary to address problems with the plan, and meet new legislative requirements.

Water Quality

Water quality information for the park area is limited. Both bacterial and chemical pollution of surface waters is occurring. Bacterial contamination in and around water sources occurs as a result of livestock concentrating in these areas during the dry season. Chemical pollution of water in the lower portions of Dunn Creek and its tributary, Horse Creek, is occurring, and as a result of heavy metal contamination from the tailings and tailings pond located at the privately owned Mount Diablo Mine site, and partially on park property. The principal contaminants include arsenic, cadmium, chromium, lead, mercury, nickel, and selenium. Preliminary surveys have indicated that water in the creeks is highly conductive, and additional water quality studies are needed.

| | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| **WOULD THE PROJECT:** | | | | |
| a) Violate any water quality standards or waste discharge requirements? | ☐ | ☐ | ☒ | ☐ |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)? | ☐ | ☐ | ☐ | ☒ |
| c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation? | ☐ | ☐ | ☒ | ☐ |
| d) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding? | ☐ | ☐ | ☒ | ☐ |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | ☐ | ☐ | ☒ | ☐ |
| f) Substantially degrade water quality? | ☐ | ☐ | ☒ | ☐ |
| g) Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map? | ☐ | ☐ | ☐ | ☒ |
| h) Place structures that would impede or redirect flood flows within a 100-year flood hazard area? | ☐ | ☐ | ☐ | ☒ |
| i) Expose people or structures to a significant risk of loss, injury, or death from flooding, including flooding resulting from the failure of a levee or dam? | ☐ | ☐ | ☐ | ☒ |
| j) Result in inundation by seiche, tsunami, or mudflow? | ☐ | ☐ | ☐ | ☒ |

## DISCUSSION

a,c,d,e, f) Approval of the RTMP will not violate water quality standards, alter drainage patterns resulting in erosion or flooding, or degrade water quality. It includes provisions for a maintenance plan in which roads and trails are prioritized and will receive cyclical and prorated maintenance. Roads and trails will be designed, constructed, re-engineered, re-constructed, or re-

routed to improve sustainability and drainage, and prevent erosion. On a project basis, all drainage crossings identified in the Drainage Structure Condition Index Assessment will be re-engineered and re-constructed prioritizing the most significant affected structures first.

Future actions that are considered in the RTMP include potential changes-in-use for Oak Knoll Trail and portions of Juniper and Summit Trails. Because work plans have not been developed for these trails, project level review for change-in-use to these is not considered in this document and as such, additional and subsequent environmental review will be necessary to assess potential impacts on hydrology and water quality resulting physical changes to the trails.

In general, disturbance to the trails may result from construction including widening where necessary to create safe passing spaces, slope stabilization, and possible reroutes. SPRs **GEO-1 through GEO-28 and HYDRO-1 through HYDRO-26** will ensure that erosion and soil loss will remain at a less than significant level.

Therefore, impacts to hydrology and water quality resulting from approval of the RTMP would be less than significant.

b) Approval of the RTMP would have no effect on groundwater supplies or interfere with groundwater recharge. Therefore, no impact would result.

g, h) Approval of the RTMP would not result in placing housing or other structures that would impede or redirect flood flows within a 100-year flood hazard area. Therefore, no impact would result.

i) No levees or dams are located in the vicinity of MDSP. Therefore, approval of the RTMP would not expose people or structures to a significant risk of loss, injury, or death from flooding, including flooding resulting from the failure of a levee or dam. Therefore, no impact would result.

j) MDSP is inland and not in an area subject to seiche, tsunami, or mudflows. Therefore, no impact would result.

**MITIGATION MEASURE HYDROLOGY AND WATER QUALITY –**

None Required

# X. Land Use and Planning

### ENVIRONMENTAL SETTING

Contra Costa County consists of approximately 515,000 acres (800 square miles). Mount Diablo SP is located approximately five miles east of Interstate 680 and surrounded by the cities of Clayton, Walnut Creek, and Danville. Land use zoning under the existing Contra Costa County General Plan (GP) identifies Mount Diablo SP as part of a Forest Recreation District (F-R), with a Protected Area - Park and Recreation designation.

A small portion of the project area is within MDSP's 640-acre Cultural Preserve (designated by California State Park and Recreation Commission Resolution 50-89, November 9, 1989 to preserve structures and facilities constructed by the CCC between 1932 and 1942). Cultural Preserves consist of distinct areas of outstanding cultural interest, established within the boundaries of state park units, for the purpose of protecting such features as sites, buildings, or zones that represent significant places or events in the flow of human experience in California. However, improvements may be made to provide public access, enjoyment, education and for cultural resource protection.

MDSP is wholly owned and primarily operated by DPR with the exception of authorized concessionaires, small private inholdings, and portions (Diablo Foothills Regional Park and Morgan Territory Regional Preserve) operated for park and recreational purposes by the East Bay Regional Parks District under a joint powers agreement. The MDSP General Plan adopted in 1989 by the State Parks and Recreation Commission, directs the long-range management, development and operation of the park. A general plan is a goal-based document whereas management plans (such as the subject RTMP) are objective-based, used to detail the objectives, methodologies or designs of proposals that will be implemented.

| WOULD THE PROJECT: | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| a) Physically divide an established community? | ☐ | ☐ | ☐ | ☒ |
| b) Conflict with the applicable land use plan, policy, or regulation of any agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | ☐ | ☐ | ☒ | ☐ |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | ☐ | ☐ | ☐ | ☒ |

### DISCUSSION

a) Approval of the RTMP would not result in any physical changes that would divide an established community. Therefore, no impact would result.

b) The RTMP is consistent with all applicable state and local land use plans, policies, and regulations. Work proposed for this project is in compliance with the Mount Diablo SP General Plan and, with adoption of this Negative Declaration and implementation of the mitigation measures herein, would be in compliance with CEQA. Therefore, impacts would be less than significant.

c) Certain projects in the eastern portion of Contra Costa County are governed by the Contra Costa County Habitat Conservation Plan (HCP/NCCP), adopted in 2007. Although the eastern boundary of MDSP abuts the Conservation Plan area and is consistent with the Plan, it is not within the inventory area itself and it is not a participant to the plan. Therefore, no impact would result (ECCC HCP/NCCP, 2007).

### MITIGATION MEASURE LAND USE AND PLANNING

None Required

# XI. Mineral Resources

### ENVIRONMENTAL SETTING

The California Geological Survey (CGS), formerly the California Division of Mines and Geology (DMG), classifies the regional significance of mineral resources in accordance with the California Surface Mining and Reclamation Act (SMARA) of 1975 and assists the CGS in the designation of lands containing significant aggregate resources. Mineral Resource Zones (MRZs) have been designated to indicate the significance of mineral deposits. (California Geologic Survey, 1996)

The most important ore minerals mined on or around Mount Diablo include mercury (as cinnabar), copper, and minor gold and silver. Outside the park boundaries, the Domengine Formation has yielded white sand and coal, with ~ 4 million tons of coal mined in the late 1800's. Blueschist has been mined for dimension (building) stone and diabase was mined (north side of Zion Peak off park property) for crushed aggregate and rip rap. Travertine (calcium carbonate) deposits were quarried along the north side of Mount Diablo (Lime Ridge) for years by the Cowell Cement Company as a source of lime for cement (State Park and Recreation Commission, 1989). No minerals are currently mined within MDSP.

The upper Miocene San Pablo group of rocks (Briones, Cierbo, and Neroly Formations) contains abundant fossil deposits. These rocks were quarried on Fossil Ridge to construct the museum building at the summit (State Park and Recreation Commission, 1989).

DPR policy does not permit the commercial extraction of mineral resources on DPR property in accordance with the Public Resources Code § 5001.65.

| | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| **WOULD THE PROJECT:** | | | | |
| a) Result in the loss of availability of a known mineral resource that is or would be of value to the region and the residents of the state? | ☐ | ☐ | ☐ | ☒ |
| b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan? | ☐ | ☐ | ☐ | ☒ |

### DISCUSSION

a) Abundant mineral resources exist in the Mount Diablo area; however, most resources have been depleted during mining in the late 1800s. It should also be noted that commercial exploitation of resources in units of the state park system is prohibited. (California Public Resources Code Section 5001.65.) Nevertheless, approval of the RTMP would not result in the loss of or access to mineral resources. Therefore, no impact would result.

b) The MDSP has not been classified or nominated as a locally important mineral resource recovery site, according to the Contra Costa General Plan. Therefore, no impact would result.

**MITIGATION MEASURE MINERAL RESOURCES –**

None Required

# XII. Noise

### ENVIRONMENTAL SETTING

This project site consists of the 20,124-acre MDSP, situated in a heavily urbanized area, adjacent to the communities of Walnut Creek and Danville. The boundaries of MDSP are designated as a Cultural Preserve. Therefore, development has been restricted in accordance with DPR Policy II.3, Resource Management in State Reserves and State Preserves.

Potentially sensitive noise receptors in the area consist of three occupied park residences, the Live Oak Campground area with 22 campsites that are heavily used by MDSP visitors' year around, and Juniper Campground, with 32 campsites and five group camp areas. Campgrounds are considered quasi-sensitive, and reduced noise levels should be observed during nights, weekends, and holidays. Businesses and recreational day use areas are generally not considered sensitive noise receptors. There are several picnic areas, park shop buildings, and park office buildings and a ranger station along the project route.

Sound is any detectable fluctuation in air pressure and generally is measured on a logarithmic scale in decibels (dB). When unwanted sound (i.e., noise) is measured, an electronic filter is used to de-emphasize extreme high and low frequencies to which human hearing has decreased sensitivity. Resulting noise measurements are expressed in weighting frequencies called A-weighted decibels (dBA). While zero dBA is the low threshold of human hearing, a sustained noise equal or greater than 90 dBA is painful and can cause hearing loss (Table 1: Typical Noise Levels).

**Table 1: Typical Noise Levels**

| ***Sound*** | ***Sound Level (dbA)*** | ***Relative Loudness (approximate)*** | ***Relative Sound Energy*** |
|---|---|---|---|
| Jet aircraft, 100 feet | 130 | 128 | 10000000 |
| Rock music with amplifier | 120 | 64 | 1000000 |
| Thunder, snowmobile (operator) | 110 | 32 | 100000 |
| Boiler shop, power mower | 100 | 16 | 10000 |
| Orchestral crescendo at 25 feet, noisy | 90 | 8 | 1000 |
| Busy Street | 80 | 4 | 100 |
| Interior of department store | 70 | 2 | 10 |
| Ordinary conversation, 3 feet away | 60 | 1 | 1 |
| Quiet automobile at low speed | 50 | ½ | 0.1 |
| Average office | 40 | ¼ | 0.01 |
| City residence | 30 | 1/8 | 0.001 |
| Quiet country residence | 20 | 1/16 | 0.0001 |
| Rustle of leaves | 10 | 1/32 | 0.00001 |
| Threshold of hearing | 0 | 1/64 | 0 |

Noise is further described according to how it varies over time and whether the source of noise is moving or stationary. Background noise in a particular location gradually varies over the course of a 24-hour period with the addition and elimination of individual sounds. Several terms are used to describe noise and its effects. The equivalent sound

level ($L_{eq}$) describes the average noise exposure level for a specific location during a specific time period, typically over the course of one hour. The Community Noise Equivalent Level (CNEL) is a twenty-four hour average of $L_{eq}$ with an additional 5 dBA penalty for noise generated between the hours of 7:00 p.m. and 10:00 p.m. and a 10 dBA penalty during the hours of 10:00 p.m. and 7:00 a.m. The penalties account for how much more pronounced a noise is at night when other sounds have diminished. Federal, state, and local governments have defined noise and established standards to protect people from adverse health effects such as hearing loss and disruption of certain activities. Noise is defined in the California Noise Control Act, Health and Safety Code,

California Code of Regulations (CCR) § 46,022 as excessive or undesirable sound made by people, motorized vehicles, boats, aircraft, industrial equipment, construction, and other objects. The Soundscape Protection Policy states that the Department will preserve, to the greatest extent possible, the natural soundscapes of parks from degradation due to noise (undesirable human-caused sound) and will restore degraded soundscapes to the natural condition wherever possible. The Department will take action to prevent or minimize all noise that, through frequency, magnitude, or duration, adversely affects the natural soundscape or natural resources (e.g. loud motorized equipment during critical mating and rearing periods). (DPR, 2004)

Trails within the Mount Diablo SP are intended to provide opportunities for visitors to enjoy the natural, historic, and cultural resources offered in the park. The park is surrounded by a heavily urbanized area so existing noise levels throughout the Park may vary greatly depending on the individual trail's location with respect to surrounding noise source, recreational opportunities offered, and local topography and ground cover (e.g., sand, grassland, forested landscapes). In general, most trails are relatively quiet due to the natural setting and quiet nature of typical activities that take place there such as hiking, sightseeing, camping, and bicycle riding.

The ambient noise environment at Mount Diablo SP is primarily influenced by vehicle traffic from visitors entering and leaving. The level of vehicle-related traffic varies depending on the season of the year and the time day. Other factors that could influence vehicle traffic noise include parking lot capacity and distance of parking lot and access roads to the trails located within the Park. Other, minor sources of noise may originate from activities taking place on trails within the park, such as people talking.

| | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| **WOULD THE PROJECT:** | | | | |
| a) Generate or expose people to noise levels in excess of standards established in a local general plan or noise ordinance, or in other applicable local, state, or federal standards? | ☐ | ☐ | ☒ | ☐ |
| b) Generate or expose people to excessive groundborne vibrations or groundborne noise levels? | ☐ | ☐ | ☒ | ☐ |

| | | | | |
|---|---|---|---|---|
| c) Create a substantial permanent increase in ambient noise levels in the vicinity of the project (above levels without the project)? | ☐ | ☐ | ☒ | ☐ |
| d) Create a substantial temporary or periodic increase in ambient noise levels in the vicinity of the project, in excess of noise levels existing without the project? | ☐ | ☐ | ☒ | ☐ |
| e) Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport? If so, would the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |
| f) Be in the vicinity of a private airstrip? If so, would the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |

**DISCUSSION**

a,c,d) Construction activities associated with future projects identified in the RTMP could include site preparation (e.g., excavation, grading, and vegetation clearing), trail reconstruction, recontouring of slopes to reduce erosion and runoff, expansion and/or paving of parking and staging areas to accommodate new user groups, and construction of bridges and boardwalks. These activities may involve the use of heavy-duty construction equipment that would generate substantial noise levels.

The site preparation phase typically generates the most substantial noise levels because of on-site equipment associated with excavating, ground decompacting, and vegetation removal. Construction is required for projects that include the realignment, recontouring and reconstruction to reduce erosion, convert a road to trail, adding or removing of aggregate material, and the removal of vegetation on or near a trail. To perform these activities, a combination of heavy equipment, small trail construction equipment (e.g., compactors, rock drills), and hand held tools are typically used. Excavators are used to prepare the site by removing trees and brush. Dozers are also used to decompact the ground surface and to accumulate and pile ground mulch for use on finished surfaces. Excavators and dozers may be used separately or simultaneously to complete the work. Hand held tools may include shovels, grub hoes, bow saws, loppers, and drawknifes.

The loudest noise-generating equipment that would be used for construction on any trail within MDSP would include a dozer and excavator. The noise levels generated by these pieces of equipment reach up to 85 dBA Lmax each at a distance of 50 feet (FHWA 2006: p. 3). Because most of the construction work related to projects under the RTMP would be performed using hand-held tools, this equipment would not be anticipated to operate consistently throughout the worker shifts. Nonetheless, it is conservatively assumed that these equipment may be operated simultaneously, in which case the combined noise level would be approximately 88.0 dBA Lmax at a distance of 50 feet.

Construction activities associated with projects included under this RTMP would be subject to several SPRs that would reduce construction-related noise levels. For instance, SPR N-1 restricts construction to day time hours, SPR N-2 requires that all construction equipment would be maintained appropriately and equipped with the proper intake and exhaust shrouds, SPR N-3 ensures that all equipment engine shrouds will be closed during equipment operation, SPR N-4 requires that construction activities and staging areas are located as far away as possible from sensitive receptors, SPR N-5 restricts equipment idle time, SPR N-6 prohibits pile driving, blasting, or drilling, SPR N-7 ensures that proper notification of construction activities is provided if any sensitive receptors are nearby, and SPR N-8 restricts construction activity from occurring within 50 feet of land uses sensitive to ground vibration and 30 feet from historically significant structures that could be vulnerable to structural damage from ground vibration.

With these SPRs in place, construction activities would be limited to daytime hours and proper notification would be given to any potential nearby sensitive receptors. Additionally, equipment idle time would be limited and proper use of all equipment would be required. Compliance with these noise-related SPRs will reduce construction-related noise at any potential sensitive receptor and; therefore, would not result in the exposure of noise-sensitive receptors to a substantial temporary increase in ambient noise levels. Further, because each individual change-in-use project under this Process would be required to adhere to these SPRs, this impact would be less than significant.

b) Groundborne vibration results from the use of heavy construction equipment and may vary depending on the specific construction equipment used and activities involved. Ground vibration levels associated with the types of construction equipment that could be used to implement change-in-use projects, such as trail realignments and establishment of staging areas, are summarized in Table 4.11-4. As shown in Table 4.11-4, the highest levels of ground vibration that could be produced would be 0.089 in/sec PPV at a distance of 25 feet. High levels of ground vibration can be generated by pile driving, blasting, and drilling; however, these activities would be prohibited by SPR N-6.

e,f) MDSP is not located within an airport land use plan, within two miles of a public airport, or in the vicinity of a private air strip. Therefore, no impact would occur as a result of these project activities.

**MITIGATION MEASURE NOISE –**

None Required

## XIII. Population and Housing

### ENVIRONMENTAL SETTING

MDSP is one of California's urban park and recreation areas, serving the greater San Francisco Bay Area. It is located approximately five miles east of Interstate 680 and surrounded by the cities of Clayton, Walnut Creek, and Danville in Contra Costa County. Housing within the park boundaries is limited and restricted to campgrounds and park staff residences. As a recreational facility, the development of permanent housing is not a planned use of the park. The permanent population of the park is relatively static, based on DPR staffing requirements, and no significant growth is anticipated in the foreseeable future. The park is both a local recreational resource and a destination park, used by locals and out of town visitors alike, but does not offer business or residential opportunities within its boundaries.

| WOULD THE PROJECT: | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | ☐ | ☐ | ☐ | ☒ |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |

### DISCUSSION

a,b,c) The RTMP does not have a housing component, and includes no additions or changes to the existing local infrastructure. It would neither modify nor displace any existing housing and would displace no one, either temporarily or permanently. Any jobs generated as a result of the project would be short-term, with no permanent connection to the park location. Therefore, no impact would result on population growth or housing.

### MITIGATION MEASURE POPULATION AND HOUSING –

None Required

## XIV. Public Services

### ENVIRONMENTAL SETTING

MDSP is located approximately five miles east of Interstate 680 and surrounded by the cities of Clayton, Walnut Creek, and Danville in Contra Costa County.

**Fire Protection**
Fire protection is provided by the Cal Fire, supported by the San Ramon Valley Fire Protection District, Contra Costa Fire Department, and units from the East Diablo area, as necessary.

**Police Protection**
Police protection for unit consists of a staff of six DPR Rangers, with backup provided by the Contra Costa County Sheriff's Department and other local law enforcement agencies..

**Schools**
The park is located adjacent to the Mount Diablo Unified School District and the San Ramon Valley Unified School District; however, no schools exist within the unit.

**Parks and Other Public Facilities**
Many parks and recreational facilities that serve local residents and visitors are located throughout Contra Costa County and other nearby Bay Area locations. Diablo Foothills Regional Park, Castle Rock Recreation Area, Las Trampas Regional Wilderness, Morgan Territory Regional Preserve Area, Lime Ridge and Shell Ridge Open Space are all located in the vicinity of MDSP.

| WOULD THE PROJECT: | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| a) Result in significant environmental impacts from construction associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: | ☐ | ☐ | ☒ | ☐ |
| Fire protection? | ☐ | ☐ | ☒ | ☐ |
| Police protection? | ☐ | ☐ | ☐ | ☒ |
| Schools? | ☐ | ☐ | ☐ | ☒ |
| Parks? | ☐ | ☐ | ☐ | ☒ |
| Other public facilities? | ☐ | ☐ | ☒ | ☐ |

**DISCUSSION**

a) Fire Protection: While CalFire has responsibility for responding to all fires within the park's boundaries, the San Ramon Valley Fire Protection District is available to respond to calls for service for medical incidents, traffic collisions, and fires on the Southgate Road and portions of Northgate Road, and the Contra Costa County Fire Protection District can respond to calls for service for medical incidents, traffic collisions, and fires on portions of Northgate Road and Mitchell Canyon. The park also has one Type 3 fire engine. The RTMP is intended to provide focus for management of paved and non-paved roads and trails. It will be a management tool that will be used to assess and prioritize maintenance needs and to maximize trail sustainability. No components of the proposed RTMP would contribute to a significant increase of visitation and the level of required public services is expected to remain relatively static. However, use of construction equipment in the vicinity of flammable vegetation at the project sites could present an increased risk of fire that could result in additional demands on CalFire and local fire response teams. Any impact on services would be temporary and nothing in the project scope would contribute to the need for an increase in the level of fire protection after construction is complete. Integration of SPR **HAZ-8** would reduce the potential impact to fire protection services to a less than significant level.

Police Protection: As noted in the Environmental Setting section, DPR Rangers with law enforcement authority patrol MDSP with emphasis on public use areas. DPR Rangers have full law enforcement authority and only require assistance form local police as backup for unusual situations. No additional demands on Rangers or local police are expected as a result of this project. No impact.

Parks and Other Public Facilities: The proposed RTMP includes provisions for trail connectivity to trails located in outside agency parks and open space districts. However, these connections are considered to be beneficial. As such, there would be no impacts to other parks, nor would the project affect schools or other public facilities. No impact.

**MITIGATION MEASURE PUBLIC SERVICES –**

None Required

## XV. Recreation

### ENVIRONMENTAL SETTING

MDSP is located east of Interstate 680, in urban Contra Costa County, about a 30 minute drive from the City of Danville. (See Vicinity Map in RTMP.) It was one of seven state parks that came into existence before the state parks system was established in 1927 (State Park and Recreation Commission, 1989). The park offers recreational opportunities for biking, camping, hiking, horseback riding, picnics, rock climbing, and wildlife viewing. Facilities include numerous day-use areas and trails, an interpretive center and gift shop, two developed campgrounds, five group campsites, and the Summit Museum, presenting interpretive programs and exhibits highlighting the natural resources, geology, and rich Native American history associated with the park. An observation deck above the museum offers majestic 360-degree views of the Bay Area and surrounding region. The park is open year round, but receives the majority of its visitorship between April and October. Please refer to Section 3, Page 10 of the RTMP for additional information on park attendance.

| WOULD THE PROJECT: | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| a) Increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated? | ☐ | ☐ | ☒ | ☐ |
| b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? | ☐ | ☐ | ☒ | ☐ |

### DISCUSSION

a) Trail users would be displaced during maintenance, construction and/or upgrades to individual trails. However, during closure, park visitors would be able to use most of the other 221 miles of trails at MDSP. Park staff would inform visitors about the temporary closure of these trails. Area closure signs would be posted at all trail access points, campgrounds, and information kiosks during trail maintenance or construction work.

In addition to MDSP trails, there are hundreds of miles of recreational trails in Contra Costa County available for public use. As noted in Section 3.3 of the RTMP, two other agencies manage lands for public recreation adjacent to or near MDSP. Nearby East Bay Regional Parks District (EBRPD) facilities include Diablo Foothills Regional Park, Castle Rock Recreation Area, Las Trampas Regional Wilderness, and Morgan Territory Regional Preserve. In addition, EBRPD

manages the California Riding and Hiking Trail in this region. Finally, the City of Walnut Creek's, Open Space and Trails Division owns and manages the Lime Ridge and Shell Ridge Open Spaces, both of which offer trail recreation.

One of the purposes of the RTMP is to maximize visitor use and experience, which is consistent with the MDSP General Plan goal of developing new opportunities and facilities for optimizing public enjoyment of the park's natural, cultural and recreational values. Furthermore, an increase in park (and trail) visitors is balanced by the RTMP's purpose of providing access to surrounding public lands and providing an appropriate range of recreational opportunities and associated infrastructure.

The RTMP does however, recommend that three trails be considered for a change-in-use that, if implemented would permit mountain bike access. Many concerns have been raised to DPR in the past by certain stakeholder groups about conversion of trails to multiuse (i.e. pedestrian, equestrian, and bicycle), generally related to concerns about use incompatibility, and suggesting that traditional users become displaced as a result.

These trails were identified as suitable candidates for a change-in-use in part because they could potentially be constructed and used sustainably. Furthermore, approval of the RTMP will not in itself result in the conversion of the trails to multiuse. Each trail change-in-use project will require a subsequent environmental document before it could move forward to construction. As such, none of the project elements would contribute substantially to increases in use such that substantial physical deterioration of MDSP would occur or be accelerated, because the document itself prescribes a methodology for more efficiently managing the trails.

b) The proposed project is intended to provide focus for management of paved and non-paved roads and trails and will be a tool that will be used to assess and prioritize maintenance needs and to maximize their sustainability. Although recreational facilities (trails) would be affected by the project, part of the intent is to improve the sustainability of said trails. As is indicated throughout this document, approval and implementation of the RTMP will not result in adverse physical effects on the environment with incorporation of both standard and specific project requirements as identified in Chapter 2.

**MITIGATION MEASURE RECREATION –**

None Required

## XVI. Transportation/Traffic

### ENVIRONMENTAL SETTING

Transportation routes in the vicinity of MDSP include Interstate 680, Ygnacio Valley Road, North Gate Road, Diablo/Blackhawk Road, and Mount Diablo Scenic Boulevard/ South Gate Road. Ygnacio Valley Road is the primary arterial road to North Gate Road which enters the park from the northwest. Diablo Road/Blackhawk Road to Mount. Diablo Scenic Boulevard is the primary route to South Gate Road which enters the park from the southwest. As the areas around MDSP become more urbanized, the usage of these roads increases. However, all roads within the park are primary winding, two-lane paved roads, and are not used as primary commute routes. Usage levels are directly tied to park visitation.

Contra Costa County transportation needs are met with an extensive system of roadways, railways, bicycle and pedestrian pathways, air travel, and waterways.

**Roadways**

The roads, streets, highways, etc. that comprise the Contra Costa County roadway system includes freeways, major arterial streets, local streets and rural roads. The freeway system includes Interstates 680, 80 and 580 and State Highways 4, 24, and 242. The total number of roads, freeways, etc. maintained in Contra Costa County consists of approximately 3,273.03 miles. Of this total, 728 miles belongs to the County; 2,358 miles accounts for city streets; 112 miles of State Highways; and 76 miles belong to DPR. (http://www.dof.ca.gov/html/fs_data/stat-abs/tables/j1.xls)

**Level of Service**

Level of Service describes the operating conditions experienced by drivers and is based on several factors: traffic volume; intersection land configuration; design and type of intersection control; speed and travel time; traffic interruptions; freedom to maneuver; and driving comfort and convenience. LOS is generally expressed qualitatively with letters A through F, covering the range of traffic conditions that may occur (see table below).

| Level of Service | Description | Average Freeway Speed |
|---|---|---|
| A | Represents free flow conditions. Individual users are virtually unaffected by the presence of other traffic on the roadway. | 60 mph |
| B | Stable flow, but the presence of other vehicles in the traffic stream begins to be noticeable. | 57 mph |
| C | Stable flow, but marks beginning of the range of flow in which the operation of individual users becomes affected by interaction with other vehicles in the traffic stream. | 54 mph |
| D | Represents high density, but stable flow. | 46 mph |

| | | |
|---|---|---|
| E | Represents operating conditions at or near the capacity of a roadway. | 30 mph |
| F | Represents forced or breakdown flow. | < 30 mph |

Source: Highway Capacity Manual – Special Report 209, Transportation Research Board, 1994.

High Occupancy Vehicle (HOV) Lanes - A number of existing freeways in the county have HOV lanes; these include: Interstate 80 between State Route 4 and the Contra Costa County/Alameda County line; State Route 4 between State Route 242 and Railroad Avenue; and Interstate 680 between south of Walnut Creek and the Contra Costa County/Alameda County line.

**Rail**

Two diesel train rail lines provide intercity transit service within the county. The Capitol Corridor rail service, operated by Amtrak, operates between Auburn and San Jose. The San Joaquin rail service operates between Oakland and the Central Valley (Stockton and Modesto) with stops in Contra Costa County at Martinez and Richmond.

Four freight lines operate in Contra Costa County: the Southern Pacific (SP) line stretches 60 miles from Richmond to the Alameda County line near Clifton Court Forebay; The 55-mile long Atchison Topeka and Santa Fe line runs parallel to the SP line then turns inland south of State Route 4 to the industrial areas east of Martinez; the Union Pacific line serves from Clyde to Pittsburg; and Bay Point and Clayton rail serve the Concord naval Weapons Station.

**Bus System**

BART stations serve as key feeders and express bus transit centers for the East County (Tri Delta Transit) and Central County (County Connection). The Alameda-Contra Costa Transit District (AC Transit) serves most parts of the West County. The WestCat system serves the northwest portion of the county. All bus services provide fixed route service in addition to BART connections.

**Bicycle and Pedestrian**

In 2009, the Contra Costa Transportation Authority updated the Contra Costa Countywide Bicycle and Pedestrian Plan (CBPP). The overall purpose of the CBPP is to assess the needs of bicyclists and pedestrians in Contra Costa County, and identify a set of countywide improvements and implementation strategies that will encourage more people to walk and bicycle. One of the key reasons for preparing the CBPP is to provide local jurisdictions with eligibility for funding through the Bicycle Transportation Account (BTA). This funding program, which is administered by Caltrans, supports projects that improve the safety and mobility of bicycle commuters.

**Air Traffic**

Buchanan Field is a 578–acre, general use airport located approximately one mile west of the City of Concord near the junction of Interstate 680 and State Highway 4 and within the county's central population and transportation centers.

East County Airport is an approximately 1,300-acre full service facility, of which only 230 acres are used for actual airport activities, located approximately three miles south of

the Town of Byron and two and a half miles north of the Alameda County line within a largely agricultural area.

**Waterways**
The western end of Contra Costa County is located on the San Francisco and San Pablo Bays and the northern boundaries on the Carquinez Straits, Suisun Bay, and the Sacramento and San Joaquin Rivers. The county also contains one deep-water port, the Port of Richmond, in the City of Richmond.

**Scenic Highways** (http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm)
Many state highways are located in areas of outstanding natural beauty. California's Scenic Highway Program was created by the Legislature in 1963. Its purpose is to preserve and protect scenic highway corridors from change, which would diminish the aesthetic value of lands adjacent to highways. Approximately 10 miles of State Route 24 from the Alameda County line to the Interstate 680 interchange and from the interchange south to the Alameda County line is officially designated a scenic highway. Approximately 35 miles of State Route 4 south from State Route 160 near Antioch to State Route 84 near Brentwood is an eligible State Scenic Highway. The status of a State Scenic Highway changes from eligible to officially designated, when the local jurisdiction adopts a Scenic Corridor Protection Program, applies to the CalTrans for scenic highway approval, and receives notification from Caltrans that the highway has been designated as a Scenic Highway.

**Contra Costa County General Plan**
The Contra Costa County General Plan establishes transportation goals and policies and establishes specific implementation measures to assure the county transportation system is adequate through 2010. The Transportation element of the General Plan provides a plan and implementation measure for an integrated, multi-modal transportation system that will safely and efficiently meet the transportation needs of all economic and social segments of the County as well as the transportation of goods and services throughout the county.

**Contra Costa Transportation Authority** (http://www.ccta.net/index.htm)
In 1988, Contra Costa County voters passed Measure C, a sales tax measure that committed a half-cent on the dollar sales tax to pay for a list of transportation project and programs. Over a period of 20 years, the measure was projected to generate approximately $1 billion for a BART extension, freeway improvements, improved bus service, enhanced bicycle facilities and additional transportation options for senior citizens and people with disabilities. Measure C also included a provision to link planning for growth and development with transportation.
The Contra Costa Transportation Authority, the designated Congestion Management Agency (CMA) for Contra Costa County, was formed to manage the funds generated by Measure C of 1988. In addition to implementing the Measure C Growth Management Program, the Authority prepares a Strategic Plan, Congestion Management Program, monitors levels of service on the county's roadways and works with other CMAs and agencies to address regional issues.

| WOULD THE PROJECT: | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system? | ☐ | ☐ | ☒ | ☐ |
| b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? | ☐ | ☐ | ☒ | ☐ |
| c) Cause a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks? | ☐ | ☐ | ☐ | ☒ |
| d) Contain a design feature (e.g., sharp curves or a dangerous intersection) or incompatible uses (e.g., farm equipment) that would substantially increase hazards? | ☐ | ☐ | ☐ | ☒ |
| e) Result in inadequate emergency access? | ☐ | ☐ | ☒ | ☐ |
| f) Result in inadequate parking capacity? | ☐ | ☐ | ☒ | ☐ |
| g) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? | ☐ | ☐ | ☒ | ☐ |

**DISCUSSION**

a) This policy and management plan for roads and trails within MDSP are not designed to expand facilities for increased use, but to address management and resource protection objectives. Implementation of the plan will not conflict with any applicable plan, ordinance or policy with respect to the performance of the circulation system, including all modes of transportation. Therefore, no impact will result.

b) The RTMP addresses policies for road and trail management within MDSP only. Therefore, no conflict with congestion management programs, level of service standards travel demand measures, or other standards established by the county congestion management, would occur. Therefore, no impact would result.

c) MDSP is not located within an airport land use plan, within two miles of a public airport, in the vicinity of a private air strip, and does not serve as a normal reporting point for air traffic in the area. Nothing in the proposed project would in

any way affect or change existing air traffic patterns in the area. Therefore, no impact would occur as a result of this project.

d) The RTMP would address policy and management of roads and trails, including resource protection and trail sustainability. There are no transportation-related design changes associated with this project and no incompatible uses. No significant impact.

e) The RTMP addresses those areas within the boundaries of the MDSP; roads affected by the project serve as access roads within the park and are not primary commute or thoroughfare access. No areas within the park would be closed as a result of this project. Therefore, no impact would result.

f) The project has no parking component and would not impact existing parking conditions. Therefore, no impact would result.

g) There are no policies, plans, or programs supporting alternative transportation that apply to the project or project area.

**MITIGATION MEASURE TRANSPORTATION AND TRAFFIC –**

None Required

## XVII. Utilities and Service Systems

### ENVIRONMENTAL SETTING

Mount Diablo SP is an 18,000 acre park in Contra Costa County. Water for most of the park is provided by a DPR-owned and operated 500,000-gallon capacity water storage and distribution system, gravity-fed by numerous natural springs within unit, and an approximately 300,000 gallon reserve supply, located near Summit Road and Green Ranch Fire Road. However, the Mitchell Canyon Day Use Area receives its water service from the Contra Costa Water District and Macedo Ranch receives both water and sewer service from the East Bay Municipal Utility District. There are currently no wells in the park.

Wastewater management for the remainder of the park is provided by individual septic systems at facilities throughout the park.

Energy service for the park is provided by Pacific Gas and Electric and telephone service is provided by AT&T.

Refuse collection and disposal is performed by park staff and transported to a neighboring landfill, located in the City of Martinez.

| WOULD THE PROJECT: | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| a) Exceed wastewater treatment restrictions or standards of the applicable Regional Water Quality Control Board? | ☐ | ☐ | ☐ | ☒ |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities? | ☐ | ☐ | ☐ | ☒ |
| Would the construction of these facilities cause significant environmental effects? | ☐ | ☐ | ☐ | ☒ |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities? | ☐ | ☐ | ☒ | ☐ |
| Would the construction of these facilities cause significant environmental effects? | ☐ | ☐ | ☐ | ☒ |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed? | ☐ | ☐ | ☐ | ☒ |
| e) Result in a determination, by the wastewater treatment provider that serves or may serve the project, that it has adequate capacity to service the project's anticipated demand, in addition to the provider's existing commitments? | ☐ | ☐ | ☐ | ☒ |

| | | | | | |
|---|---|---|---|---|---|
| f) | Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | ☐ | ☐ | ☐ | ☒ |
| g) | Comply with federal, state, and local statutes and regulations as they relate to solid waste? | ☐ | ☐ | ☐ | ☒ |

**DISCUSSION**

a) Mount Diablo SP is within the jurisdiction of the SFBRWQCB. This project has no wastewater component and would result in a negligible increase in demand on existing systems. All aspects of the project would be in compliance with RWQCB regulations and standards. No impact would result.

b) The proposed project would not result in the expansion of the existing wastewater treatment facilities or the construction of new facilities. No impact would result.

c) Some alterations of existing drainage patterns could occur under as part of subsequent projects to improve road or trail sustainability consistent with the RTMP. However, alteration to overall drainage patterns would be minimal, with little if any changes in total stormwater runoff. Approval of the RTMP would not result in the expansion of the existing stormwater facilities or the construction of new facilities. No significant impact.

d) The water supply for the majority of the project area is provided by park's internally supported water distribution system; no new entitlements for water would be required by the project. Current supplies are adequate for existing demands; the minimal additional demands associated with approval of the RTMP, and projected future use. Therefore, no impact would result.

e) The proposed project has no wastewater component or effect on existing wastewater treatment systems. No impact would result.

f) The RTMP is a policy and management document, the approval of which would not result in the generation of any additional solid wastes. Therefore, no impact would result.

g) This project will comply with all federal, state, and local statutes and regulations as they relate to solid waste. Therefore, no impact would result.

**MITIGATION MEASURE UTILITIES AND SERVICE SYSTEMS –**

None Required

## Chapter 4 - Mandatory Findings of Significance

| | POTENTIALLY SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|---|---|---|---|
| **WOULD THE PROJECT:** | | | | |
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal? | ☐ | ☐ | ☒ | ☐ |
| b) Have the potential to eliminate important examples of the major periods of California history or prehistory? | ☐ | ☐ | ☒ | ☐ |
| c) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means the incremental effects of a project are considerable when viewed in connection with the effects of past projects, other current projects, and probably future projects?) | ☐ | ☐ | ☒ | ☐ |
| d) Have environmental effects that will cause substantial adverse effects on humans, either directly or indirectly? | ☐ | ☐ | ☒ | ☐ |

**DISCUSSION**

a) Implementation of the RTMP will not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plants or animals. Less than significant impact.

b) Therefore, implementation of the RTMP will not have the potential to eliminate important examples of the major periods of California history or prehistory. Less than significant impact.

c) The Bay Area District conducts trail and other routine maintenance on an ongoing basis. The RTMP will be a tool used to assess and prioritize maintenance needs and to maximize their sustainability. The implementation of subsequent maintenance projects are evaluated to assure that they will not result in significant adverse cumulative effects on the environment. The incremental effects of the project are insignificant when viewed in connection with the effects of past projects, other current projects, and probable future projects. Impacts from environmental issues addressed in this evaluation do not overlap with additional planned projects in

such a way as to result in cumulative adverse impacts that are greater than the sum of the parts. This project will result in a less than significant impact.

d) All of the environmental effects have been determined to pose a less than significant impact on humans. Potential impacts on subsequent road and trail maintenance projects undertaken under the RTMP would be reduced to a less than significant level if all project requirements are fully integrated into those projects.

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# Chapter 6 - Report Preparation

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# Appendix A - Sensitive Species Lists

## APPENDIX A: Special Status Plant Species Evaluated for Project

[1]California Native Plant Society (CNPS) Rare Plant Ranks: 1A = presumed extinct in California; 1B = rare or endangered in California and elsewhere; 2 = rare or endangered in California, more common elsewhere; 3 = need more information; 4 = plants of limited distribution. Threat code extensions are: .1 = seriously endangered in California; .2 = fairly endangered in California; and .3 not very endangered in California.

SE State Endangered
ST State Threatened
CR State Rare
FE Federally Endangered
FT Federally Threatened

## APPENDIX A: Special Status Wildlife Species Evaluated for Project

SE State Endangered
ST State Threatened
SCE State Candidate for Listing Endangered
SCT State Candidate for Listing Threatened
SSC CDFG California Species of Special Concern
FP CDFG Fully Protected Species
FE Federally Endangered
FT Federally Threatened
PE Proposed Federally Endangered
C Federal Candidate
DPS Distinct Population Segment
ESU Evolutionarily Significant Unit
FMBTA Federal Migratory Bird Treaty Act
BGEPA Bald and Golden Eagle Protection Act
FGC Protection provided by Fish and Game Code, Sections 3500-351
WBWG Western Bat Working Group

# Section 8 APPENDICES

## 8.1 Glossary

**ADA**
An acronym for the Americans with Disabilities Act of 1990, which is a federal law prohibiting discrimination against people with disabilities and requiring that public facilities be accessible to people with disabilities. For the purposes of this plan, it refers to the standards established for accessibility by the U.S. Access under the Architectural Barriers Act.

**CEQA**
An acronym for the California Environmental Quality Act, which was established shortly after the federal National Environmental Policy Act in 1969. CEQA requires public involvement in and review of projects that would result in an impact on California's natural and cultural resources.

**CLASSIFICATION**
The designation indicating the intended use of and maintenance specifications for a particular trail.

**EQUESTRIAN TRAILS**
Trails that are primarily designated for use by equestrians. Hikers may also use these trails but are not the intended primary user. These trails are designed to meet the requirements of horses and their riders, protect resources, and achieve sustainability. They are not intended to be multi-use or accessible trails. The planning, layout, and design processes included herein apply to these trails, however, there are additional design criteria related to equestrian trails.

**HYDROLOGY**
The physical properties, distribution, and circulation of water on the surface of the land, in the soil, in underlying rocks, and in the atmosphere.

**MITIGATE**
Actions that are undertaken to avoid, minimize, reduce, eliminate, or rectify the adverse impacts of a management practice or trail use.

**MOUNTAIN BIKE TRAIL (Bicycle Trail)**
Trails that have been designated for use by non-motorized bicycles equipped for off-road use. Hikers may also use these trails but they are not the intended primary user. These trails are designed to meet the requirements of mountain bikes and their riders, protect resources, and achieve sustainability. They are not intended to be equestrian, multi-use, or accessible trails.

**MULTI-USE TRAILS**
For DPR, multi-use trails are designed to accommodate at least two user groups in addition to pedestrians – usually bike and horse riders. Multi-use trails can create linkages between critical access or interest points within a trail network. They are not intended to be the solution to all

trail user dispersion issues. Multi-use trails require fewer resources to construct and maintain and often minimize impacts to cultural and natural resources.

**NON-SYSTEM TRAILS**
Trails not recognized, designated, nor maintained by the park.

**REHABLITATION**
Includes all the work that is necessary to bring a trail or trail system up to classification standards, including returning a work site or a damaged area back to its original state. Trail rehabilitation, otherwise known as site restoration, is required to mitigate or correct damage or disturbance to wildlife, cultural resources, vegetation, soils, or water courses created by trail construction, maintenance, or visitor use.

**SIGHT DISTANCE**
Consists of the visible, unobstructed, forward and rear view as seen by a trail user from any given point on a trail.

**SPECIFICATIONS**
Standards to which trails and trail structures are built and maintained as determined by the trail's classification.

**SUSTAINABLE TRAILS**
A sustainable trail has been designed, constructed, or re-constructed to a standard that does not adversely impact natural and cultural resources and can withstand the impacts of the intended user group while receiving only routine cyclical maintenance. A sustainable trail must meet the needs of the intended user group to a degree that they do not deviate from the established trail alignment.

**SYSTEM TRAILS**
Trails recognized, designated, and maintained by the park.

**TRAILHEAD**
An access point to a trail often accompanied by various public facilities, such as a parking area, drinking water, restrooms, informational signs, and staging areas.

**TRAIL LOG**
An inventory of the physical features and conditions of a trail by trail footage.

**WATERSHED**
A region or area that is joined peripherally by a water parting formation, such as a ridge, hill, or mountain range, and that drains into the same water course or body.

**WORK LOG**
A detailed listing of existing trail elements and/or specific modifications (re-engineering, reconstruction, etc.) by location designed to improve trail conditions.

## 8.2 Summary of Visitor Use Survey Responses

Surveys of recreational users at MDSP were conducted by DPR staff from 2008 to 2010 using one-on-one interviews and two public meetings. Approximately 500 survey responses were gathered. A synopsis of the results is listed below. The blank survey instrument can be found in Section 8.4.

**USER GROUPS**

- Add "trail runners" and "rock climbers" as distinct user groups
- Don't make hikers and horses share trails/roads with mountain bikers
- Trails can accommodate horses, hikers, and bikers if common courtesy is used
- Trails/building/maintenance volunteers have done a great job
- Provide bicycle trails for their use only and charge a user fee
- Limit mountain bikes to fire roads; single track trails should be for equestrians, hikers, dog walkers
- California State Parks is generally very responsive
- Horseback riding is recreational and should be listed as a primary use of MDSP trails
- My entire family has been enjoying the mountain for almost 100 years and it always seems to be getting better – the trails are fantastic, the staff wonderful, the maintenance a pleasant surprise
- There is room for all – if done with foresight (equestrians, hikers, bikers can share)
- Coordination on Shell Ridge with East Bay Parks and Walnut Creek is important

**ROAD & TRAIL MAINTENANCE**

- Remove the equipment from the hotel site on the Sunset Trail
- Trails are well maintained
- Examine trails after heavy rains to get better information of trail conditions
- If some of lesser used trails are cleaned up, it would take pressure off the most popular trails
- Falls Trail needs steps in some areas, and considerable improvement
- Work is needed on state road through Pine Canyon (hiking in particular) – creek takes over trail during the wet season
- Because of erosion at Pine Canyon, trail is unusable in winter/ rainy months
- Occasionally, downed trees across trails for weeks with no way around because of drop off and walls
- Low maintenance of trails makes many sections narrower than planned, which creates erosion and safety issues
- Increase the trail maintenance staff
- Trails leading to the mountain from the Clayton side (parallel to Mitchell Canyon) are overgrown and need trimming
- Roads and trails are excellent, but some spots (e.g., Little Yosemite Trail) are dangerous due to natural erosion
- Eagle Peak, Bald Ridge, East, and North Peak Trails (single track from North Peak to Mount Olympia) need to be rehabilitated, in parts

- Most of the service roads are unpleasantly steep, scrabbled with loose rock that makes traction by foot or bike unwieldy

**ROAD & TRAIL DESIGN**

- Provide more loop trails/alternatives
- More trail connections are needed (Summit Trail, Middle Trail or Back Creek)
- Love interconnected trails (i.e., Mount Diablo to Morgan Territory to Round Valley)
- More single track for mountain bikes, including bottom to summit, and south side to the north side, and a variety of grades
- Need more horse-friendly trails
- More single track trails that meander (as opposed to steep climbs) to improve hiking enjoyment and trail sustainability
- Need a trail design that is more conducive to cycling
- More narrow trails instead of fire roads
- Compute a safe combination of pitch and sightlines for a proper distance for bicyclist and equestrian to see each other (greater the pitch, the greater visibility is needed) – if this trail criteria can't be met, no bicycles on this particular trail
- Possibly need "one-way" trail, "downhill only" trail, "user specific" trail, or have specific hours or days on trails (e.g., every other weekend)
- Trails should be wide enough for all users
- Network of trails is superb
- Please continue to put in re-routes where trails are too steep or dangerous
- MDSP is 76 years old and we need to accept that it is impossible to make all trails conform to modern trail building specifications
- North and South roads need to be reopened, just like the Summit Road
- Need additional drinking water stations and restrooms
- Need restrooms/outhouse (anything that women can use) at staging areas, and on/off trails
- Need staging areas at beginning of Summit Trail and South Gate Entrance
- Mountain bikes are not a compatible multi-use situation; mountain bikes need trails designed and set aside for their use (these trails can tie into fire roads and exiting trails)
- Great having the trail that takes off at North Gate to the right
- Have a trail easement between White Canyon/Red Rock Road/ Peacock Spring area – park boundary to Juniper/Deer Flat (just a trail corridor)
- Fire roads need to be designed and improved for good drainage to minimize erosion
- Need "speed bump" logs, etc. to slow down mountain bikes
- Consider Olafson Ridge Road to Burma Road trail link accessed above Moses Rock at about 2,200 feet (the switchback with the bay tree colony)
- I like the inclusion of mileage on the sign posts
- Reclaim under-utilized fire roads into single track trails
- Mitchell Canyon side offers brutally steep climbs, providing narrower trail with more switchbacks and in the shade. Leave difficult sections in place (e.g., roots, rocks, etc.)
- At least allow uphill on all trails for mountain bikers

- Do not confuse environmental requirements (for new or trail modifications) with simple use modification (allowing bikes on existing roads)
- Consider Skyline Park in Napa for how multi-use trails work. It's an equestrian run park full of single track. Other state parks to consider as a successful model for trail usage: Annadel and China Camp
- Need a water fountain on North Gate Road around Burma Trail/ North Gate Crossing (three miles from North Gate entrance)
- Decrease number of road crossings

**SAFETY AND PATROL**

- Increase park ranger staff and patrols
- MDSP has a horse, but no ranger to ride the trails and monitor them
- Safety for riders and others needs to be maintained, especially if considering multi-use trails
- Eagle Peak Trail, like Falls Trail is dangerous (loose shale)
- Safety should be the prime consideration in evaluating trail use
- Mountain bikers go down single track trails at high speed and recklessly (also with headphones on) and have no time to stop to avoid hitting someone, which creates a dangerous mix
- Trails are not a motocross – racing bikes at 30 mph will cause life threatening accidents
- Bikes should stay on fire roads where there is room to safely pass; users that go the same speed should share the same tracks
- Converting trails to multi-use would create an unsafe environment for horses mixing with mountain bikes, and the liability to the State would be huge
- Hetherington, Back Creek, Meridian Point, Tick Wood trails have steep drop-offs and limited sight lines, making it difficult for equestrians to see illegal bicycle riders, and no room to turn around. Will stop riding my horse if bicycles are allowed on single tracks.
- North Peak Trail between Devil's Elbow and Mount Olympia Trail are overdue for a major accident (poor line of sight, obstacles, and erosion) – lots of illegal mountain biking on narrow trails like Back Canyon, Mitchell Rock, Meridian Ridge Connector, and Eagle Peak
- Maybe technology (e.g., GPS) could help track users and help with enforcement of illegal usage.
- Need hand-operated bells on bikes to alert other users of biker's presence. All bikes in Germany, Austria, and Switzerland are required to have a bell and a light.
- Because of safety concerns for bicyclists, I do not ride my horse after dark in Mitchell Canyon
- Use same safety guidelines for horses and bike riders as sailboats having precedent over power boats, and pedestrians having right-of-way over cars – horses should have right-of-way over bicycles
- Educate bicyclists, hikers, and riders about safety issues (e.g., high speed)
- Need more enforcement presence – need a mounted ranger at Mitchell Canyon
- North Gate Road access is still dangerous to equestrians next to paved road with cars and trucks
- My concern is the access to water for people and horses – so, I tend to stick to short trails or creek-side trails in Shell Ridge open space

- Allow bicyclists to get off the road with cars and improve our safety – we go slower on narrow trails with technical features (making it safer)

**INTERPRETATION AND SIGNAGE**

- More opportunity for trail guidance for youth, disabled, etc.
- Signage is confusing – large lettering for the trail you are on; small lettering for others
- Need signage with sign post numbers and matching maps
- Need clear direction that summit cannot be reached from Mitchell Canyon Staging Area, but from North or South Gate Road
- Marsh Creek Trailhead and Morgan Territory Road needs better signage and trail markers
- More historical signs
- Would like a detailed map that includes single track names, and marked on trail
- Post "no bikes" sign on main fire road/trail, not further down on single track
- Hang gliders attract visitors – great marketing/revenue generating sport that has low impact, environmentally (need trail that offers viewing area for hang gliders)
- Put "Share the Road" signs on the paved roads

**ACCESS & ACCESSIBILITY**

- Riding horses is only way some people can access the trails
- There are not too many places horses can access MDSP trails
- Please keep Mount Tamalpais gate open
- Please don't limit our [hang gliding] access to existing Juniper launches with the updated plan – our focus is on launching and landing areas with rideshare on paved roads
- The SE launch is the only hang gliding launch area in the Bay Area that faces that particular direction
- Nice to have Dan Cook single track trail open for mountain bikes
- How about "day-of-the-week" use designations
- Multi-use is essential to get all possible people of all ages out with nature
- Find out what state of Nevada did to let bikes access the Tahoe Rim Trail. The bikers are particularly courteous.
- Too many cars – limit vehicle access in the morning
- Trails have been fairly well-kept and easy to access, as well as horse-friendly and fun. I hope it stays that way
- More mountain bike access
- Access for mountain bikes to North Trail between Prospectors Gap and Devil's Elbow should be re-evaluated
- Get the connector between Diablo Ranch and Buckeye reopened (closed since Dec. '07)
- Re-open Southeast Launch for hang gliding/paragliders (overgrown and unusable) – Could be maintained by Rogallo Hang Gliding Club
- The 100-150 foot trail for hang-gliders allowed for one-third of all flights
- Hang gliders require small amount of trimmed bushes (not a trail; no longer than 15 feet for take-off) – we like a grassy area.

**PARKING**

- Have not been able to access the trails at end of Finley Rd (off Tassajara Rd.) for years because of no parking, and the same for the Dan Cook Trail for equestrians because of no parking for equestrian trailers
- Need lower area parking

**RULES AND REGULATIONS**

- I chose other parks that allow dogs on trails
- Enforce single track rules for mountain bikes
- Enforce dogs off-leash rules
- How can you promise reasonable enforcement given State finances?
- “No bikes allowed” and “No dogs off leash” signs are posted but not enforced
- Post speed limits for road bikes and ticket speeders or anyone abusing privileges
- Wish dogs were allowed (on leash) when I hike
- Institute same rules as East Bay Regional Park to not allow bicyclists on single track trails

**WILDLIFE CONCERNS**

- Eliminate informal trail through Knobcone Pt. rocks/cliff due to impacts to wildlife
- Ground squirrels are creating many holes in trails (also many in the banks of Mitchell Creek, especially between the private property gate and the Mitchell Canyon Parking Lot)

## 8.3 Trail Use Survey

3/7/08

### Mount Diablo Trail Use Survey

Location _____ Date _____

Zip Code of Home Residence: _____

How many people typically accompany you when you make use of the roads and trails of Mount Diablo State Park?

1-2 ☐ 5+ ☐
3-5 ☐

In the past year, how many times have you recreated/used Mount Diablo State Park:

0-5 ☐ 11-20 ☐
6-10 ☐ 21+ ☐

What is your primary transportation type when visiting Mount Diablo State Park:

Hiking ☐ Road Bike ☐
Mountain Bike ☐ Street Legal Vehicle ☐
Equestrian ☐ Other _____

Your primary use of Mount Diablo State Park roads / trails is for:

Access to adjacent public lands ☐ Wildlife Viewing ☐
Education ☐ Scenic Views ☐
Recreation (hiking/biking etc.) ☐ Historical Interests ☐

Are there enough road and trail opportunities for:

| | Yes | No |
|---|---|---|
| Hiking | ☐ | ☐ |
| Mountain Bike | ☐ | ☐ |
| Equestrian | ☐ | ☐ |
| Road Bike | ☐ | ☐ |
| Other | ☐ | ☐ |

Which area(s) of Mount Diablo State Park do you visit?

Mitchell Canyon Area ☐ North Gate Side ☐
Macedo Ranch Area ☐ Summit Area ☐
South Gate Side ☐ Marsh Creek Area ☐
Rock City ☐ Other _____

Where 1 is undesirable and 5 is extremely desirable, please indicate the degree of importance for improving/creating trails and roads in Mount Diablo State Park:

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Hiking Trails | | | | | |
| Mountain Bike Trails | | | | | |
| Equestrian Trails | | | | | |
| Accessible Trails | | | | | |
| Connection to Adjacent Public Lands | | | | | |
| Trail Heads/Staging for Equestrians | | | | | |
| Trail Heads for Hiking & Mountain Biking | | | | | |
| Solitude | | | | | |
| Maps and Signage | | | | | |
| Access to Views | | | | | |
| Running Trails | | | | | |
| Street Legal Vehicle Access | | | | | |

**Trail Use Survey, continued**

## Mount Diablo Trail Use Survey

**What is the name of your favorite trail in Mount Diablo State Park?**_____

**Please comment on the roads and trails in Mount Diablo State Park.**

_____

_____

_____

_____

_____

_____

_____

**If you wish to participate in future trail meetings please provide the following information.**

**Name** _____

**Address** _____

**Email** _____

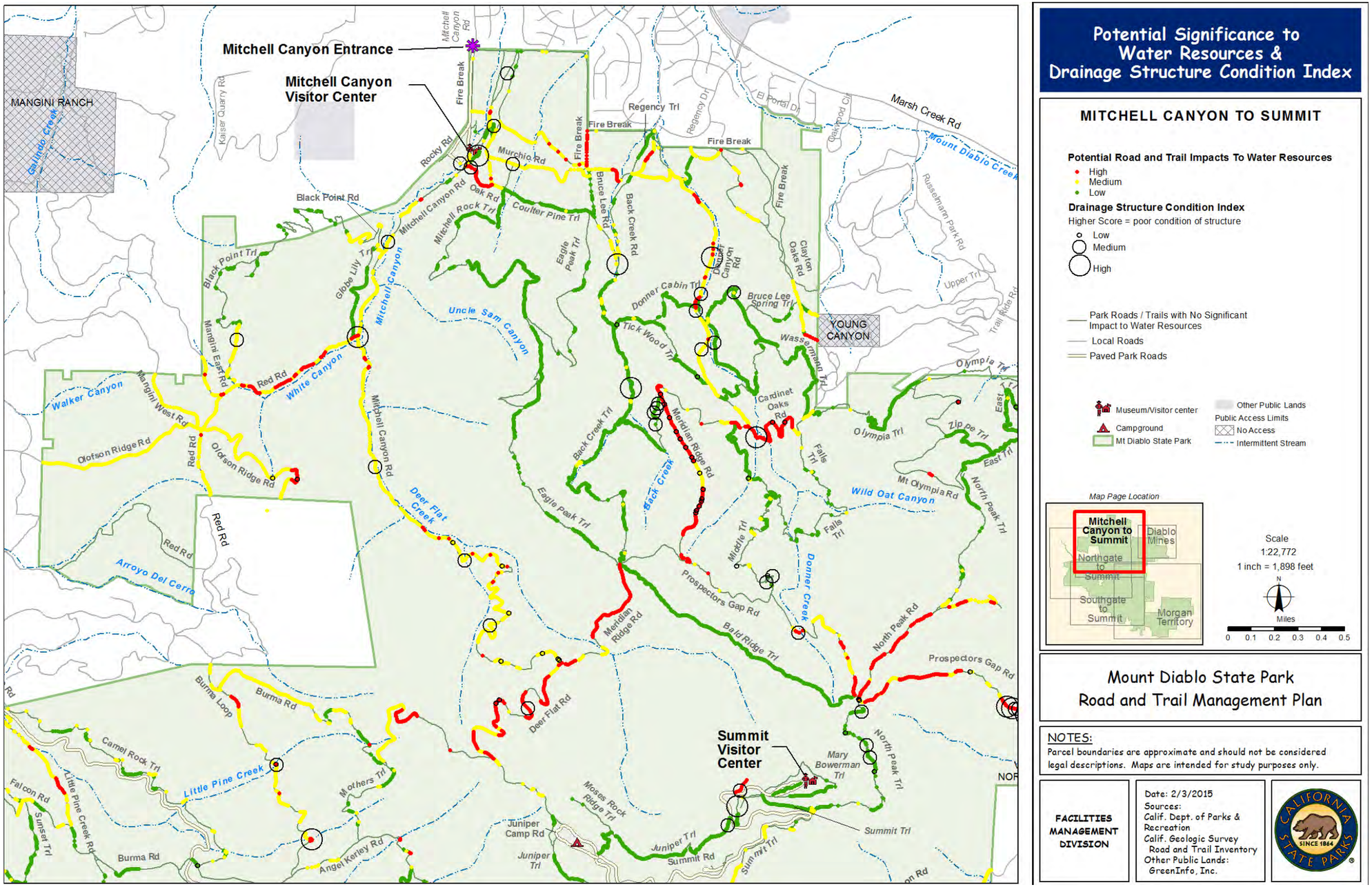
**Thank you for your participation**

## 8.4 Maps: Potential Significance to Water Resources and Erosion Severity

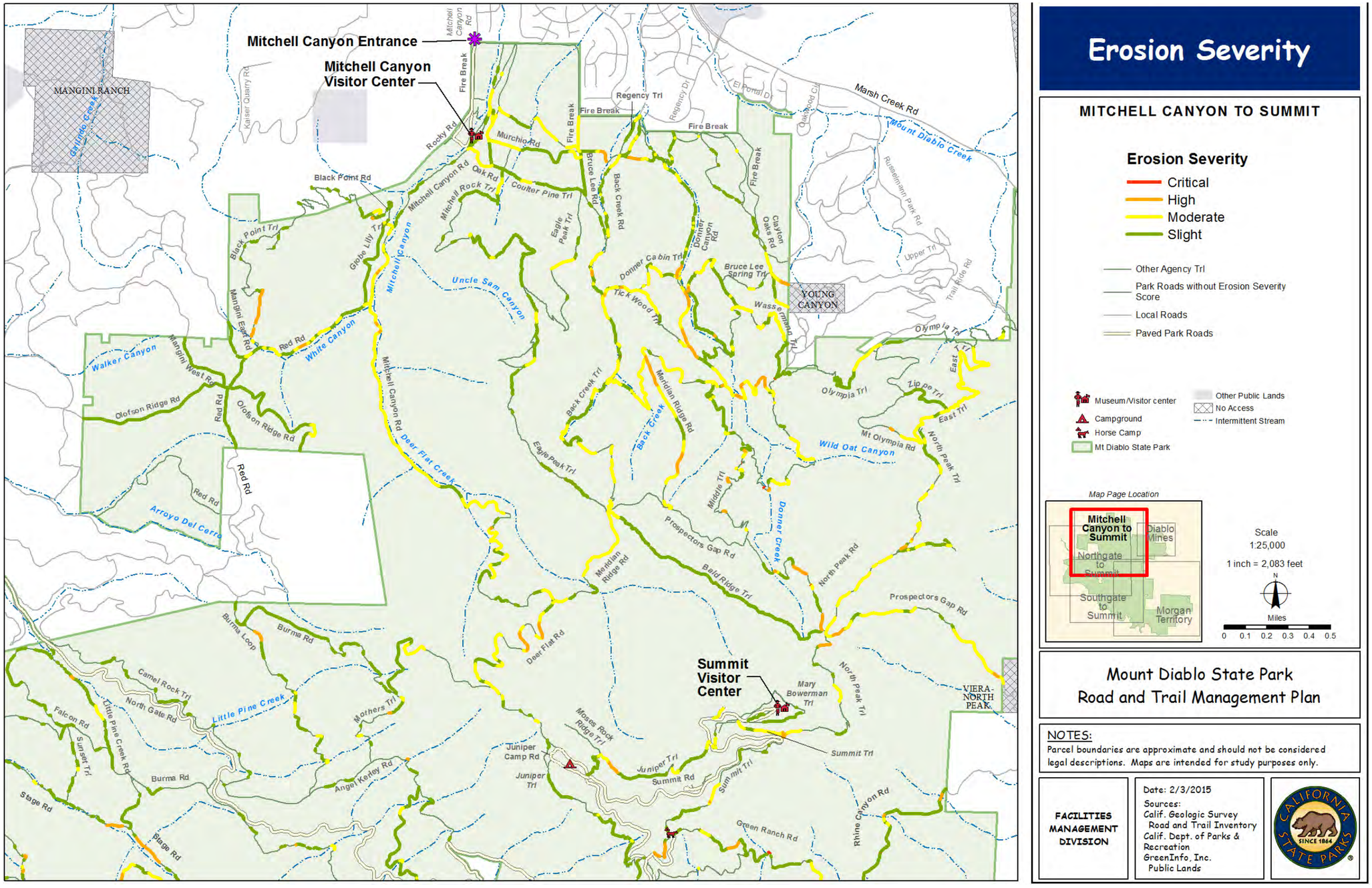
The Potential Significance to Water Resources (PSWR) and Drainage Structure Condition Index (DSCI) maps show the potential for roads and trails to impact water resources through eroding sediment discharge and the condition of drainage structures, respectively. The PSWR is based on erosion severity, proximity/connectivity to water resources, and road or trail width. The higher the PSWR number, the greater the potential of the road or trail to impact water resources. The DSCI is an assessment of conditions observed in the water course or at a drainage structure. A high index indicates poor drainage condition.

## Mitchell Canyon to Summit Area

### Map: Potential Significance to Water Resources

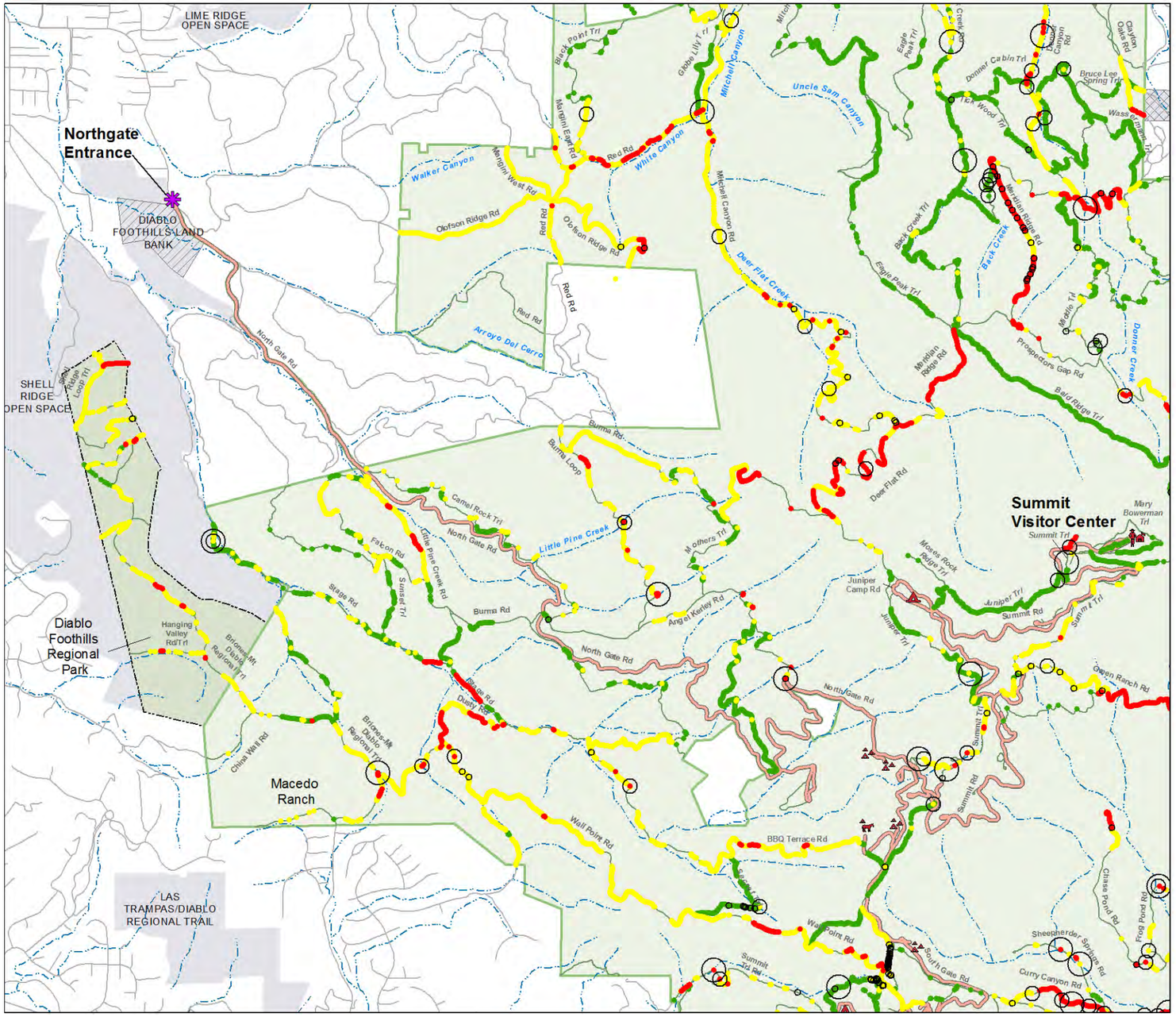


**Map: Erosion Severity**



## North Gate to Summit Area

### Map: Potential Significance to Water Resources




## Potential Significance to Water Resources & Drainage Structure Condition Index

### NOTHGATE TO SUMMIT

**Potential Road and Trail Impacts To Water Resources**

- High
- Medium
- Low

**Drainage Structure Condition Index**

Higher Score = poor condition of structure

- Low
- Medium
- High

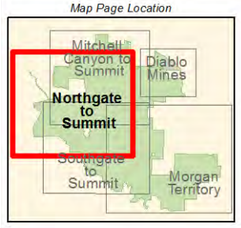
- Park Roads / Trails with No Significant Impacts to Water Resources
- Local Roads
- Paved Park Roads

- Museum/Visitor center
- Campground
- Group Camp
- Horse Camp
- Mt Diablo State Park
- CSP Lands Operated by EBRPD
- Other Public Lands

**Public Access Limits**

- No Access
- Restricted Access
- Intermittent Stream

*Map Page Location*




Scale
1:27,257
1 inch = 2,271 feet

N

Miles
0 0.1 0.2 0.3 0.4 0.5

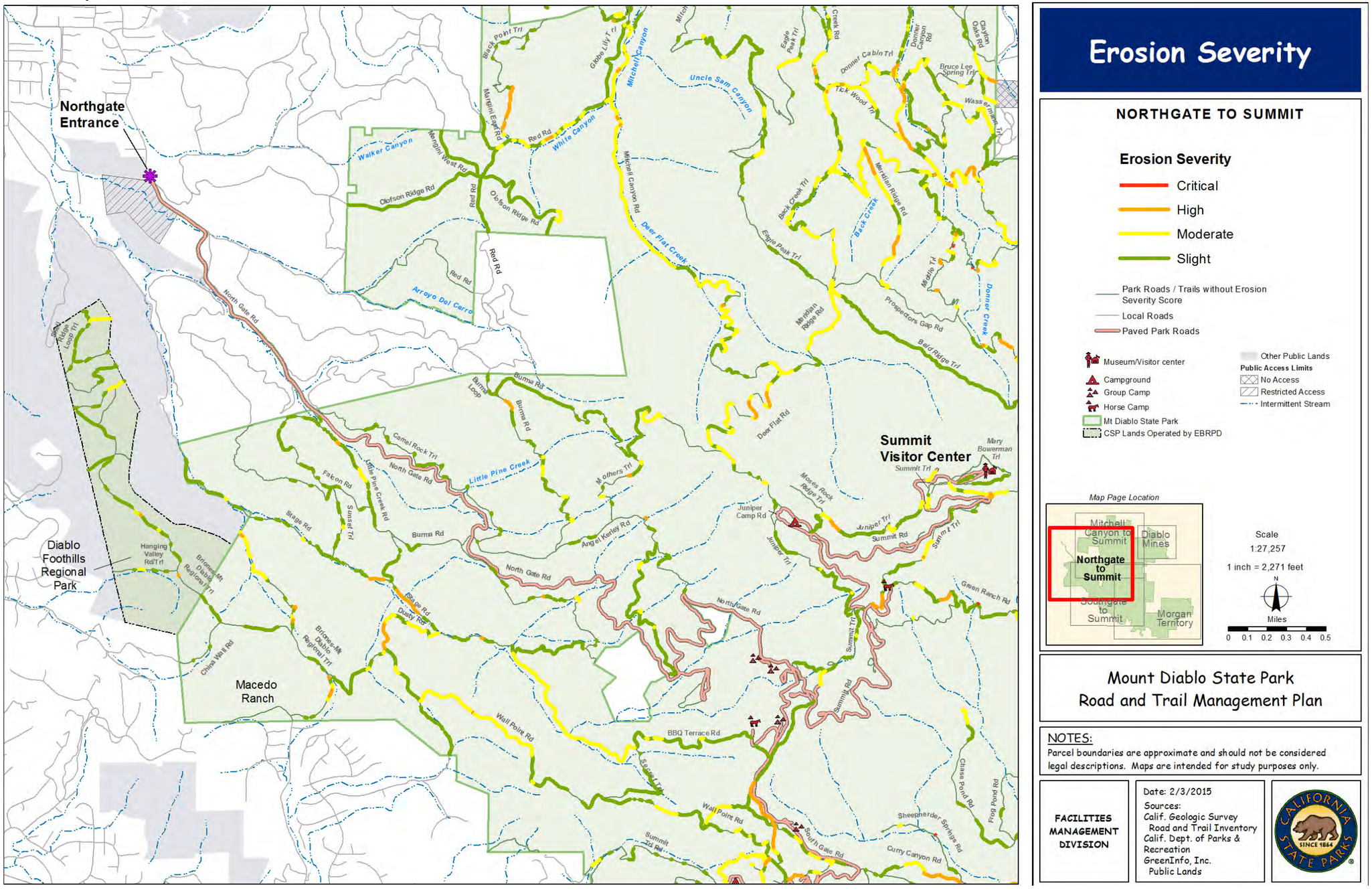
Mount Diablo State Park
Road and Trail Management Plan

NOTES:
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

FACILITIES MANAGEMENT DIVISION

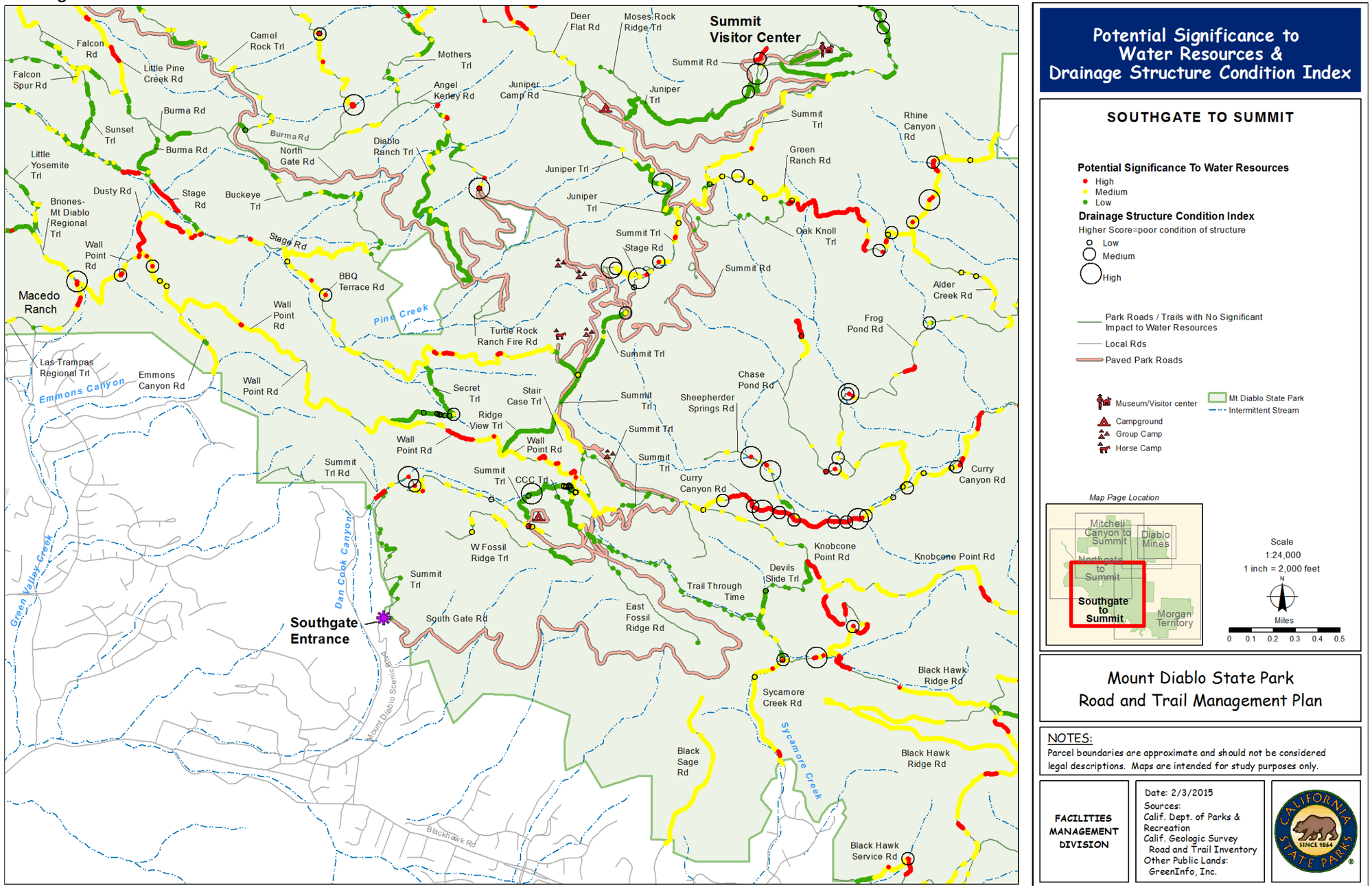
Date: 2/3/2015
Sources:
Calif. Dept. of Parks & Recreation
Calif. Geologic Survey Road and Trail Inventory
Other Public Lands: GreenInfo, Inc.

**Map: Erosion Severity**

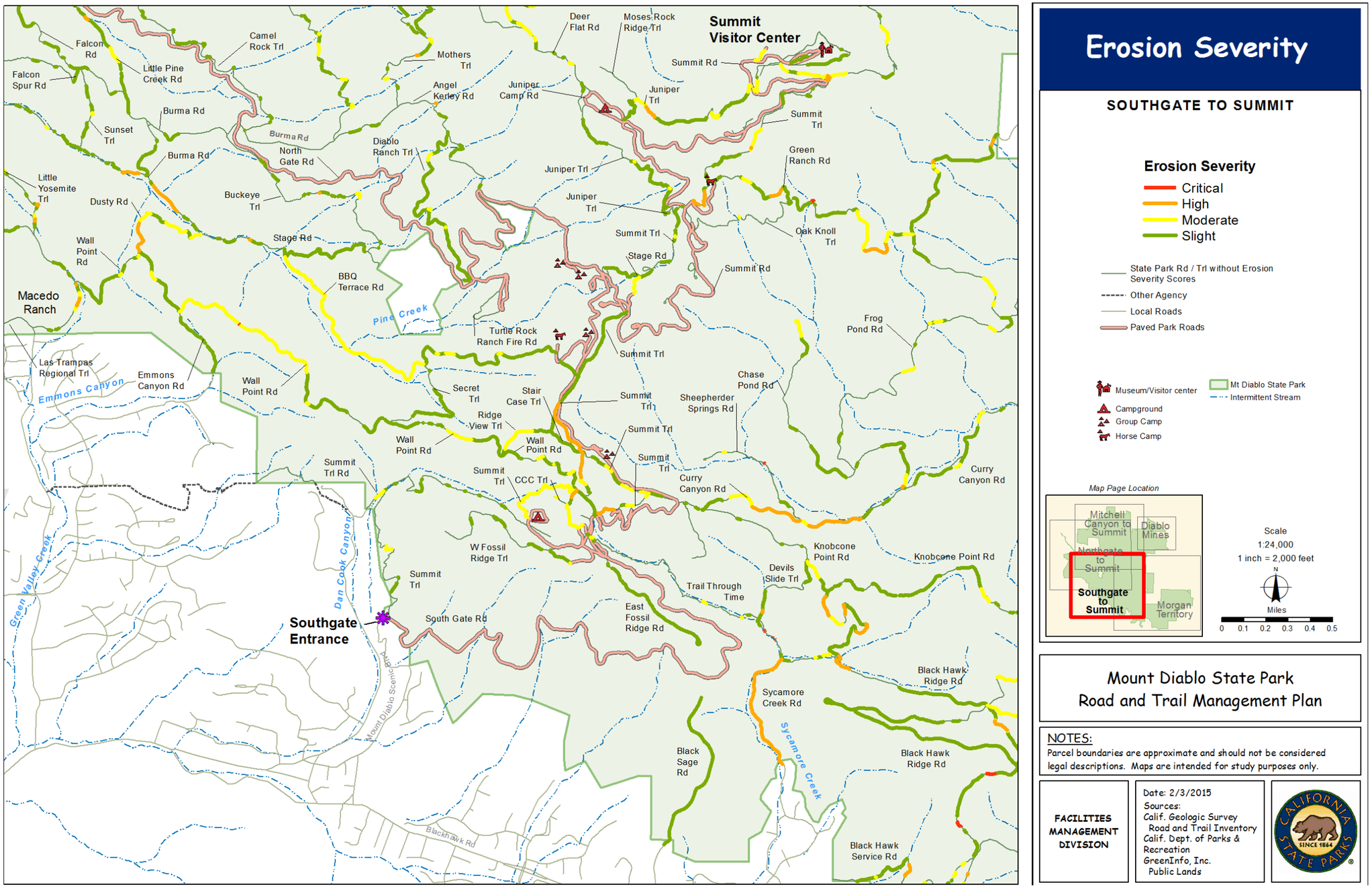


## South Gate to Summit Area

### Map: Potential Significance to Water Resources

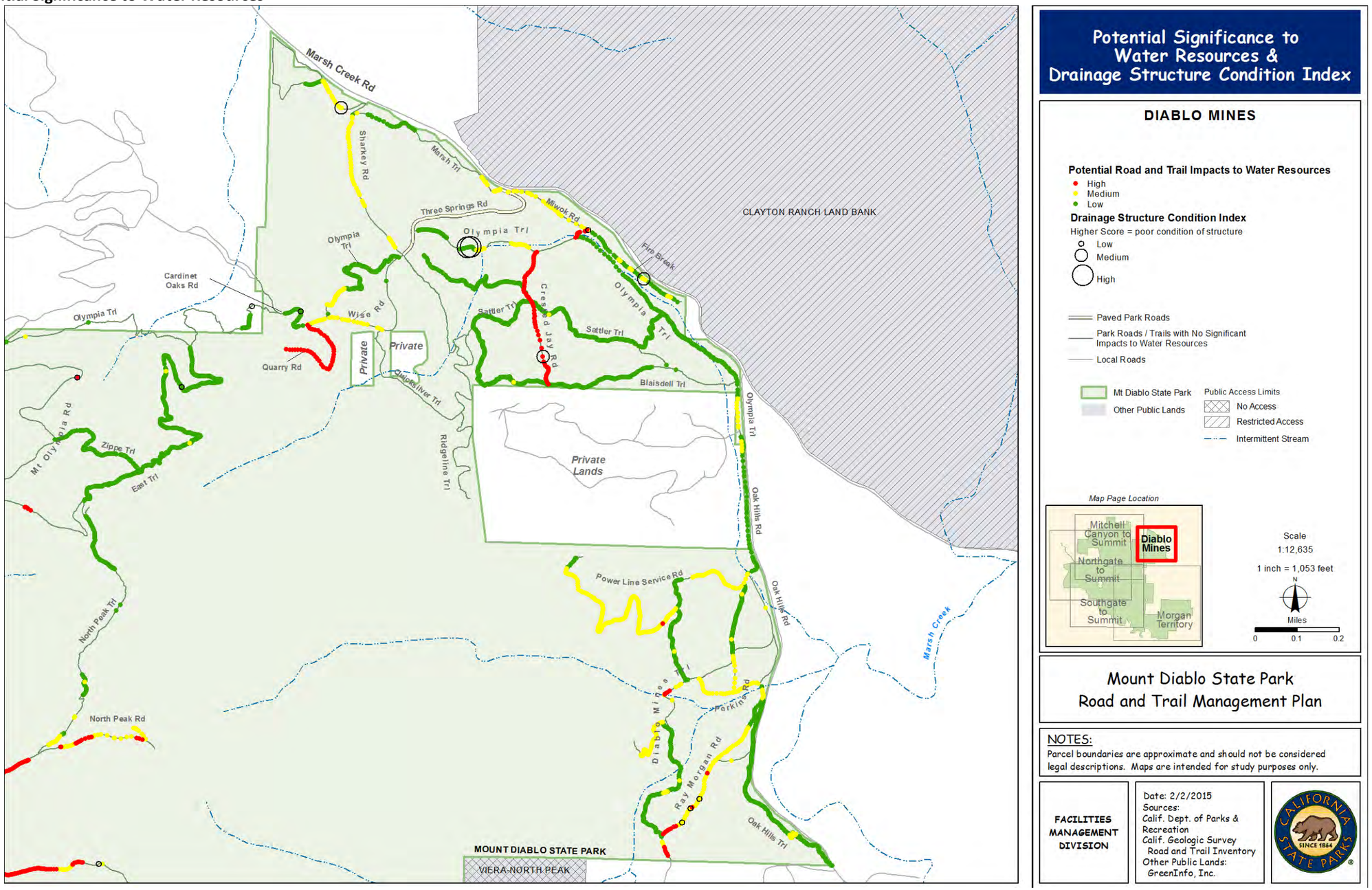


**Map: Erosion Severity**

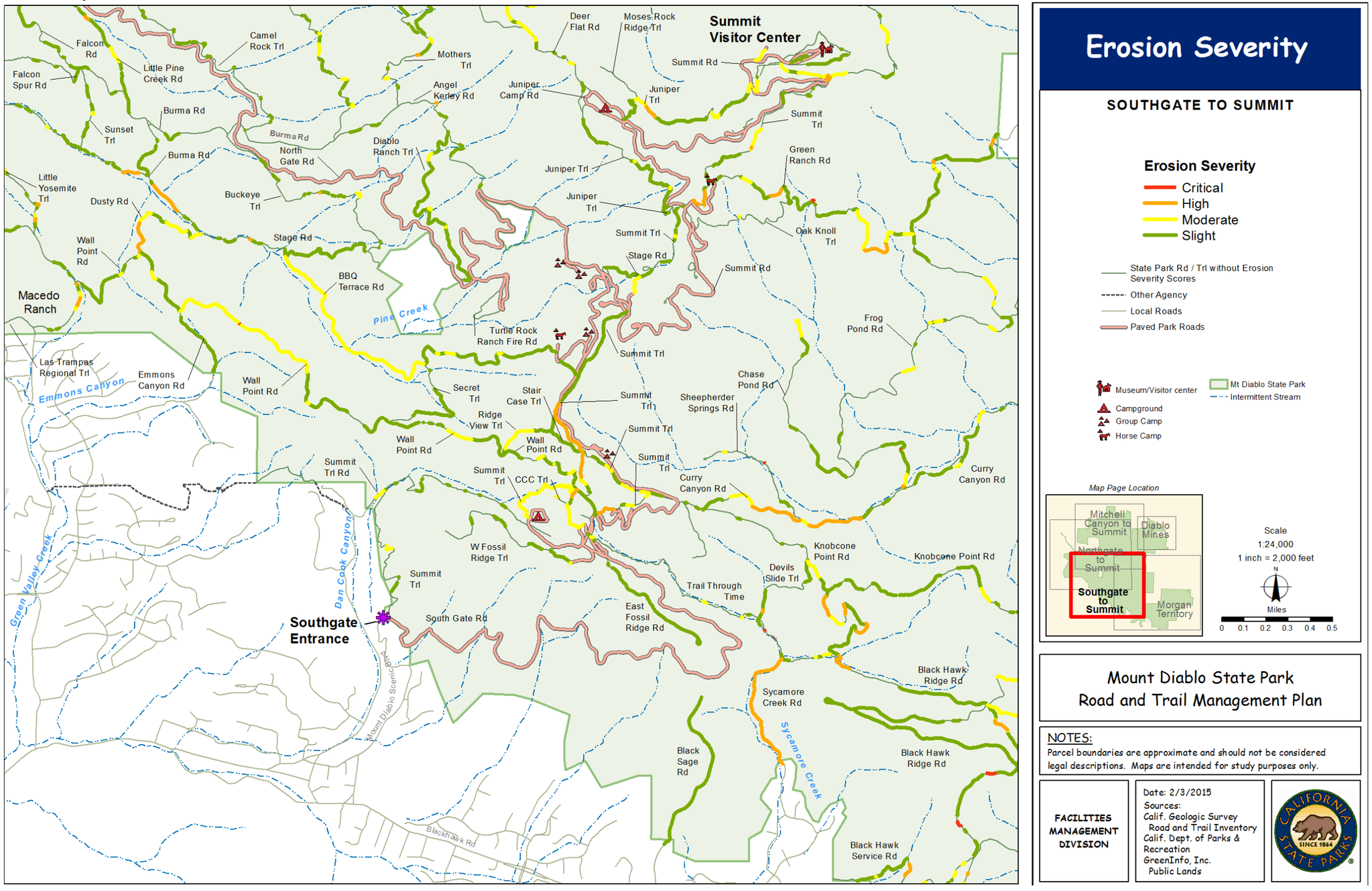


## Diablo Mines Area

### Map: Potential Significance to Water Resources

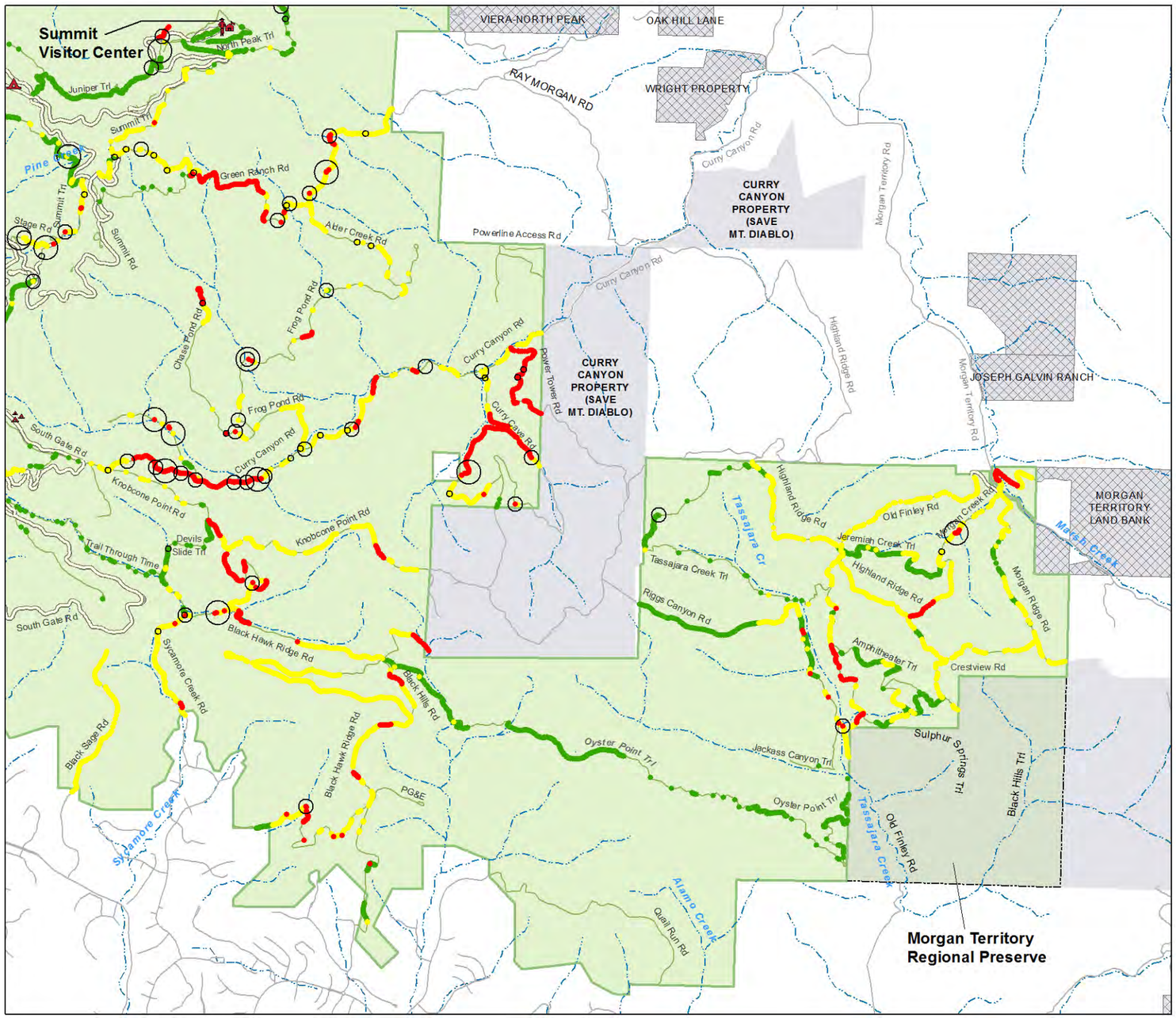


**Map: Erosion Severity**



## Morgan Territory to Summit Area

### Map: Potential Significance to Water Resources




## Potential Significance to Water Resources & Drainage Structure Condition Index

### MORGAN TERRITORY TO SUMMIT

**Potential Significance To Water Resources**

- High
- Medium
- Low

**Drainage Structure Condition Index**

Higher Score = poor condition of structure

- Low
- Medium
- High

Park Roads / Trails with No Significant Impact to Water Resources

Local Roads

Paved Park Roads

Museum/Visitor center

Campground

Group Camp

Horse Camp

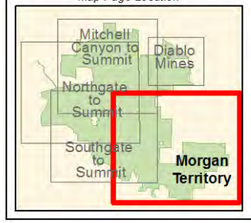
Mt Diablo State Park

CSP Lands Operated by EBRPD

Other Public Lands

Intermittent Stream

*Map Page Location*




Scale

1:28,659

1 inch = 2,388 feet

N

Miles

0 0.15 0.3 0.45 0.6

### Mount Diablo State Park Road and Trail Management Plan

NOTES:

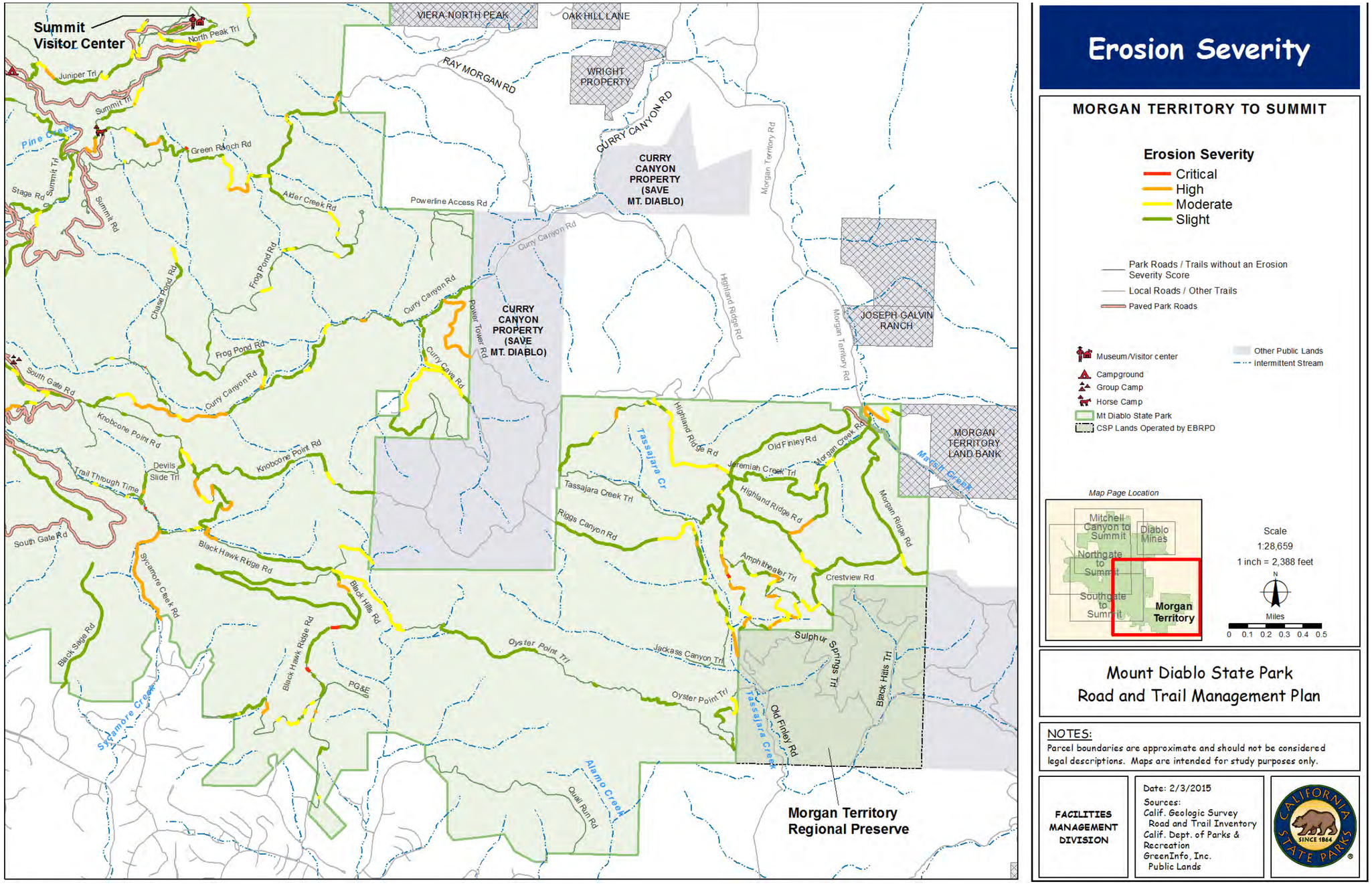
Parcel boundaries are approximate and should not be considered legal descriptions. Maps are intended for study purposes only.

FACILITIES MANAGEMENT DIVISION

Date: 2/3/2015

Sources:
Calif. Dept. of Parks & Recreation
Calif. Geologic Survey
Road and Trail Inventory
Other Public Lands:
GreenInfo, Inc.

**Map: Erosion Severity**



## 8.5 Maintenance Recommendations Matrix

The following chart lists the maintenance recommendations for each segment of road and trail in the park. There are three types of recommendations: maintain, reconstruct/re-engineer, and remove/possible reroute. Each trail segment shall receive maintenance. In cases where one or more boxes are checked, the trail also requires those additional modifications to be sustainable.

# Mount Diablo State Park, Road and Trail Management Plan
## Maintenance Recommendations by Segment ID

| SEGMENT ID | Segment Total Length Feet | Reconstruct / Re-Engineer | Remove / Possible Reroute |
|---|---|---|---|
| 203-Alder Creek Rd-1 | 3,819 | ☑ | ☐ |
| 203-American Tower Access Rd-1 | 467 | ☑ | ☐ |
| 203-Amphitheater Trl Connector-1 | 1,601 | ☑ | ☐ |
| 203-Amphitheater Trl-1 | 827 | ☑ | ☐ |
| 203-Amphitheater Trl-2 | 1,058 | ☑ | ☐ |
| 203-Amphitheater Trl-3 | 1,026 | ☑ | ☐ |
| 203-Amphitheater Trl-4 | 1,244 | ☐ | ☐ |
| 203-Amphitheater Trl-5 | 2,807 | ☑ | ☐ |
| 203-Angel Kerley Rd-1 | 1,868 | ☑ | ☐ |
| 203-Angel Kerley Rd-2 | 1,839 | ☐ | ☐ |
| 203-Angel Kerley Rd-3 | 2,369 | ☑ | ☐ |
| 203-Back Creek Rd-1 | 1,038 | ☑ | ☐ |
| 203-Back Creek Rd-2 | 308 | ☐ | ☐ |
| 203-Back Creek Rd-3 | 57 | ☑ | ☐ |
| 203-Back Creek Rd-4 | 2,258 | ☑ | ☐ |
| 203-Back Creek Trl-1 | 2,431 | ☑ | ☐ |
| 203-Back Creek Trl-2 | 6,560 | ☑ | ☐ |
| 203-Back Creek Trl-3 | 1,376 | ☑ | ☐ |
| 203-Bald Ridge Trl-1 | 7,258 | ☑ | ☐ |
| 203-BBQ Terrace Rd-1 | 5,386 | ☑ | ☐ |
| 203-BBQ Terrace Rd-2 | 4,376 | ☑ | ☐ |
| 203-Black Hawk Ridge Rd-1 | 4,140 | ☐ | ☐ |
| 203-Black Hawk Ridge Rd-2 | 4,216 | ☑ | ☐ |
| 203-Black Hawk Ridge Rd-3 | 4,152 | ☑ | ☐ |
| 203-Black Hawk Ridge Rd-4 | 7,880 | ☑ | ☐ |
| 203-Black Hawk Ridge Rd-5 | 3,485 | ☑ | ☐ |
| 203-Black Hawk Service Rd-1 | 6,058 | ☑ | ☐ |
| 203-Black Hills Rd-1 | 1,818 | ☑ | ☐ |
| 203-Black Point Rd-1 | 2,284 | ☑ | ☐ |
| 203-Black Point Rd-2 | 248 | ☑ | ☐ |
| 203-Black Point Summit Trl-1 | 693 | ☐ | ☐ |
| 203-Black Point Trl-1 | 688 | ☑ | ☐ |
| 203-Black Point Trl-2 | 5,166 | ☑ | ☐ |
| 203-Black Point Trl-3 | 314 | ☐ | ☐ |

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| SEGMENT ID | Segment Total Length Feet | Reconstruct / Re-Engineer | Remove / Possible Reroute |
|---|---|---|---|
| 203-Black Point Trl-4 | 4,489 | ☑ | ☐ |
| 203-Black Sage Rd-1 | 4,225 | ☐ | ☐ |
| 203-Blaisdell Trl-1 | 959 | ☑ | ☐ |
| 203-Blaisdell Trl-2 | 1,710 | ☐ | ☐ |
| 203-Blaisdell Trl-3 | 2,882 | ☐ | ☐ |
| 203-Boneyard Rd-1 | 474 | ☐ | ☐ |
| 203-Briones-Mt Diablo Regional Trl-1 | 117 | ☐ | ☐ |
| 203-Briones-Mt Diablo Regional Trl-2 | 927 | ☑ | ☐ |
| 203-Briones-Mt Diablo Regional Trl-3 | 2,069 | ☑ | ☐ |
| 203-Briones-Mt Diablo Regional Trl-4 | 1,629 | ☑ | ☑ |
| 203-Briones-Mt Diablo Regional Trl-5 | 6,333 | ☑ | ☑ |
| 203-Briones-Mt Diablo Regional Trl-6 | 781 | ☑ | ☐ |
| 203-Briones-Mt Diablo Trl Connector-1 | 85 | ☐ | ☑ |
| 203-Bruce Lee Rd-1 | 2,963 | ☐ | ☐ |
| 203-Bruce Lee Rd-2 | 700 | ☑ | ☐ |
| 203-Bruce Lee Rd-3 | 1,244 | ☑ | ☐ |
| 203-Bruce Lee Rd-4 | 147 | ☐ | ☐ |
| 203-Bruce Lee Rd-5 | 957 | ☐ | ☐ |
| 203-Bruce Lee Rd-6 | 2,725 | ☑ | ☐ |
| 203-Bruce Lee Spring Trl-1 | 1,665 | ☑ | ☐ |
| 203-Bruce Lee Spring Trl-2 | 520 | ☑ | ☐ |
| 203-Bruce Lee Spring Trl-3 | 1,898 | ☑ | ☑ |
| 203-Bruce Lee Spur Rd-1 | 1,162 | ☑ | ☐ |
| 203-Bruce Lee Trl-1 | 462 | ☑ | ☐ |
| 203-Buckeye Trl-1 | 6,322 | ☑ | ☐ |
| 203-Burma Loop-1 | 73 | ☐ | ☐ |
| 203-Burma Loop-2 | 78 | ☐ | ☐ |
| 203-Burma Loop-3 | 654 | ☐ | ☐ |
| 203-Burma Rd-1 | 85 | ☐ | ☐ |
| 203-Burma Rd-10 | 2,547 | ☑ | ☐ |
| 203-Burma Rd-11 | 1,853 | ☑ | ☐ |
| 203-Burma Rd-12 | 139 | ☐ | ☐ |
| 203-Burma Rd-13 | 58 | ☐ | ☐ |
| 203-Burma Rd-2 | 59 | ☑ | ☐ |
| 203-Burma Rd-4 | 5,713 | ☑ | ☐ |
| 203-Burma Rd-5 | 5,004 | ☑ | ☐ |
| 203-Burma Rd-6 | 138 | ☐ | ☐ |
| 203-Burma Rd-7 | 83 | ☐ | ☐ |

| SEGMENT ID | Segment Total Length Feet | Reconstruct / Re-Engineer | Remove / Possible Reroute |
|---|---|---|---|
| 203-Burma Rd-8 | 213 | ☐ | ☐ |
| 203-Burma Rd-9 | 5,893 | ☑ | ☐ |
| 203-burn pile rd-1 | 385 | ☐ | ☐ |
| 203-Camel Rock Trl-1 | 8,735 | ☑ | ☐ |
| 203-Cardinet Oaks Rd-1 | 281 | ☐ | ☐ |
| 203-Cardinet Oaks Rd-2 | 430 | ☑ | ☐ |
| 203-Cardinet Oaks Rd-3 | 712 | ☑ | ☐ |
| 203-Cardinet Oaks Rd-4 | 407 | ☐ | ☐ |
| 203-Cardinet Oaks Rd-5 | 172 | ☐ | ☐ |
| 203-Cardinet Oaks Rd-7 | 2,750 | ☑ | ☐ |
| 203-Castle Rock Trl-1 | 3,116 | ☑ | ☐ |
| 203-CCC Trl-1 | 417 | ☐ | ☐ |
| 203-Chase Pond Rd-1 | 5,250 | ☑ | ☐ |
| 203-China Wall Rd-1 | 1,822 | ☑ | ☐ |
| 203-Clayton Oaks Rd Connector-1 | 671 | ☐ | ☐ |
| 203-Clayton Oaks Rd Connector-2 | 132 | ☐ | ☐ |
| 203-Clayton Oaks Rd-2 | 2,594 | ☑ | ☐ |
| 203-Clayton Oaks Rd-3 | 1,471 | ☑ | ☐ |
| 203-Clayton Oaks Rd-4 | 1,006 | ☑ | ☐ |
| 203-Clayton Oaks Rd-5 | 1,079 | ☑ | ☐ |
| 203-Clayton Oaks Rd-6 | 109 | ☐ | ☐ |
| 203-Clayton Oaks Rd-7 | 496 | ☑ | ☐ |
| 203-Clayton Oaks Rd-8 | 669 | ☑ | ☑ |
| 203-Clayton Oaks Rd-9 | 46 | ☐ | ☐ |
| 203-Connector to Barbecue Terrace-1 | 527 | ☑ | ☐ |
| 203-Connector to Barbecue Terrace-2 | 185 | ☐ | ☐ |
| 203-Connector to Mt Olympia Rd-1 | 199 | ☐ | ☐ |
| 203-Coulter Pine Trl-1 | 2,149 | ☑ | ☐ |
| 203-Coulter Pine Trl-2 | 184 | ☐ | ☐ |
| 203-Crested Jay Rd-1 | 1,312 | ☑ | ☐ |
| 203-Crested Jay Rd-2 | 541 | ☑ | ☐ |
| 203-Crested Jay Rd-3 | 202 | ☐ | ☐ |
| 203-Crestview Rd-1 | 504 | ☑ | ☐ |
| 203-Crestview Rd-2 | 1,218 | ☑ | ☐ |
| 203-Curry Canyon Rd-1 | 831 | ☐ | ☐ |
| 203-Curry Canyon Rd-2 | 6,070 | ☑ | ☑ |
| 203-Curry Canyon Rd-3 | 893 | ☑ | ☐ |
| 203-Curry Canyon Rd-4 | 2,655 | ☑ | ☑ |

| SEGMENT ID | Segment Total Length Feet | Reconstruct / Re-Engineer | Remove / Possible Reroute |
|---|---|---|---|
| 203-Curry Canyon Rd-5 | 2,777 | ☑ | ☑ |
| 203-Curry Canyon Rd-6 | 266 | ☐ | ☐ |
| 203-Curry Cave Rd-1 | 2,269 | ☑ | ☐ |
| 203-Curry Cave Rd-2 | 1,179 | ☑ | ☐ |
| 203-Curry Cave Rd-3 | 1,930 | ☑ | ☐ |
| 203-Curry Cave Rd-4 | 821 | ☐ | ☐ |
| 203-Curry Cave Rd-5 | 2,481 | ☐ | ☐ |
| 203-Curry Cave Rd-6 | 2,011 | ☑ | ☐ |
| 203-DAR Telephone Pioneers Monument Trl-1 | 381 | ☐ | ☐ |
| 203-Deer Flat Rd-2 | 355 | ☐ | ☐ |
| 203-Deer Flat Rd-3 | 1,973 | ☑ | ☐ |
| 203-Deer Flat Rd-4 | 6,066 | ☑ | ☑ |
| 203-Devils Slide Trl-1 | 2,623 | ☑ | ☑ |
| 203-Diablo Mines Spur-1 | 919 | ☑ | ☐ |
| 203-Diablo Mines Trl-1 | 2,088 | ☑ | ☐ |
| 203-Diablo Mines Trl-2 | 1,056 | ☑ | ☐ |
| 203-Diablo Mines Trl-3 | 158 | ☑ | ☐ |
| 203-Diablo Mines Trl-4 | 763 | ☑ | ☐ |
| 203-Diablo Ranch Trl-1 | 5,679 | ☑ | ☐ |
| 203-Donner Arch Site Trl-1 | 613 | ☑ | ☐ |
| 203-Donner Cabin Trl-1 | 1,810 | ☑ | ☐ |
| 203-Donner Canyon Rd-1 | 860 | ☐ | ☐ |
| 203-Donner Canyon Rd-2 | 273 | ☐ | ☐ |
| 203-Donner Canyon Rd-3 | 283 | ☑ | ☐ |
| 203-Donner Canyon Rd-4 | 279 | ☐ | ☐ |
| 203-Donner Canyon Rd-5 | 1,638 | ☑ | ☑ |
| 203-Donner Canyon Rd-6 | 761 | ☑ | ☐ |
| 203-Donner Canyon Rd-7 | 3,398 | ☑ | ☐ |
| 203-Donner Canyon Rd-8 | 566 | ☑ | ☑ |
| 203-Dusty Rd-1 | 2,701 | ☑ | ☐ |
| 203-Eagle Peak Trl-1 | 7,860 | ☑ | ☐ |
| 203-Eagle Peak Trl-2 | 6,316 | ☑ | ☐ |
| 203-East Fossil Ridge Rd-1 | 3,450 | ☑ | ☐ |
| 203-East Trl-1 | 4,893 | ☐ | ☐ |
| 203-East Trl-2 | 1,083 | ☐ | ☐ |
| 203-Emmons Canyon Rd-1 | 1,892 | ☑ | ☐ |
| 203-Falcon Rd-1 | 4,009 | ☑ | ☐ |

| SEGMENT ID | Segment Total Length Feet | Reconstruct / Re-Engineer | Remove / Possible Reroute |
|---|---|---|---|
| 203-Falcon Rd-2 | 38 | ☐ | ☐ |
| 203-Falcon Rd-3 | 1,457 | ☑ | ☐ |
| 203-Falcon Spur Rd-1 | 345 | ☑ | ☐ |
| 203-Falcon Spur Rd-2 | 60 | ☐ | ☐ |
| 203-Falls Trl-1 | 2,156 | ☑ | ☐ |
| 203-Finley Rd-1 | 152 | ☑ | ☐ |
| 203-Fire Break-1 | 1,517 | ☐ | ☐ |
| 203-Fire Break-10 | 3,674 | ☐ | ☐ |
| 203-Fire Break-11 | 3,839 | ☐ | ☐ |
| 203-Fire Break-12 | 1,469 | ☐ | ☐ |
| 203-Fire Break-13 | 142 | ☐ | ☐ |
| 203-Fire Break-2 | 551 | ☐ | ☐ |
| 203-Fire Break-3 | 160 | ☑ | ☐ |
| 203-Fire Break-4 | 818 | ☐ | ☐ |
| 203-Fire Break-5 | 657 | ☐ | ☐ |
| 203-Fire Break-6 | 2,086 | ☐ | ☐ |
| 203-Fire Break-7 | 520 | ☐ | ☐ |
| 203-Fire Break-8 | 734 | ☐ | ☐ |
| 203-Fire Break-9 | 666 | ☐ | ☐ |
| 203-Frog Pond Connector Rd-1 | 103 | ☐ | ☐ |
| 203-Frog Pond Rd-1 | 8,099 | ☑ | ☐ |
| 203-Frog Pond Rd-2 | 1,388 | ☐ | ☐ |
| 203-Frog Pond Rd-3 | 2,589 | ☑ | ☐ |
| 203-Frog Pond Rd-4 | 186 | ☐ | ☐ |
| 203-Globe Lily Trl-1 | 2,113 | ☑ | ☐ |
| 203-Green Ranch Rd-1 | 5,209 | ☑ | ☑ |
| 203-Green Ranch Rd-5 | 2,620 | ☐ | ☑ |
| 203-Hanging Valley Rd/Trl-1 | 1,786 | ☑ | ☑ |
| 203-Heatherington Loop Trl-1 | 1,417 | ☑ | ☐ |
| 203-Heatherington Loop Trl-2 | 2,193 | ☑ | ☐ |
| 203-Heatherington Loop Trl-3 | 199 | ☑ | ☐ |
| 203-Helipad Access Rd-1 | 809 | ☐ | ☐ |
| 203-Highland Ridge Rd-1 | 1,059 | ☑ | ☐ |
| 203-Highland Ridge Rd-2 | 2,301 | ☑ | ☐ |
| 203-Highland Ridge Rd-3 | 1,560 | ☑ | ☐ |
| 203-Highland Ridge Rd-4 | 2,399 | ☑ | ☐ |
| 203-Highland Ridge Rd-5 | 257 | ☐ | ☐ |
| 203-Highland Ridge Rd-6 | 3,845 | ☑ | ☐ |

| SEGMENT ID | Segment Total Length Feet | Reconstruct / Re-Engineer | Remove / Possible Reroute |
|---|---|---|---|
| 203-Jackass Canyon Trl-1 | 1,118 | ☐ | ☐ |
| 203-Jeremiah Creek Trl-1 | 3,837 | ☑ | ☐ |
| 203-Juniper Trl-1 | 676 | ☑ | ☐ |
| 203-Juniper Trl-2 | 3,896 | ☐ | ☐ |
| 203-Juniper Trl-3 | 491 | ☑ | ☐ |
| 203-Juniper Trl-6 | 4,035 | ☑ | ☐ |
| 203-Juniper Trl-7 | 745 | ☐ | ☐ |
| 203-Juniper Trl-8 | 997 | ☐ | ☐ |
| 203-Knobcone Point Rd-1 | 6,201 | ☑ | ☐ |
| 203-Knobcone Point Rd-2 | 500 | ☐ | ☐ |
| 203-Knobcone Point Rd-3 | 925 | ☑ | ☐ |
| 203-Knobcone Point Rd-4 | 3,040 | ☐ | ☐ |
| 203-Las Trampas Regional Trl-1 | 2,014 | ☐ | ☐ |
| 203-Little Pine Creek Rd-1 | 1,013 | ☑ | ☐ |
| 203-Little Pine Creek Rd-2 | 2,794 | ☑ | ☐ |
| 203-Little Pine Creek Rd-3 | 536 | ☐ | ☐ |
| 203-Little Yosemite Trl-1 | 3,644 | ☑ | ☐ |
| 203-Live Oak Residence Rd-1 | 659 | ☐ | ☐ |
| 203-Lower Donner Trl-1 | 778 | ☐ | ☐ |
| 203-Lower Donner Trl-2 | 1,733 | ☐ | ☑ |
| 203-Mangini East Rd-1 | 1,184 | ☑ | ☐ |
| 203-Mangini West Rd-1 | 1,846 | ☑ | ☐ |
| 203-Marsh Trl-1 | 2,350 | ☑ | ☐ |
| 203-Marsh Trl-2 | 723 | ☑ | ☐ |
| 203-Marsh Trl-3 | 603 | ☐ | ☐ |
| 203-Mary Bowerman Trl-2 | 2,439 | ☑ | ☐ |
| 203-Meridian Point Trl-1 | 3,055 | ☑ | ☐ |
| 203-Meridian Ridge Rd-1 | 2,655 | ☑ | ☐ |
| 203-Meridian Ridge Rd-2 | 405 | ☑ | ☐ |
| 203-Meridian Ridge Rd-3 | 103 | ☐ | ☐ |
| 203-Meridian Ridge Rd-4 | 1,961 | ☑ | ☐ |
| 203-Meridian Ridge Rd-5 | 4,417 | ☐ | ☐ |
| 203-Meridian Ridge Rd-6 | 3,729 | ☑ | ☐ |
| 203-Meridian Ridge Rd-7 | 100 | ☐ | ☐ |
| 203-Middle Trl-1 | 2,807 | ☑ | ☑ |
| 203-Middle Trl-2 | 5,251 | ☑ | ☐ |
| 203-Mitchell Canyon Rd-1 | 2,118 | ☑ | ☐ |
| 203-Mitchell Canyon Rd-5 | 336 | ☑ | ☐ |

| SEGMENT ID | Segment Total Length Feet | Reconstruct / Re-Engineer | Remove / Possible Reroute |
|---|---|---|---|
| 203-Mitchell Canyon Rd-6 | 2,823 | ☑ | ☐ |
| 203-Mitchell Canyon Rd-7 | 14,117 | ☑ | ☐ |
| 203-Mitchell Cyn Equestrienne Parking Rd-1 | 255 | ☐ | ☐ |
| 203-Mitchell lot connector-1 | 298 | ☐ | ☐ |
| 203-Mitchell Residence Rd-1 | 678 | ☐ | ☐ |
| 203-Mitchell Rock Trl-1 | 9,041 | ☑ | ☐ |
| 203-Miwok Rd-1 | 1,136 | ☑ | ☐ |
| 203-Miwok Rd-2 | 196 | ☑ | ☐ |
| 203-Morgan Creek Rd-1 | 4,991 | ☑ | ☑ |
| 203-Morgan Ridge Rd-1 | 4,648 | ☑ | ☐ |
| 203-Morgan Territory Addition Fire Rd-1 | 2,052 | ☑ | ☑ |
| 203-Moses Rock Ridge Trl-1 | 1,244 | ☐ | ☐ |
| 203-Mothers Trl-1 | 3,086 | ☑ | ☐ |
| 203-Mt Olympia Rd-1 | 133 | ☐ | ☐ |
| 203-Mt Olympia Rd-2 | 2,951 | ☐ | ☐ |
| 203-Mt Olympia Rd-3 | 200 | ☐ | ☐ |
| 203-Mt Olympia Rd-5 | 3,837 | ☐ | ☑ |
| 203-Mt Olympia Summit Trl-1 | 124 | ☐ | ☐ |
| 203-Muir Picnic Area Rds-4 | 119 | ☐ | ☐ |
| 203-Murchio Rd-1 | 600 | ☑ | ☐ |
| 203-Murchio Rd-2 | 911 | ☑ | ☑ |
| 203-Murchio Rd-3 | 1,856 | ☑ | ☐ |
| 203-Murchio Rd-4 | 1,276 | ☑ | ☐ |
| 203-North Peak Facilities Service Rd-1 | 175 | ☐ | ☐ |
| 203-North Peak Facilities Service Rd-2 | 222 | ☐ | ☐ |
| 203-North Peak Rd-1 | 2,779 | ☑ | ☐ |
| 203-North Peak Rd-2 | 1,378 | ☑ | ☐ |
| 203-North Peak Trl-1 | 4,286 | ☑ | ☐ |
| 203-North Peak Trl-2 | 5,457 | ☑ | ☐ |
| 203-Not a through Rd/Trl-1 | 852 | ☐ | ☐ |
| 203-Not Named Loop Rd-1 | 1,070 | ☐ | ☐ |
| 203-Oak Hills Rd-1 | 814 | ☐ | ☐ |
| 203-Oak Hills Rd-3 | 180 | ☐ | ☐ |
| 203-Oak Hills Rd-4 | 91 | ☐ | ☐ |
| 203-Oak Hills Rd-5 | 1,637 | ☑ | ☐ |
| 203-Oak Hills Trl-1 | 186 | ☐ | ☐ |
| 203-Oak Hills Trl-2 | 712 | ☐ | ☐ |

| SEGMENT ID | Segment Total Length Feet | Reconstruct / Re-Engineer | Remove / Possible Reroute |
|---|---|---|---|
| 203-Oak Hills Trl-3 | 660 | ☐ | ☐ |
| 203-Oak Hills Trl-4 | 2,331 | ☑ | ☐ |
| 203-Oak Knoll Trl-1 | 3,531 | ☐ | ☐ |
| 203-Oak Rd-1 | 622 | ☐ | ☐ |
| 203-Oak Rd-2 | 899 | ☑ | ☐ |
| 203-Oak Rd-3 | 48 | ☐ | ☐ |
| 203-Oak Rd-4 | 269 | ☐ | ☐ |
| 203-Old Finley Rd-1 | 4,508 | ☑ | ☐ |
| 203-Old Finley Rd-2 | 2,753 | ☑ | ☐ |
| 203-Old Finley Rd-3 | 2,567 | ☑ | ☐ |
| 203-Old Little Rock Rd-1 | 280 | ☐ | ☐ |
| 203-Olofson Ridge Rd-1 | 3,513 | ☐ | ☐ |
| 203-Olofson Ridge Rd-2 | 3,869 | ☑ | ☐ |
| 203-Olofson Ridge Rd-3 | 770 | ☑ | ☐ |
| 203-Olofson Ridge Rd-4 | 136 | ☑ | ☐ |
| 203-Olympia Sattler Connector Trl-1 | 671 | ☐ | ☐ |
| 203-Olympia Trl-1 | 530 | ☑ | ☐ |
| 203-Olympia Trl-10 | 2,147 | ☐ | ☐ |
| 203-Olympia Trl-12 | 340 | ☑ | ☐ |
| 203-Olympia Trl-2 | 1,520 | ☐ | ☐ |
| 203-Olympia Trl-3 | 1,139 | ☑ | ☐ |
| 203-Olympia Trl-4 | 177 | ☑ | ☐ |
| 203-Olympia Trl-5 | 606 | ☐ | ☐ |
| 203-Olympia Trl-6 | 4,046 | ☑ | ☐ |
| 203-Olympia Trl-7 | 1,786 | ☑ | ☑ |
| 203-Olympia Trl-8 | 2,022 | ☑ | ☐ |
| 203-Olympia Trl-9 | 2,515 | ☑ | ☐ |
| 203-Oyster Point Trl-1 | 19,412 | ☑ | ☐ |
| 203-Perkins Rd-1 | 577 | ☑ | ☐ |
| 203-Perkins Rd-2 | 454 | ☑ | ☐ |
| 203-PG&E-1 | 1,964 | ☐ | ☐ |
| 203-Power Line Service Rd-1 | 3,174 | ☑ | ☐ |
| 203-Power Line Service Rd-2 | 1,416 | ☑ | ☐ |
| 203-Power Tower Rd-1 | 3,100 | ☑ | ☐ |
| 203-Powerline Access Rd-1 | 2,152 | ☑ | ☐ |
| 203-Prospectors Gap Rd-1 | 114 | ☐ | ☐ |
| 203-Prospectors Gap Rd-2 | 2,542 | ☐ | ☐ |
| 203-Prospectors Gap Rd-3 | 5,788 | ☑ | ☐ |

| SEGMENT ID | Segment Total Length Feet | Reconstruct / Re-Engineer | Remove / Possible Reroute |
|---|---|---|---|
| 203-Prospectors Gap Rd-4 | 4,453 | ☑ | ☐ |
| 203-Quarry Rd-1 | 1,359 | ☐ | ☐ |
| 203-Ray Morgan Rd-1 | 264 | ☑ | ☐ |
| 203-Ray Morgan Rd-2 | 364 | ☐ | ☐ |
| 203-Ray Morgan Rd-3 | 2,260 | ☑ | ☐ |
| 203-Ray Morgan Rd-4 | 178 | ☑ | ☐ |
| 203-Red Rd-1 | 174 | ☑ | ☐ |
| 203-Red Rd-3 | 976 | ☑ | ☐ |
| 203-Red Rd-4 | 1,580 | ☑ | ☐ |
| 203-Red Rd-5 | 323 | ☑ | ☐ |
| 203-Red Rd-6 | 3,100 | ☑ | ☐ |
| 203-Regency Trl-1 | 946 | ☑ | ☐ |
| 203-Rhine Canyon Rd-1 | 4,174 | ☑ | ☐ |
| 203-Ridge View Trl-1 | 1,544 | ☐ | ☑ |
| 203-Ridge View Trl-2 | 394 | ☑ | ☐ |
| 203-Riggs Canyon Rd-1 | 910 | ☑ | ☐ |
| 203-Riggs Canyon Rd-2 | 7,872 | ☑ | ☑ |
| 203-Road to Private Property-1 | 106 | ☐ | ☐ |
| 203-Road to Private Property-2 | 1,866 | ☐ | ☐ |
| 203-Road to Private Property-3 | 116 | ☐ | ☐ |
| 203-Rocky Rd-1 | 296 | ☐ | ☐ |
| 203-Sattler Trl-1 | 533 | ☐ | ☐ |
| 203-Sattler Trl-2 | 1,716 | ☑ | ☐ |
| 203-Sattler Trl-3 | 2,023 | ☐ | ☐ |
| 203-Secret Trl-1 | 3,271 | ☑ | ☐ |
| 203-Sharkey Rd-1 | 1,965 | ☑ | ☐ |
| 203-Sharkey Rd-2 | 151 | ☐ | ☐ |
| 203-Sheepherder Springs Rd-1 | 3,376 | ☑ | ☐ |
| 203-Shell Ridge Loop Trl-1 | 628 | ☑ | ☐ |
| 203-Shell Ridge Loop Trl-2 | 2,787 | ☑ | ☐ |
| 203-Shell Ridge Loop Trl-3 | 1,715 | ☑ | ☑ |
| 203-Shell Ridge Loop Trl-4 | 116 | ☐ | ☐ |
| 203-Shell Ridge Loop Trl-5 | 1,231 | ☑ | ☐ |
| 203-Shell Ridge Loop Trl-6 | 116 | ☐ | ☐ |
| 203-Shell Ridge Loop Trl-7 | 1,040 | ☑ | ☐ |
| 203-South Gate Rd to Summit Trl-1 | 58 | ☑ | ☐ |
| 203-Stage Rd-1 | 76 | ☑ | ☐ |
| 203-Stage Rd-2 | 2,556 | ☐ | ☐ |

| SEGMENT ID | Segment Total Length Feet | Reconstruct / Re-Engineer | Remove / Possible Reroute |
|---|---|---|---|
| 203-Stage Rd-3 | 539 | ☐ | ☐ |
| 203-Stage Rd-4 | 1,887 | ☑ | ☐ |
| 203-Stage Rd-5 | 2,586 | ☑ | ☐ |
| 203-Stage Rd-6 | 2,744 | ☑ | ☐ |
| 203-Stage Rd-7 | 987 | ☑ | ☐ |
| 203-Stage Rd-8 | 2,357 | ☑ | ☐ |
| 203-Stage Rd-9 | 1,772 | ☑ | ☐ |
| 203-Stonegate Rd-1 | 760 | ☑ | ☐ |
| 203-Summit Trail Rd-1 | 687 | ☑ | ☐ |
| 203-Summit Trl Rd-1 | 532 | ☐ | ☐ |
| 203-Summit Trl Rd-2 | 72 | ☐ | ☐ |
| 203-Summit Trl Rd-3 | 4,972 | ☑ | ☐ |
| 203-Summit Trl-1 | 1,544 | ☑ | ☑ |
| 203-Summit Trl-10 | 1,108 | ☑ | ☐ |
| 203-Summit Trl-11 | 2,511 | ☐ | ☑ |
| 203-Summit Trl-12 | 1,977 | ☑ | ☐ |
| 203-Summit Trl-13 | 356 | ☑ | ☐ |
| 203-Summit Trl-14 | 3,438 | ☑ | ☐ |
| 203-Summit Trl-15 | 1,393 | ☑ | ☑ |
| 203-Summit Trl-16 | 636 | ☑ | ☐ |
| 203-Summit Trl-2 | 2,094 | ☑ | ☐ |
| 203-Summit Trl-4 | 565 | ☐ | ☐ |
| 203-Summit Trl-5 | 356 | ☑ | ☐ |
| 203-Summit Trl-6 | 2,106 | ☑ | ☐ |
| 203-Summit Trl-7 | 1,004 | ☐ | ☐ |
| 203-Summit Trl-8 | 643 | ☑ | ☐ |
| 203-Summit Trl-9 | 4,600 | ☑ | ☐ |
| 203-Summit VC Trl-1 | 862 | ☑ | ☐ |
| 203-Sunset Trl-1 | 2,204 | ☑ | ☐ |
| 203-Sycamore Creek Rd-1 | 3,081 | ☑ | ☐ |
| 203-Sycamore Creek Rd-2 | 1,425 | ☑ | ☐ |
| 203-Tassajara Creek Trl-1 | 10,562 | ☑ | ☐ |
| 203-Terrace Trl-1 | 1,101 | ☐ | ☐ |
| 203-Tick Wood Trl-1 | 1,110 | ☑ | ☐ |
| 203-Tick Wood Trl-2 | 2,158 | ☑ | ☐ |
| 203-Trail Through Time-1 | 111 | ☑ | ☐ |
| 203-Trail Through Time-2 | 768 | ☑ | ☐ |
| 203-Trail Through Time-3 | 1,171 | ☑ | ☐ |

| SEGMENT ID | Segment Total Length Feet | Reconstruct / Re-Engineer | Remove / Possible Reroute |
|---|---|---|---|
| 203-Trail Through Time-4 | 5,097 | ☑ | ☐ |
| 203-Trail Through Time-5 | 33 | ☐ | ☐ |
| 203-Trail Through Time-6 | 107 | ☑ | ☐ |
| 203-Trail Through Time-7 | 65 | ☐ | ☐ |
| 203-Trail Through Time-8 | 125 | ☐ | ☐ |
| 203-Trail Through Time-9 | 449 | ☐ | ☐ |
| 203-unk-1 | 456 | ☑ | ☐ |
| 203-W Fossil Ridge Trl-1 | 3,850 | ☑ | ☐ |
| 203-Wall Point Rd-1 | 2,604 | ☑ | ☐ |
| 203-Wall Point Rd-2 | 7,496 | ☑ | ☑ |
| 203-Wall Point Rd-3 | 6,737 | ☑ | ☐ |
| 203-Wall Point Rd-4 | 1,701 | ☐ | ☑ |
| 203-Wall Point Rd-5 | 1,919 | ☑ | ☐ |
| 203-Wassermann Trl-1 | 3,579 | ☑ | ☐ |
| 203-Water Tank Service Rd-1 | 74 | ☐ | ☐ |
| 203-Water Tower Rd-1 | 906 | ☑ | ☐ |
| 203-Water Tower Rd-2 | 633 | ☑ | ☐ |
| 203-West Fossil Ridge to Artists Point Trl-1 | 679 | ☑ | ☐ |
| 203-Wise Rd-1 | 232 | ☐ | ☐ |
| 203-Wise Rd-3 | 1,628 | ☑ | ☐ |
| 203-Zippe Trl-1 | 1,666 | ☐ | ☐ |

## 8.6 Special Status Species

# California Natural Diveristy Database Occurrences of Special Status Species by Mt Diablo Planning SubAreas

| Scientific Name | Common Name | Federal Listing | Cal Listing | Global Rank | State Rank | Rare Plant Rank | # Diablo Mines | # Mitchell | # North-gate | # South-gate | # Morgan |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Animals** | | | | | | | | | | | |
| Ambystoma californiense | California tiger salamander | Threatened | Threatened | G2G3 | S2S3 | | | 1 | 2 | 2 | 2 |
| Antrozous pallidus | pallid bat | None | None | G5 | S3 | | | 5 | 16 | 11 | |
| Callophrys mossii bayensis | San Bruno elfin butterfly | Endangered | None | G4T1 | S1 | | 24 | 242 | 94 | 113 | 87 |
| Dipodomys heermanni berkeleyensis | Berkeley kangaroo rat | None | None | G3G4 T1 | S1 | | | 79 | 94 | 67 | 36 |
| Emys marmorata | western pond turtle | None | None | G3G4 | S3 | | | 2 | 2 | 2 | 1 |
| Falco mexicanus | prairie falcon | None | None | G5 | S3 | | | | | 2 | 5 |
| Helminthoglypta nickliniana bridgesi | Bridges' coast range shoulderband | None | None | G2T1 | S1 | | 24 | 25 | | 5 | 7 |
| Masticophis lateralis euryxanthus | Alameda whipsnake | Threatened | Threatened | G4T2 | S2 | | 4 | 139 | 97 | 118 | 81 |
| Phrynosoma blainvillii | coast horned lizard | None | None | G4G5 | S3S4 | | | 2 | 2 | | |
| Rana draytonii | California red-legged frog | Threatened | None | G4T2 T3 | S2S3 | | | 3 | 5 | 5 | 4 |

| Scientific Name | Common Name | Federal Listing | Cal Listing | Global Rank | State Rank | Rare Plant Rank | # Diablo Mines | # Mitchell | # North-gate | # South-gate | # Morgan |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Plants** | | | | | | | | | | | |
| Anomobryum | slender silver | None | None | G4G5 | S2 | 2.2 | 41 | 467 | 405 | 373 | 247 |
| Arctostaphylos | Mt. Diablo | None | None | G2 | S2 | 1B.3 | 4 | | 14 | 41 | 31 |
| Arctostaphylos manzanita ssp. | Contra Costa manzanita | None | None | G5T2 | S2 | 1B.2 | | 11 | 26 | 73 | 60 |
| Blepharizonia | big tarplant | None | None | G1 | S1 | 1B.1 | 6 | | | | |
| Calochortus | Mt. Diablo | None | None | G2 | S2 | 1B.2 | 9 | 77 | 58 | 45 | 18 |
| Campanula | chaparral | None | None | G2 | S2.2 | 1B.2 | 8 | 134 | 47 | 94 | 80 |
| Cordylanthus | Mt. Diablo | None | Rare | G1 | S1 | 1B.1 | | 19 | 19 | | |
| Delphinium californicum ssp. | Hospital Canyon larkspur | None | None | G3T2 ? | S2? | 1B.2 | | 27 | 26 | 7 | 2 |
| Didymodon | Norris' beard | None | None | G3G4 | S3S4 | 2.2 | | 23 | 17 | 23 | 15 |
| Eriogonum | Mt. Diablo | None | None | G2 | S2 | 1B.1 | 24 | 242 | 94 | 113 | 87 |
| Fritillaria liliacea | fragrant fritillary | None | None | G2 | S2 | 1B.2 | | | 1 | | |
| Helianthella | Diablo | None | None | G2 | S2 | 1B.2 | | 61 | 62 | 81 | 49 |
| Hesperolinon | Brewer's western | None | None | G2 | S2 | 1B.2 | 8 | 46 | 34 | 7 | 7 |
| Malacothamnus | Hall's | None | None | G2Q | S2 | 1B.2 | | 20 | 36 | 24 | |
| Monolopia | woodland | None | None | G2G3 | S2S3 | 1B.2 | 1 | 53 | 44 | 23 | 19 |
| Navarretia nigelliformis ssp. | shining navarretia | None | None | G4T2 | S2 | 1B.2 | | | 1 | 2 | 2 |
| Phacelia | Mt. Diablo | None | None | G1 | S1 | 1B.2 | 3 | 70 | 35 | 42 | 29 |
| Sanicula saxatilis | rock sanicle | None | Rare | G2 | S2 | 1B.2 | 5 | 76 | 24 | 17 | 8 |
| Streptanthus albidus ssp. | most beautiful jewel- flower | None | None | G2T2 | S2.2 | 1B.2 | | 26 | 26 | 7 | |
| Streptanthus | Mt. Diablo | None | None | G1 | S1 | 1B.3 | 8 | 103 | 62 | 39 | 30 |
| Stuckenia filiformis | slender-leaved pondweed | None | None | G5 | S1S2 | 2.2 | | 25 | 55 | 27 | |
| Triquetrella | coastal | None | None | G1 | S1 | 1B.2 | 9 | 251 | 117 | 147 | 119 |
| Viburnum | oval-leaved | None | None | G5 | S2.3 | 2.3 | | 12 | 4 | 52 | 60 |
| **Terrestrial** | | | | | | | | | | | |
| Serpentine | Serpentine | None | None | G2 | S2.2 | | | 48 | 48 | 11 | |

## 8.7 Parkwide Summary of Trails

| PARKWIDE SUMMARY OF EXISTING TRAILS BY USE AND ROUTE DESIGNATIONS | | | |
|---|---|---|---|
| **Use Designation** | **Mileage of Road** | **Mileage of Trail** | **Total Mileage** |
| Hike | 0 | 1.69 | 1.69 |
| Hike and Horse | 2.89 | 42.42 | 45.31 |
| Hike, Bike, Horse | 101.35 | 9.39 | 110.74 |

| PARKWIDE SUMMARY OF ROADS AND TRAILS | | | |
|---|---|---|---|
| Alder Creek Rd | Road | Hike, Bike, Horse | 0.68 |
| American Tower Access Rd | Road | None | 0.09 |
| Angel Kerley Rd | Road | Hike, Bike, Horse | 1.16 |
| Arroyo Picnic (south) Access Rd | Road | None | 0.02 |
| Arroyo Picnic Access Rd | Road | None | 0.03 |
| Arroyo Picnic Rd | Road | None | 0.02 |
| Arroyo Residence Rd | Road | None | 0.03 |
| Artists Point Rd | Road | None | 0.13 |
| Back Creek Rd | Road | Hike, Bike, Horse | 0.69 |
| Barbecue Terrace Horse Camp Rd | Road | None | 0.04 |
| BBQ Terrace Rd | Road | Hike, Bike, Horse | 1.81 |
| Big Rock Picnic | Road | None | 0.04 |
| Black Hawk Ridge Rd | Road | Hike, Bike, Horse | 4.49 |
| Black Hawk Service Rd | Road | Hike, Bike, Horse | 1.15 |
| Black Hills Rd | Road | Hike, Bike, Horse | 0.34 |
| Black Point Rd | Road | Hike, Bike, Horse | 0.44 |
| Black Sage Rd | Road | Hike, Bike, Horse | 0.81 |
| Blue Oak Picnic Rd | Road | None | 0.16 |
| Boundary/Stagecoach Group Camps | Road | None | 0.10 |
| Briones-Mt Diablo Regional Trl | Road | Hike, Bike, Horse | 2.23 |
| Briones-Mt Diablo Trl Connector | Road | Hike, Bike, Horse | 0.02 |
| Bruce Lee Rd | Road | Hike, Bike, Horse | 1.64 |
| Bruce Lee Spur Rd | Road | Hike, Bike, Horse | 0.22 |
| Buckeye Group Camp Rd | Road | None | 0.05 |
| Burma Loop | Road | Hike, Bike, Horse | 0.15 |
| Burma Rd | Road | Hike, Bike, Horse | 4.07 |
| Burma Rd | Road | Hike, Bike, Horse | 0.47 |

| | | | |
|---|---|---|---|
| Burn Pile rd | Road | None | 0.07 |
| Camel Rock Trl | Road | Hike, Horse | 1.60 |
| Cardinet Oaks Rd | Road | Hike, Bike, Horse | 0.89 |
| Chase Pond Rd | Road | Hike, Bike, Horse | 0.99 |
| China Wall Rd | Road | Hike, Bike, Horse | 0.34 |
| Clayton Oaks Rd | Road | Hike, Bike, Horse | 1.40 |
| Clayton Oaks Rd Connector | Road | Hike, Bike, Horse | 0.12 |
| Crested Jay Rd | Road | Hike, Bike, Horse | 0.34 |
| Crestview Rd | Road | Hike, Bike, Horse | 0.32 |
| Curry Canyon Rd | Road | Hike, Bike, Horse | 2.52 |
| Curry Cave Rd | Road | Hike, Bike, Horse | 1.65 |
| Curry Point Parking Lot Rd | Road | Not Determined | 0.03 |
| Deer Flat Rd | Road | Hike, Bike, Horse | 1.61 |
| Diablo Mines Trl | Road | Hike, Horse | 0.15 |
| Diablo Mines Trl | Road | Hike, Bike, Horse | 0.02 |
| Donner Canyon Rd | Road | Hike, Bike, Horse | 1.51 |
| Dusty Rd | Road | Hike, Bike, Horse | 0.51 |
| East Fossil Ridge Rd | Road | Hike, Bike, Horse | 0.65 |
| Emmons Canyon Rd | Road | Hike, Bike, Horse | 0.35 |
| Falcon Rd | Road | Hike, Bike, Horse | 1.03 |
| Falcon Spur Rd | Road | Not Determined | 0.01 |
| Falcon Spur Rd | Road | Hike, Bike, Horse | 0.07 |
| Finley Rd | Road | Hike, Bike, Horse | 0.20 |
| Fire Break | Road | None | 3.11 |
| Frog Pond Rd | Road | Hike, Bike, Horse | 2.31 |
| Green Ranch Rd | Road | Hike, Bike, Horse | 1.76 |
| Hanging Valley Rd/Trl | Road | Hike, Bike, Horse | 0.33 |
| Helipad Access Rd | Road | Hike, Bike, Horse | 0.15 |
| Highland Ridge Rd | Road | Hike, Bike, Horse | 2.20 |
| Horseshoe Picnic Rds | Road | None | 0.05 |
| Junction Campground Rd | Road | None | 0.17 |
| Junction Picnic Area | Road | None | 0.09 |
| Juniper Camp Rd | Road | None | 0.47 |
| Knobcone Point Rd | Road | Hike, Bike, Horse | 2.03 |
| Little Pine Creek Rd | Road | Hike, Bike, Horse | 0.82 |
| Live Oak Camp Rd | Road | None | 0.54 |
| Live Oak Residence Rd | Road | None | 0.12 |
| Lower Rock City Rd | Road | None | 0.10 |

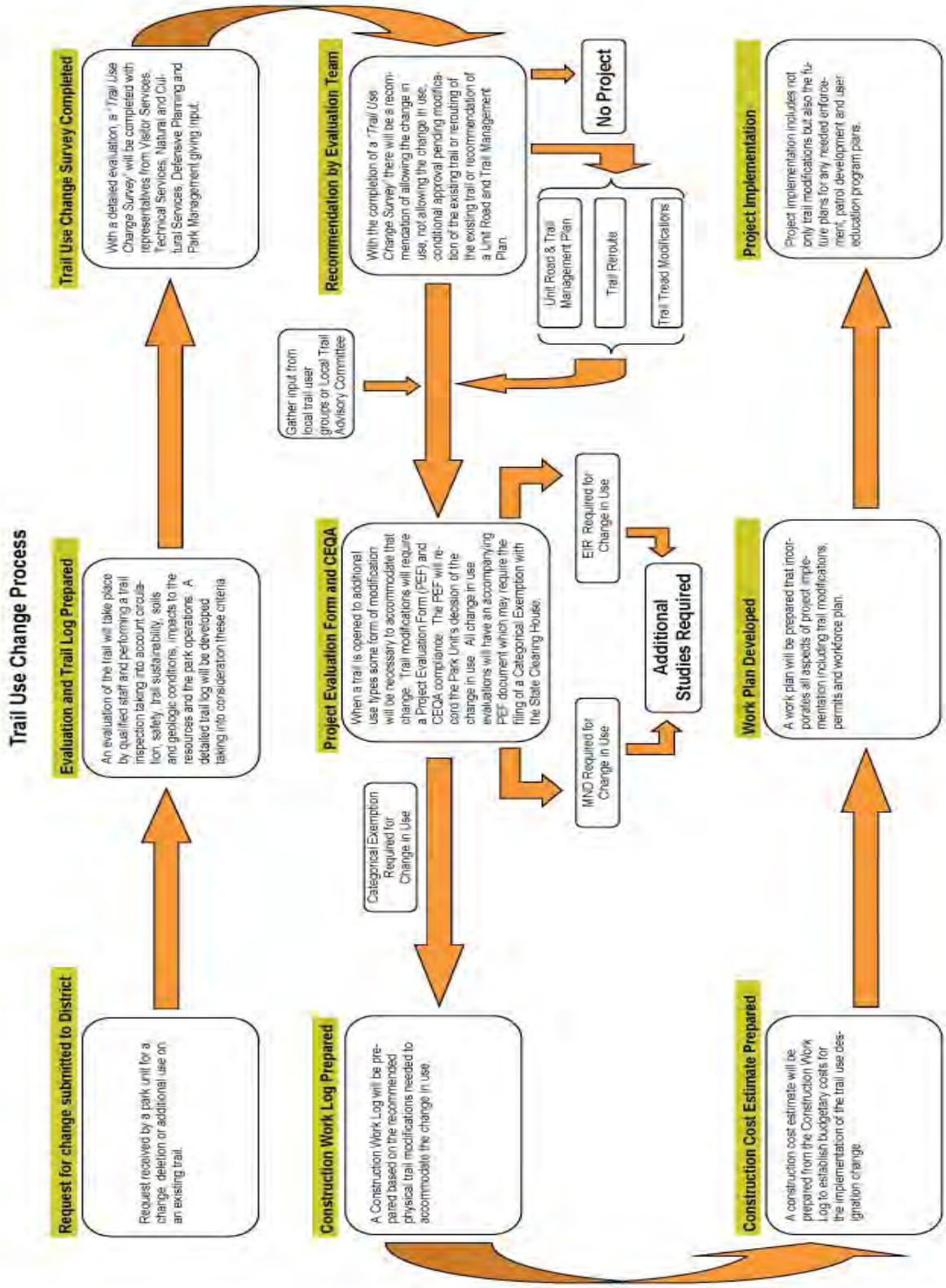
| | | | |
|---|---|---|---|
| Mangini East Rd | Road | Hike, Bike, Horse | 0.22 |
| Mangini West Rd | Road | Hike, Bike, Horse | 0.35 |
| Marsh Trl | Road | Hike, Horse | 0.57 |
| Meridian Ridge Rd | Road | Hike, Bike, Horse | 2.49 |
| Mitchell Canyon Admin Area Rd | Road | None | 0.16 |
| Mitchell Canyon Parking Access Rd | Road | None | 0.12 |
| Mitchell Canyon Rd | Road | Hike, Bike, Horse | 3.66 |
| Mitchell Canyon Rd | Road | None | 0.45 |
| Mitchell Cyn Equestrienne Parking Rd | Road | None | 0.05 |
| Mitchell Residence Rd | Road | None | 0.13 |
| Miwok Rd | Road | Hike, Bike, Horse | 0.22 |
| Morgan Creek Rd | Road | Hike, Bike, Horse | 0.93 |
| Morgan Ridge Rd | Road | Hike, Bike, Horse | 0.87 |
| Mt Olympia Rd | Road | Hike, Bike, Horse | 1.38 |
| Muir Picnic Area Rds | Road | None | 0.16 |
| Murchio Rd | Road | Hike, Bike, Horse | 0.91 |
| North Gate Rd | Road | Hike, Bike, Horse | 6.57 |
| North Peak Rd | Road | Hike, Bike, Horse | 0.80 |
| Not a through Rd/Trl | Road | Hike, Horse | 0.17 |
| Oak Hills Rd | Road | Hike, Bike, Horse | 0.65 |
| Oak Knoll Picnic Rds | Road | None | 0.04 |
| Oak Rd | Road | Hike, Bike, Horse | 0.34 |
| Old Finley Rd | Road | Hike, Bike, Horse | 1.88 |
| Old Little Rock Rd | Road | Hike, Bike, Horse | 0.05 |
| Olofson Ridge Rd | Road | Hike, Bike, Horse | 1.54 |
| Olympia Trl | Road | Hike, Horse | 0.15 |
| Olympia Trl | Road | Hike, Bike, Horse | 0.10 |
| Perkins Rd | Road | Hike, Horse | 0.11 |
| Perkins Rd | Road | Hike, Bike, Horse | 0.09 |
| PG&E | Road | None | 0.37 |
| Power Line Service Rd | Road | Hike, Bike, Horse | 0.85 |
| Power Tower Rd | Road | Hike, Bike, Horse | 0.58 |
| Powerline Access Rd | Road | Hike, Bike, Horse | 0.41 |
| Prospectors Gap Rd | Road | Hike, Bike, Horse | 2.40 |
| Quail Run Rd | Road | Hike, Bike, Horse | 1.35 |
| Quarry Rd | Road | None | 0.26 |
| Ray Morgan Rd | Road | Hike, Bike, Horse | 0.58 |
| Red Rd | Road | Hike, Bike, Horse | 2.14 |

| | | | |
|---|---|---|---|
| Rhine Canyon Rd | Road | Hike, Bike, Horse | 0.80 |
| Riggs Canyon Rd | Road | Hike, Bike, Horse | 1.64 |
| Road to Private Property | Road | Hike, Bike, Horse | 0.37 |
| Rock City Rd | Road | None | 0.22 |
| Rocky Point Picnic Area | Road | None | 0.08 |
| Rocky Rd | Road | None | 0.06 |
| Round Top Picnic Area Rds | Road | None | 0.08 |
| Service Yard Rd | Road | None | 0.07 |
| Sharkey Rd | Road | Hike, Bike, Horse | 0.41 |
| Sheepherder Springs Rd | Road | Hike, Bike, Horse | 0.65 |
| Shell Ridge Loop Trl | Road | Hike, Bike, Horse | 1.43 |
| South Gate Rd | Road | Hike, Bike, Horse | 5.85 |
| South Gate Rd to Summit Trl | Road | Hike, Bike, Horse | 0.01 |
| Stage Rd | Road | Hike, Bike, Horse | 2.93 |
| Stonegate Rd | Road | Not Determined | 0.14 |
| Summit Rd | Road | Hike, Bike, Horse | 4.60 |
| Summit Trail Rd | Road | Hike, Horse | 0.13 |
| Summit Trl | Road | Hike, Bike, Horse | 1.02 |
| Summit Trl Rd | Road | Hike, Bike, Horse | 1.03 |
| Sunset Picnic Area Rds | Road | Hike, Bike, Horse | 0.02 |
| Sunset Picnic Area Rds | Road | None | 0.20 |
| Sycamore Creek Rd | Road | Hike, Bike, Horse | 0.88 |
| The Pines Picnic Area | Road | None | 0.06 |
| Three Springs Rd | Road | Hike, Bike, Horse | 0.46 |
| Toyon Picnic Area Rds | Road | None | 0.11 |
| Turtle Rock Ranch Fire Rd | Road | None | 0.33 |
| Turtle Rock Ranch Rd | Road | None | 0.49 |
| W Fossil Ridge Trl | Road | Hike, Bike, Horse | 0.72 |
| Wall Point Rd | Road | Hike, Bike, Horse | 3.83 |
| Water Tank Service Rd | Road | None | 0.01 |
| Water Tower Rd | Road | Hike, Bike, Horse | 0.29 |
| Wild Cat Camp Rd | Road | None | 0.32 |
| Wise Rd | Road | Hike, Bike, Horse | 0.42 |
| Amphitheater Trl | Trail | Hike, Horse | 1.31 |
| Amphitheater Trl Connector | Trail | Hike, Horse | 0.30 |
| Back Creek Trl | Trail | Hike, Horse | 1.88 |
| Bald Ridge Trl | Trail | Hike, Horse | 1.31 |
| Black Point Summit Trl | Trail | Hike, Horse | 0.13 |

| | | | |
|---|---|---|---|
| Black Point Trl | Trail | Hike, Horse | 2.00 |
| Blaisdell Trl | Trail | Hike, Horse | 1.03 |
| Bruce Lee Spring Trl | Trail | Hike, Horse | 0.76 |
| Bruce Lee Trl | Trail | Hike, Horse | 0.08 |
| Buckeye Ravine Trl | Trail | Hike, Horse | 0.32 |
| Buckeye Trl | Trail | Hike, Bike, Horse | 1.19 |
| Camp Force Trl | Trail | Hike | 0.34 |
| Castle Rock Trl | Trail | Hike, Horse | 0.58 |
| CCC Trl | Trail | Hike, Horse | 0.07 |
| Climbers Trls | Trail | Hike | 0.27 |
| Connector to Barbecue Terrace | Trail | Hike, Horse | 0.13 |
| Connector to Mt Olympia Rd | Trail | Hike, Horse | 0.04 |
| Coulter Pine Trl | Trail | Hike, Horse | 0.43 |
| DAR Telephone Pioneers Monument Trl | Trail | Hike | 0.07 |
| Devils Slide Trl | Trail | Hike, Horse | 0.49 |
| Diablo Mines Spur | Trail | Hike, Horse | 0.17 |
| Diablo Mines Trl | Trail | Hike, Horse | 0.57 |
| Diablo Ranch Trl | Trail | Hike, Bike, Horse | 1.09 |
| Donner Arch Site Trl | Trail | Not Determined | 0.09 |
| Donner Cabin Trl | Trail | Hike, Horse | 0.33 |
| Eagle Peak Trl | Trail | Hike, Horse | 3.00 |
| East Trl | Trail | Hike, Horse | 1.04 |
| Falls Trl | Trail | Hike, Horse | 1.21 |
| Globe Lily Trl | Trail | Hike, Horse | 0.46 |
| Green Valley Trl | Trail | Hike | 0.33 |
| Heatherington Loop Trl | Trail | Hike, Horse | 0.68 |
| Jackass Canyon Trl | Trail | Hike | 0.21 |
| Jeremiah Creek Trl | Trail | Hike, Horse | 0.71 |
| Juniper Trl | Trail | Hike, Horse | 2.11 |
| Little Yosemite Trl | Trail | Hike, Horse | 0.78 |
| Lower Donner Trl | Trail | Hike, Horse | 0.48 |
| Marsh Trl | Trail | Hike, Horse | 0.12 |
| Mary Bowerman Trl | Trail | Hike | 0.70 |
| Meridian Point Trl | Trail | Hike, Horse | 0.58 |
| Middle Trl | Trail | Hike, Horse | 1.52 |
| Mitchell lot connector | Trail | Hike, Horse | 0.05 |
| Mitchell Rock Trl | Trail | Hike, Horse | 1.66 |
| Moses Rock Ridge Trl | Trail | Hike, Horse | 0.23 |

| | | | |
|---|---|---|---|
| Mothers Trl | Trail | Hike, Bike, Horse | 0.57 |
| Mt Olympia Summit Trl | Trail | Hike | 0.02 |
| North Peak Trl | Trail | Hike, Horse | 0.72 |
| North Peak Trl | Trail | Hike, Bike, Horse | 1.02 |
| Oak Hills Trl | Trail | Hike, Horse | 0.70 |
| Oak Hills Trl | Trail | Hike, Bike, Horse | 0.04 |
| Oak Knoll to Summit Trl | Trail | Hike | 0.08 |
| Oak Knoll Trl | Trail | Hike, Horse | 0.68 |
| Olympia Sattler Connector Trl | Trail | Hike, Horse | 0.13 |
| Olympia Trl | Trail | Hike, Horse | 2.89 |
| Oyster Point Trl | Trail | Hike, Bike, Horse | 3.87 |
| Quicksilver Trl | Trail | Not Determined | 0.36 |
| Regency Trail | Trail | Hike, Horse | 0.21 |
| Ridge View Trl | Trail | Hike, Horse | 0.36 |
| Ridgeline Trl | Trail | Not Determined | 0.36 |
| Sattler | Trail | Hike, Horse | 0.08 |
| Sattler to Blaisdel? | Trail | Hike, Horse | 0.08 |
| Sattler Trl | Trail | Hike, Horse | 0.95 |
| Sattler Trl | Trail | Hike, Horse | 0.37 |
| Secret Trl | Trail | Hike, Horse | 0.60 |
| Stair Case Trl | Trail | Hike, Horse | 0.25 |
| Summit Trl | Trail | Hike, Horse | 2.03 |
| Summit Trl | Trail | Hike, Bike, Horse | 1.52 |
| Summit VC Trl | Trail | Hike, Horse | 0.15 |
| Sunset Trl | Trail | Hike, Horse | 0.41 |
| Tassajara Creek Trl | Trail | Hike, Horse | 1.98 |
| Terrace Trl | Trail | Hike, Horse | 0.21 |
| Tick Wood Trl | Trail | Hike, Horse | 0.60 |
| Trail Through Time | Trail | Hike, Horse | 1.53 |
| unknown | Trail | Hike, Bike, Horse | 0.10 |
| Wassermann Trl | Trail | Hike, Horse | 0.66 |
| West Fossil Ridge to Artists Point Trl | Trail | Hike, Horse | 0.12 |
| Zippe Trl | Trail | Hike, Horse | 0.31 |

## 8.8 Trail Use Change Process Flow Chart



## 8.9 Change-In-Use Evaluation Form

| | |
|---|---|
| Park (Including Classification): | |
| Trail Name: | |
| Location in Unit: | |
| Current Use Designation(s): | |
| Proposed Use Type Change: | |
| Use Change Initiated By: | |
| Evaluation Date: | |

| **Evaluation Criteria** | **Yes** | **No** |
|---|---|---|
| Based on Criteria, is this Use Change Compatible? | | |
| Based on Criteria, does this Use Change Enhance Circulation? | | |
| Based on Criteria, will this Use Change Decrease Trail Safety? | | |
| Based on Criteria, is the Trail Sustainable Under Existing Use Conditions? | | |
| With the Proposed Use Change Will the Trail be Sustainable | | |
| Based on Criteria, will the Proposed Used Change Create Negative Impacts to the Natural or Cultural Resources? | | |
| Will the Proposed Use Change and/or Modifications to the Existing Trail Create Significant Facility Maintenance or Operational Work Load? | | |
| Are there other Routes in the Unit or on Nearby Public Lands that Adequately Accommodate the Type of Trail Use Proposed? | | |
| Would needed modifications trigger outside agency permits? | | |
| **Recommendation Based on Evaluation Criteria -** Substantiate in Comment Box | | |
| Recommend that the Park's General Plan or Road and Trail Management Plan be Developed or Amended to Evaluate this Change in Use | | |
| Recommend that the Proposed Change in Trail Use be Approved | | |
| Recommend that the Proposed Change in Trail Use be Approved After Design Modifications are Implemented: | | |
| Recommend that the Major Reroute be Considered to Accommodate Proposed Change in Use | | |
| Recommend that the Proposed Change in Trail Use be Approved with Management Options such as: Alternating Days of Use, One Way Travel, Seasonal Closures etc. | | |
| Recommend that the Proposed Change Use be Put on Hold - See Comment Box Below | | |

Summary Criteria Evaluation on Based on the Synthesis of Data from the Following Pages

Insert Map of Area of Proposed Use Change

Comments:

**Evaluation Team Members:**

Multiple trail route use change proposals in one unit may recommend development or amendment of a unit wide road and trail transportation management plan.

Qualified Department District Staff, including a DPR Trained Trail Coordinator will complete this survey and checklist to:

(1) Determine the sustainability, trail user safety and feasibility of a proposed change in allowed uses for a single existing trail.

(2) Determine the appropriateness of proposed use change in relation to cumulative impacts to the existing uses (users, routing, hiking opportunities, etc)

(3) Support and Document the Request with a Project Evaluation Form and associated CEQA document.

(4) Validate the existing conditions described on the attached trail log. The trail log should address typical log elements and positive and negative attributes related to the evaluation criteria.

| | Evaluation Criteria | Yes | No | Comments |
|---|---|---|---|---|
| | **#1 Existing Conditions** | | | Describe positive and negative impacts of the proposed change and any other details related to the question to assist decision is made . Put N/A in "No" section for criteria not applicable to trail evaluated. |
| | Check any existing conditions: | | | |
| 1.1 | Does the Park Unit have a General Plan? | | | |
| 1.2 | If Yes, does it address specific trail uses or other management directive supporting the proposed use change | | | |
| 1.3 | Is the "Trail" Proposed a Controlled Access Road | | | |
| 1.4 | Does the Park have an approved road and trail management plan? | | | |
| | **Trail or Road Surface Type**: | **Check Applicable** | | |
| 1.5 | Asphalt | | | |
| 1.6 | Concrete | | | |
| 1.7 | Gravel | | | |
| 1.8 | Native Material | | | |

| | | | | |
|---|---|---|---|---|
| 1.8 | Native Material | | | |
| | **Trail and Road Facility Use Type** | | | |
| 1.9 | Public | | | |
| 1.10 | Administration | | | |
| 1.11 | Fire Break | | | |
| 1.12 | Motorized Recreation | | | |
| 1.13 | Non-Motorized Recreation | | | |
| 1.14 | ADA Accessible Route of Travel | | | |
| 1.15 | Does the proposed route connect to a Trail Head or other Accessible Facility? | | | |
| 1.16 | Road Used as Trail Route | | | |
| | **Trail Specific Facility Use Type** | | | |
| 1.17 | Trail Class I, II, III, IV | | | Enter Trail Classification Here - Not Yes or No |
| | **Current Trail Uses Allowed (**on road or trail) | **Yes** | **No** | |
| 1.18 | Pedestrian | | | |
| 1.19 | Mountain Bike | | | |
| 1.20 | Equestrian | | | |
| 1.21 | Other - Specify in Comment Box | | | |
| **#2 Compatibility for Multi-User Trails** | | | | |
| | Check any existing conditions: | | | |
| 2.1 | Would the proposed use change create incompatible conflict with existing facilities (trail heads, stables, campgrounds etc)? | | | |
| 2.2 | Is it located on a trail already in a high use area and are there resource impacts? | | | |
| 2.3 | Is there significant user conflict? | | | |
| 2.4 | Is there evidence of unauthorized use? | | | |
| 2.5 | Is it consistent with park classification? | | | |
| 2.6 | Does the Proposed Use Currently Exist in the Park? | | | |
| 2.7 | Is there documented survey or statistical information that identifies a need for proposed additional use designation? | | | |
| 2.8 | Is the existing trail considered ADA accessible by US Access Board? | | | |
| 2.9 | Based on Above Criteria, Is this Use Change Compatible? | | | |

| | | | | |
|---|---|---|---|---|
| 2.9 | Based on Above Criteria, Is this Use Change Compatible? | | | |
| **#3 Affects to Trail Unit User Circulation Patterns** | | | | |
| | Check any existing conditions: | | | |
| 3.1 | Does the proposed use change provide a loop or semi loop connection? | | | |
| 3.2 | Does the change provide a legal or legitimate route for existing unauthorized trail uses or user created trail? | | | |
| 3.3 | Does the change provide a connection to adjacent land agency which allows similar use? | | | |
| 3.4 | Does it improve circulation or relieve congestion on other high use or at capacity trails? | | | |
| 3.5 | Does it create potential additional use changes on surrounding/adjacent or connecting trails or facilities? | | | |
| 3.6 | Does it require a seasonal closure to mitigate resource impacts? | | | |
| 3.7 | If yes, will seasonal closures disrupt circulation patterns? | | | |
| 3.8 | Based on Above Criteria, Does this Use Change Enhance Circulation | | | |
| **#4 Effects to Trail Use Safety** | | | | |
| | Check any existing conditions: | | | |
| 4.1 | With standard cyclic trail brushing (as required by the trail Class), is there adequate site distance for safe warning for the proposed use change? | | | |
| 4.2 | With standard cyclic slough and berm removal, is there adequate tread width for safe passage for the proposed multi-user designation? | | | |
| 4.3 | With equestrian mutli-use, are tread widths safe for the pedestrian, mobility devices and/or bike user to retreat to the downhill side of trail? | | | |
| 4.4 | If tread widths for equestrian use is narrow, are the fill slopes gentle, firm and stable for the pedestrian, mobility devices and/or bike user to retreat to the downhill side of trail? | | | |
| 4.5 | Does the trail have sinuosity that slows bike users? | | | |
| 4.6 | Can sinuosity be designed into existing trail tread alignment to slow bike users? | | | |

| | | | | | |
|---|---|---|---|---|---|
| 4.7 | | Does the use change require removal of special concern plant species to maintain adequate trail widths and sight distances? | | | |
| 4.8 | | Would use type change existing conditions or cause problems for enforcement of park rules and regulations? | | | |
| 4.9 | | Would use type change existing conditions or cause problems for emergency response? | | | |
| 4.10 | | Would alternating days of use reduce the change of use impacts to reduce safety concerns? | | | |
| 4.11 | | Based on Above Criteria, Will this Use Change Decrease Trail Safety? | | | |
| **#5 Effects on Trail Sustainability** | | | | | |
| | | Check any existing conditions: | | | |
| 5.1 | | Are trail grades commensurate with soil types, use type, season use and facilitate natural hydrologic drainage patterns such as sheet flow? | | | |
| 5.2 | | Is the trail drainage being captured and released on hillsides and not at natural topographic drainage features? | | | |
| 5.3 | | Trail tread firm and stable? | | | |
| 5.4 | | Are there abrupt changes in trail running grade? | | | |
| 5.5 | | Is the fill slope stable? | | | |
| 5.6 | | Is the back slope/cut bank stable? | | | |
| 5.7 | | Does the trail tread remain firm and stable in wet conditions? | | | |
| | | Supporting Data From Trail Log | | | |
| 5.8 | | Number of Water Bars required for proper drainage | | | |
| 5.9 | | Lineal Footage of Berms | | | |
| 5.10 | | Lineal Footage of Ditches | | | |
| 5.11 | | Lineal Footage Rills and Ruts | | | |
| 5.12 | | Lineal Footage log Entrenched Trail | | | |
| | | Describe the locations and different types of soil types and matrix encountered on trail | % of Trail | | |
| 5.13 | | Rocky | | | |
| 5.14 | | Rocky/Partial Soil Profile | | | |
| 5.15 | | Full Soil Profile | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 5.16 | | | | Partial Soil Profile/Sandy | | | | |
| 5.17 | | | | | Sandy | | | |
| 5.18 | Based of Above Criteria, is the Trail Sustainable Under Existing Use Conditions? | | | | | | | |
| 5.19 | With the Proposed Use Change, will the Trail be Sustainable? | | | | | | | |
| | If Not Sustainable, Can Any of the Following Measures be Implemented to Make the Trail Sustainable for the Proposed Use Change? | | | | | | | |
| | | Minor reconstruction of trail tread would: | | | | | | |
| 5.20 | | | Correct lack of outslope | | | | | |
| 5.21 | | | Eliminate abrupt grade changes | | | | | |
| 5.22 | | | Stabilize unstable cut bank | | | | | |
| 5.23 | | | Stabilize unstable fill slope | | | | | |
| 5.24 | | | Correct rilling, rutting | | | | | |
| | | | Provide for firm and stable surfaces | | | | | |
| 5.25 | | Minor realignment of trail within immediate existing trail proximity would: | | | | | | |
| 5.26 | | | Stabilize unstable cut bank | | | | | |
| 5.27 | | | Stabilize unstable fill slope | | | | | |
| 5.28 | | | Eliminate abrupt grade changes | | | | | |
| 5.29 | | | Correct unsustainable grades | | | | | |
| 5.30 | | | Correct Lack of sinuosity | | | | | |
| 5.31 | Based on Above Criteria, Can the Trail be Made Sustainable for Proposed Use Conditions? | | | | | | | |
| 5.32 | Can wet weather closures establish or maintain Sustainability? | | | | | | | |
| 5.33 | Should a Major Reroute be Considered to Establish Sustainability? | | | | | | | |
| **#6 Effects or Impacts to the Natural or Cultural Resources** | | | | | | | | |
| | | Would proposed use change and/or needed modifications significantly impact: | | | | | | |
| 6.1 | | | erosion of existing Trail Tread? | | | | | |
| 6.2 | | | geologic conditions? | | | | | |

| | | | | |
|---|---|---|---|---|
| 6.3 | sensitive wildlife habitat? | | | |
| 6.4 | sensitive vegetation habitat? | | | |
| 6.5 | a riparian or stream environment zone | | | |
| 6.6 | a sensitive historic feature? | | | |
| 6.7 | Is the Trail a historic feature? | | | |
| 6.8 | Based of Above Criteria, Would the Proposed Used Change Create Negative Impacts to the Natural or Cultural Resources? | | | |
| **#7 Effects or Impacts to the Facility Maintenance and Operational Costs** | | | | |
| | Would proposed use change and/or needed modifications: | | | |
| 7.1 | Change the current classification of the trail? | | | |
| 7.2 | Create the need for fill slope or cut bank retaining walls? | | | |
| 7.3 | Require aggregate or other trail hardening techniques required to maintain tread stability? | | | |
| 7.4 | Require additional or upgrading of turnpikes or causeways? | | | |
| 7.5 | require additional bridges or puncheons? | | | |
| 7.6 | Require additional maintenance to maintain current existing conditions? | | | |
| 7.7 | Require additional management practices to maintain user compliance? | | | |
| 7.8 | Could the proposed modifications be completed by non-department work forces? | | | |
| 7.9 | Could the proposed modifications be maintained by non-department work forces with no cost to State Parks? | | | |
| 7.10 | Are durable pinch point native materials readily available? | | | |
| 7.11 | If alternating days of use by user type is a management practice, is alternating days of use able to be enforced? | | | |
| 7.12 | Will the Proposed Use Change and/or Modifications to the Existing Trail Create Significant Facility Maintenance or Operational Work Loads? | | | |

## 8.10 Planning Team

The planning team for the MDSP RTMP consisted of DPR staff with a variety of professional backgrounds, including environmental science, maintenance, GIS mapping, recreation, trails, archaeology, landscape architecture, and law enforcement. The following districts, divisions, and unit participated in the development of this plan:

**Bay Area District**
845 Casa Grande
Petaluma, CA 94954-5804
(707) 769-5652

**Facilities Management Division**
**Roads and Trails Program**
Heilbron Mansion
704 "O" Street
Sacramento, CA 95814
(916) 324-0370

**Northern Service Center**
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Sacramento, CA 95814
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**Thank you to the RTMP team members!**

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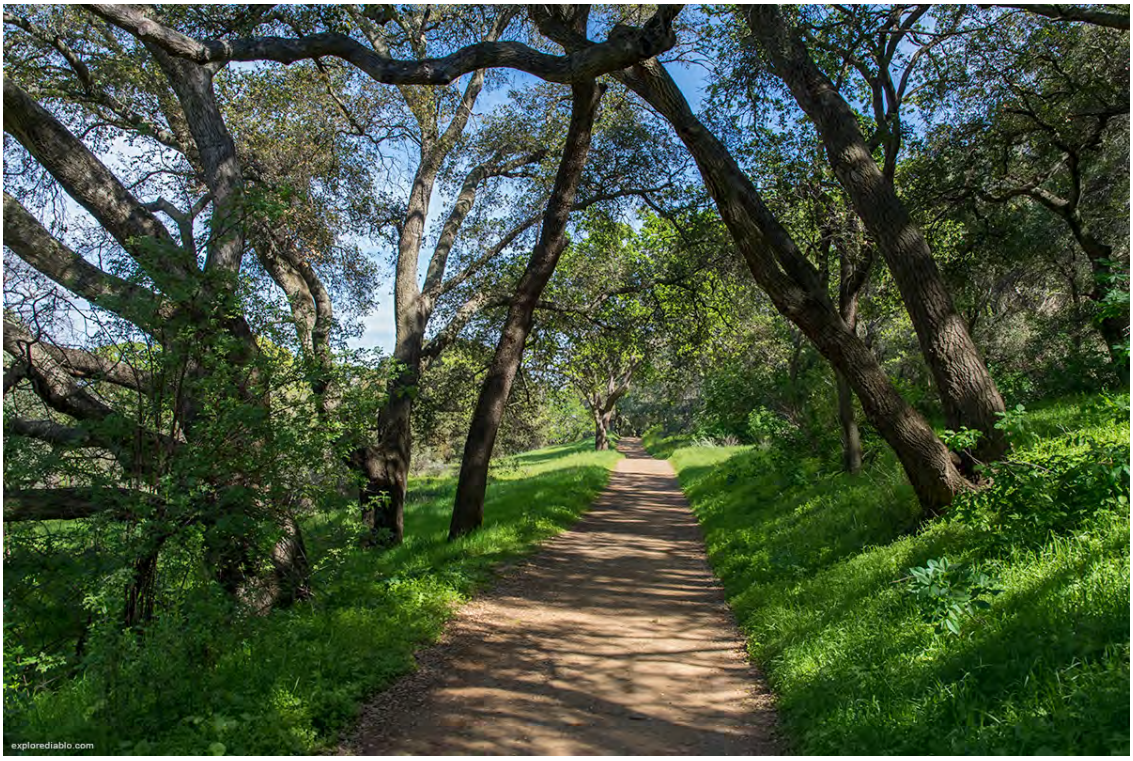
Website: http://www.parks.ca.gov/trails



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