Soil Conservation Plan

Hungry Valley State Vehicular Recreation Area

California State Parks

Off-Highway Motor Vehicle Recreation Division

By

Resources Staff

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1. Introduction

1.1. Purpose and Scope of the 2025 Soil Conservation Plan

In 2017, Senate Bill 249 (Allen) directed the Off-Highway Motor Vehicle Recreation (OHMVR) Division to review and update the 2008 Soil Conservation Standard and Guidelines (Guidelines) by 2020. The updated 2020 Guidelines defines the Soil Conservation Standard (the Standard), which is the standard to which off-highway vehicle (OHV) facilities are managed with respect to soil loss. While the Standard did not change during the 2020 update, substantial revisions were made to the Guidelines. The 2020 Guidelines require Soil Conservation Plans for State Vehicular Recreation Areas (SVRA).

Public Resources Code (PRC) §5090.35 (et seq.) describes environmental requirements for the SVRAs. Specifically, PRC §5090.35(d) requires SVRA staff to monitor OHV facilities annually to ensure compliance with the Soil Conservation Standard. The Soil Conservation Plan (SCP) is the document used by SVRA staff to outline a monitoring program that describes how the park unit will meet the Soil Conservation Standard.

The Standard does not focus on the health or quality of soils at SVRAs but instead emphasizes soil retention through sustainable management practices that prevent unnatural, accelerated erosion from OHV facilities. To do this, the SCP is tailored to site-specific conditions at the SVRA. This SCP comprises three main components: 1) an assessment of existing road and/or trail conditions, 2) a description of the routine road and/or trail maintenance that occurs throughout the SVRA, and 3) a monitoring plan. To ensure compliance with the Standard, SCPs utilize Best Available Science to facilitate the adaptive management framework through setting goals and objectives, monitoring the progress towards achieving those goals, and adjusting management as necessary to make improvements.

Implementation of this SCP does not change existing SVRA management but may result in identifying potential future projects and/or management recommendations. Annual Compliance Reporting to assess compliance with the Standard through SCP monitoring activities include a Compliance Action Plan which can identify potential projects to improve soil retention and conditions. Any identified new project(s) and/or management actions resulting from this SCP implementation will be analyzed using the Department's Project Evaluation Form (PEF) and subject to review pursuant to the California Environmental Quality Act (CEQA).

The Hungry Valley SVRA SCP was developed to be consistent with the California Department of Parks and Recreation's (CDPR) Departmental Operations Manual (DOM) Natural Resources section 0300 (CDPR 2004), CDPR's Path Forward Strategic Plan goal for protecting natural resources (CDPR 2024), and the Hungry Valley SVRA General Plan (CDPR 1981). The SCP describes park specific Best Management Practices (BMPs), soil conservation goals, and adaptive management strategies used to ensure compliance with the Soil Conservation Standard (CDPR 2020). The plan will be reviewed every five years at minimum for relevancy and will be updated as needed.

1.2. State and Regional Conservation Objectives

PRC Section 5090.32(g) requires that management plans be developed in consideration of statutorily required state and regional conservation objectives. As a result, relevant state and regional conservation objectives were reviewed and incorporated into the development of the Hungry Valley SVRA SCP objectives, where applicable (Table 1). These state and regional conservation objectives are for reference purposes for developing the SCP, and Hungry Valley SVRA and the SCP are not necessarily subject to complying with all of the referenced plans.

Table 1. Summary of state and regional plans, their geographical relationship to Hungry Valley SVRA, and whether the Soil Conservation Plan contributes to relevant state or regional conservation objectives.

	Geographical Overlap with the Park	*Contains Relevant Target*	*Contributes to Soil Conservation*
Statewide Documents with Conservation Objectives			
State Wildlife Action Plan	X	X	X
California Water Resilience Portfolio	X		X
Safeguarding California Plan	X		X
Regional Conservation Documents with Conservation Objectives			
Tejon Ranch Conservancy Ranch-wide Management	X	X	X
Los Padres National Forest Land Management Plan	X	X	X
Angeles National Forest Land Management Plan	X	X	X

State Wildlife Action Plan

The State Wildlife Action Plan, developed by the California Department of Fish and Wildlife in 2015 in concert with a number of partners statewide, provides a blueprint for conservation of wildlife and their habitats in the context of a growing human population and a changing climate. The Plan complies with the requirements of the Federal, State, and Tribal Wildlife Grants Program. One of the priority goals of the plan is to "maintain and improve soil and sediment quality vital for sustaining ecosystems (including soil moisture, chemistry, and pollutant/nutrient concentrations and dynamics." Another major goal is to "maintain or improve sediment deposition regimes vital for sustaining ecosystems (including hydro-geomorphic processes, wind-driven processes, and soil stability)". The SCP supports these goals by seeking to maintain and retain soil over time within Hungry Valley SVRA.

California Water Resilience Portfolio

In 2020, state agencies developed the California Water Resilience Portfolio in response to Executive Order N-10-19 to improve California's capacity to prepare for disruptions, withstand and recover from climate-related shocks, and adapt into the future. The Portfolio embraces a broad, diversified approach shaped to provide important tools to local and regional entities building resilience and to encourage collaboration within and across these regions. Four broad approaches are identified: 1) maintain and diversify water supplies; 2) protect and enhance natural systems; 3) build connections; and 4) be prepared. While most of the document is focused on water resources on the scales of large rivers, there are a few conservation goals that directly align with those in the SCP, such as promoting soil conservation and water quality.

2018 Safeguarding California Plan

Developed by the California Natural Resources Agency, the updated 2018 Safeguarding California Plan purpose is to lay out guidelines for how agencies can incorporate strategies necessary to address climate change into their future planning efforts. The 2018 update included a chapter specific to parks, which included the recommendation (PC-5) to incorporate climate change in all California State Parks and conservancy planning and decision-making. To meet Recommendation PC-5, the plan identifies a step (PC-5.6) to "prioritize conservation, protection, and restoration of natural resources in climate change adaptation projects and planning to ensure sustainable recreational opportunities for the public." The SCP can contribute to this plan by conserving and retaining soils while evaluating whether recreational opportunities are sustainably managed.

Tejon Ranch Conservancy Ranch-wide Management Plan

The Ranch-wide Management Plan created by the Tejon Ranch Conservancy and other environmental agencies in 2013 is a detailed plan to implement conservation initiatives across the Ranch. The original iteration was signed in 2008, and the 2013 document expands on those original conservation goals. The plan seeks to characterize, monitor, and conserve plant/soil associations. BMPs are set forth to protect the soil in many ways, such as working to minimize dispersal of soil with invasive plant seeds present, reducing the creation of roadways that may have negative impacts on the soil, reducing soil loss or compaction due to road renovation, designating specific vehicle use types based on road characteristics to minimize soil impacts, protecting soil integrity at water crossings, and planting vegetation to reduce soil loss. All of these BMPs can be considered when maintaining the integrity of the soil and trails at Hungry Valley SVRA.

Angeles National Forest Land Management Plan

The Angeles National Forest Land Management Plan created by the United State Forest Service in 2005 is a detailed plan set forth to sustainably protect and manage the land and resources within the Forest for the long-term. The plan seeks to monitor soil resources for issues such as erosion and compaction. This plan seeks to "maintain and restore soil properties and productivity to ensure ecosystem health (soil microbiota and vegetation growth), soil hydrologic function, and biological buffering capacity" by protecting, maintaining, and restoring the watershed and its essential functions. A major objective is to protect soil quality and health and to do so by maintaining watershed integrity and health. All of these initiatives are in alignment with the goals of the Hungry Valley SVRA SCP.

Los Padres National Forest Land Management Plan

The Los Padres National Forest Land Management Plan created by the United State Forest Service in 2005 is a detailed plan set forth to sustainably protect and manage the land and resources within the Forest for the long-term. The plan seeks to maintain the integrity of the soil by employing BMPs to protect watershed health and prevent soil degradation. These BMPs are applied through the Soil and Watershed Program that is a collaboration between the National Forest Service and other agencies. By protecting, maintaining, and restoring watershed function, the plan employs maintenance and restoration of "soil properties and productivity to ensure ecosystem health (soil microbiota and vegetation growth), soil hydrologic function, and biologic buffering capacity." All of these BMPs can be considered when maintaining the integrity of the soil and trails at Hungry Valley SVRA.

1.3. Adaptive Management Strategy and Best Available Science

Hungry Valley SVRA's SCP will incorporate adaptive management techniques and use best available science to assess, monitor, and manage soil resources (CDPR 2021). Adaptive management is a fundamental component of implementing best available science in natural resource management.

Adaptive management includes assessing existing conditions, developing objectives based on those conditions, identifying management actions, and monitoring these actions, which allows evaluation and adjustment of practices over time.

2. SVRA Setting and Existing Conditions

The following chapter provides information on the Hungry Valley SVRA setting and existing conditions. The setting and existing conditions assessments are used to understand important soil conservation priorities within the SVRA. Additionally, this information provides the basis or baseline for applying adaptive management. The following sections include an overview of park history and setting characteristics, regional context and land use, and assessments of geology, soils, climate, and hydrology. The majority of the information in this section is sourced from the Hungry Valley SVRA General Plan (CDPR 1981) and past Wildlife Habitat Protection Plans.

2.1. Site Description

Hungry Valley SVRA is a 19,800-acre unit of the CDPR system, located west of Interstate Highway 5 in the northwest corner of Los Angeles County, the northeast corner of Ventura County, and southwestern Kern County (Fig. 1; CDPR 1981). The Tejon Pass, at an elevation of 4,160 feet above sea level, is just north of the SVRA, as is the town of Gorman. Hungry Valley SVRA lies within the Transverse Mountain Ranges of Southern California, and the San Andreas Fault traces along the northeast boundary of the SVRA (CDPR 2001). Hungry Valley SVRA has over 130 miles of trails with different OHV use type designations. Special event facilities include a 4x4 course, activity center, motocross track, and group camp site. See section 2.7 for detailed information on recreational facilities.

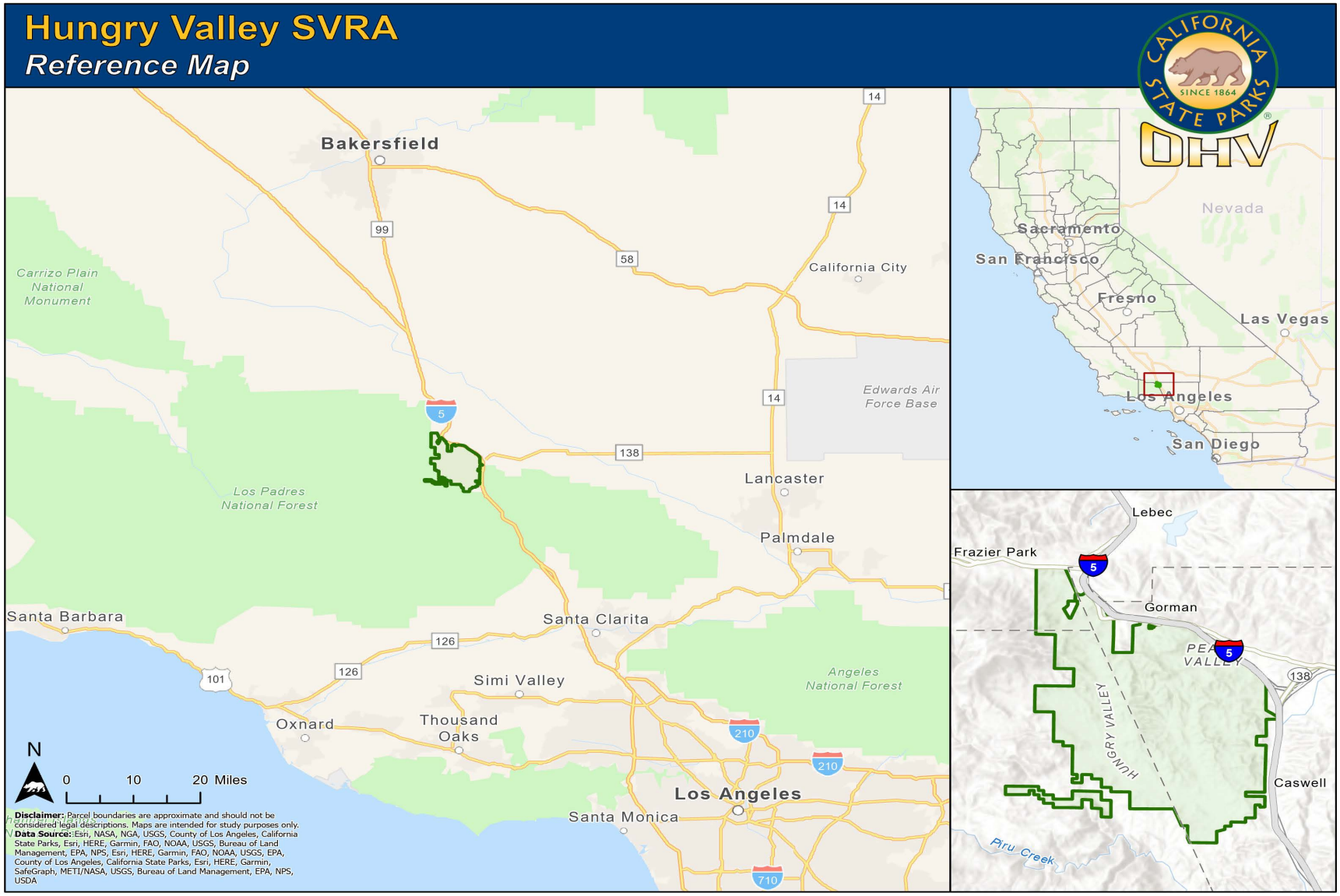


Figure 1. Hungry Valley SVRA reference map depicting the park's location in relation to the state of California and major cities.

Hungry Valley SVRA is bordered on two sides by major tracts of public land: Los Padres National Forest on the west and Angeles National Forest on the south (Fig. 2; CDPR 2001). The northeast side is bordered by Tejon Ranch. California Department of Water Resources land and several scattered residences are located on the east, and the town of Gorman is on the north edge of the unit. In April 1980, Hungry Valley SVRA became a unit of the CDPR system (CDPR 1981). Before state purchase, the area had been used informally for OHV recreation (CDPR 1981).

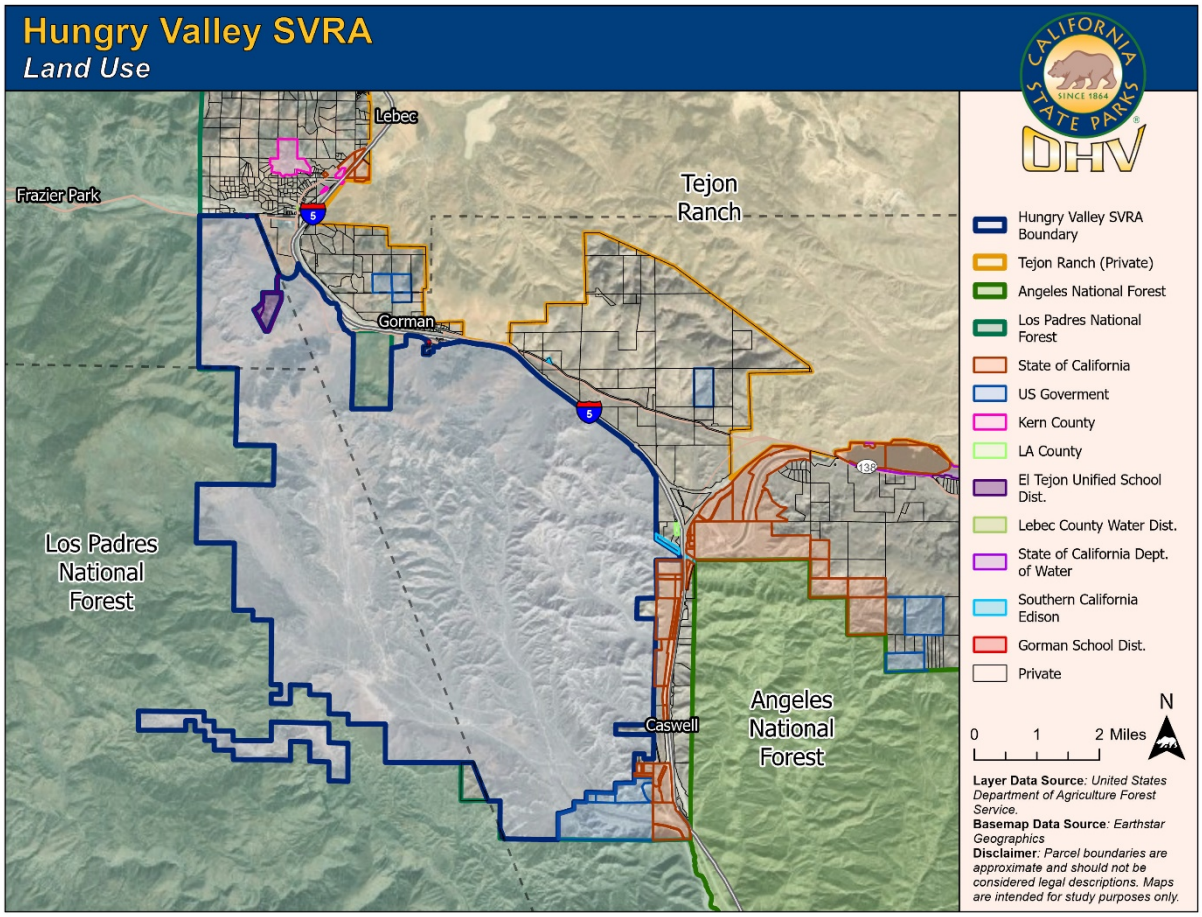


Figure 2. Hungry Valley SVRA and surrounding land use.

2.2. History

The region that includes Hungry Valley SVRA was originally home to the Tatavium Tribe of Native Americans. Spanish explorers arrived in the area around the late 1770s and displaced the native populations. The Spanish used the area as a corridor connecting Southern California with the Central Valley, much as it is used today by millions of travelers each year.

The region where Hungry Valley SVRA is located was later the site of homesteading and mining activities for nearly 100 years. James Gorman and his family lived in the area for many years before he

filed a patent for homestead in 1875, at the site of present-day Gorman, California. Hungry Valley SVRA was once called Honey Valley by homesteaders looking to tend the land. However, the climate and ruggedness of the terrain proved too difficult for ranching and farming. The name of the area was aptly changed to Hungry Valley as many homesteaders abandoned their homesteads for better opportunities in in the growing city of Los Angeles.

The early 1900s brought the construction and installation of oil pipelines and roads. During the 1930s, most of the remaining homesteads were wiped out by drought and purchased by absentee landowners. Uncontrolled hunting, target shooting, and OHV recreation began to occur on the unregulated land. Recognizing the need to effectively manage the area while providing for responsible OHV recreation, CDPR purchased land in the region beginning in 1978. Hungry Valley was formally established as a SVRA in 1980.

2.3. Geology

Hungry Valley SVRA is in the Transverse Ranges geomorphic province. The San Andreas Fault, which is the tectonic boundary between the Pacific oceanic plate and the North American continental plate, traces along the northeast boundary of the SVRA.

Hungry Valley SVRA lies in a large inter-montane basin, termed Ridge Basin, which is filled with clastic sediments. The late Cenozoic sediments are derived primarily from highlands consisting of pre-Cenozoic metamorphic and igneous rocks and were deposited in a terrestrial environment. The Ridge Basin is bounded by the San Gabriel Fault to the southwest and the Clearwater, Liebre, San Andreas, and other faults to the east and northeast. Later, deformation, uplift, and erosion gave rise to an exposed sedimentary sequence called the Ridge Basin Group, which dips to the northwest and is approximately 29,000 feet thick. This is one of the thickest known sequences of terrestrial upper Miocene and Pliocene rocks in North America.

2.4. Soils

Hungry Valley SVRA's topographical features are reflected in the soils (Fig. 3). Broadly, the northern part of the park is made up of Gorman sandy loam and Hanford sandy loam that contain clay that becomes slippery when saturated, requiring trail closures in the north of the park after heavy precipitation (see Appendix 1, Fig. 10). After precipitation events of 0.5 inches or greater in a day, trails containing these soils will be closed until they sufficiently drain or dry out over the course of two to three days post precipitation. In precipitation events of less than 0.5 inches a day, trail closures are implemented based on a general trail observation. Trail closures during and after precipitation are necessary to prevent the destruction of trail features such as drains, water breaks, and tread from off-highway vehicles. Wet clay soils make it easy for vehicles to create ruts, destroy drains and water breaks, and cause more maintenance requirements. The creation of ruts and destruction of drains and water breaks lead to accelerated soil erosion. Gorman sandy loam contains approximately 20 to 28 percent clay and Hanford sandy loam contains approximately 6 to 18 percent clay. The southern part of the park is sandier, and the soils drain well during and after precipitation events, making the trails less susceptible to erosion. That

said, these sandier soils tend to dry out more quickly after rainfall. If field work along these southern trails is necessary, it is important to work expediently following precipitation events to ensure the soil has appropriate moisture content to allow proper compaction of earth materials.

In the uplands, there are Gorman soils on rolling hills; Saugus soils and eroded Gorman soils on gullied, rugged hills; and Hanford soils on gullied, steep-walled canyons. The “basin soils” (collectively the Hanford, Greenfield, Ramona, and Oak Glen soils) are found in the broad, flat Hungry Valley.

The Gorman soils are found on slopes of 9 to 50 percent and are formed from alluvial materials derived from granitic rock. The more rugged hills along the western boundary and in the eastern half of the unit have soils with a sandy loam or loam texture. These areas are mapped as Gorman and Saugus soils and characterized as gullied and rough broken lands. Saugus soils are formed on loosely consolidated sandstone and mudstone. The slopes of the hills are up to 90 percent. Many hills have been cut by gullies, and many landslides are present. In the deeper gullied areas, bedrock is exposed in the incised channels.

The basin soils are formed by the draining of the intermediate streams found in Hungry Valley. Soils formed by this process are deep, well-drained, moderately coarse textured, and on gentle slopes between 0 and 15 percent. When these soils are undisturbed, erosion hazard is slight. Plant cover is sparse and provides less soil protective cover than grasslands. When the vegetation is disturbed, the erosion hazard is high, and gullies often form rapidly.

Oak Glen and Ramona soils are found on the older alluvial fans, Greenfield soils are on low alluvial terraces, and Hanford soils are in and around the streambeds. The Oak Glen soils have higher organic matter content than the Hanford soils. Soil conditions also vary with depth in comparison with the surface soil. The Ramona soils have much more clay below the surface, whereas the Greenfield soils have only slightly more clay below the surface. At the mouth of Freeman Canyon and on fans facing Interstate 5, the Hanford soils have accumulated calcium carbonate in the subsoil.

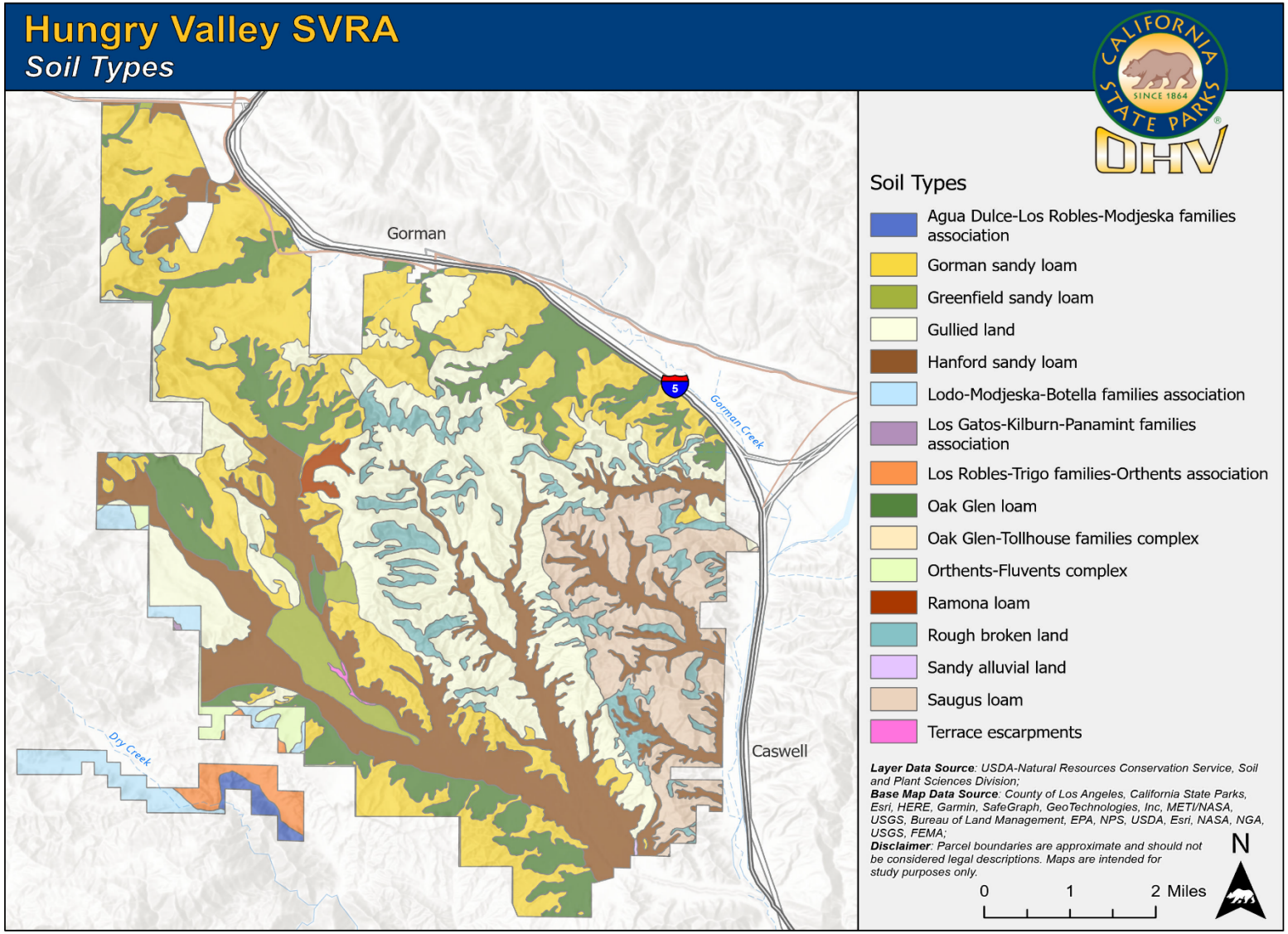


Figure 3. Hungry Valley SVRA soil types.

2.5. Climate

The Hungry Valley SVRA area has a semiarid Mediterranean climate. Throughout much of the year, warm air masses blow southwest from the Mojave Desert and pass through the area toward the Los Angeles Basin. Air masses are cold enough in the winter to allow some snowfall.

Temperature and precipitation data are reported from the Remote Automatic Weather Station (RAWS) USA Climate Archive and are from the nearby Chuchupate, California station from January 2020 to October 2024. The mean daily maximum average air temperature from March to May was approximately 52.7°F to 71.5°F. During summer months (June through September), mean daily maximum average air temperatures ranged from 81.2°F to 89.6°F. Mean maximum average air temperature during summer months ranged from 93.2°F to 98.2°F. In winter months (December through March), mean daily maximum average air temperatures ranged from 51.3°F and 52.8°F. Mean daily minimum average air temperature ranged from 23.1°F to 47.9°F across 2020-2024.

On average, 11.6 inches of precipitation fell each year between 2020 and 2024. Mean monthly precipitation for the area ranged from about 0.01 inches in July to 3.41 inches in December. Most precipitation occurred between December and April, with usually less than a mean of 0.5 inches per month falling from May to November.

The prevailing wind direction in the unit is from the north-northwest, except for the months of November through February. During these months, the winds originate from the east-northeast, due to winter storms. The area is susceptible to very strong winds due to its proximity to the Tejon Pass.

2.6. Hydrology/Watersheds

The majority of Hungry Valley SVRA falls within the Santa Clara River Watershed, but a small area on the northern tip of the park falls within the Middle Kern-Upper Tehachapi-Grapevine Watershed (Fig. 4). In the Santa Clara River Watershed portion of the park, the Cañada de Los Alamos and Gorman Creek are the two main tributaries within the park that empty into Pyramid Lake, which is a State Water Project reservoir created to supply Southern California with municipal water. Pyramid Lake is south of the park along Interstate 5 and a few miles from Hungry Valley SVRA's south entrance. The small northern area of Hungry Valley SVRA that falls within the Middle Kern-Upper Tehachapi-Grapevine Watershed drains into Castac Lake, which is a natural lake a few miles northeast of Hungry Valley SVRA. The water supply for Hungry Valley SVRA facilities comes from groundwater wells (Fig. 5).

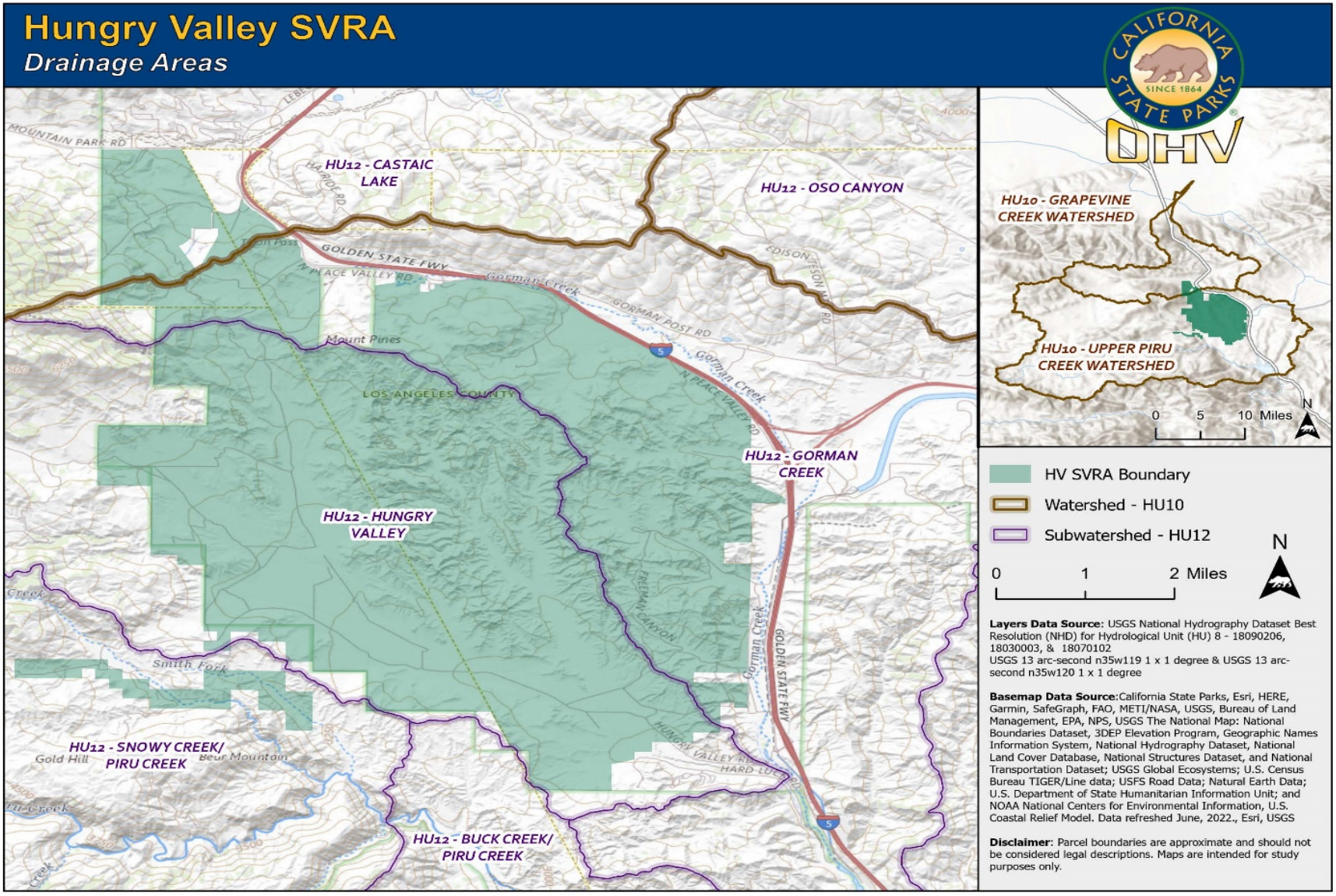


Figure 4. Hungry Valley SVRA with watersheds and subwatersheds that intersect the park.

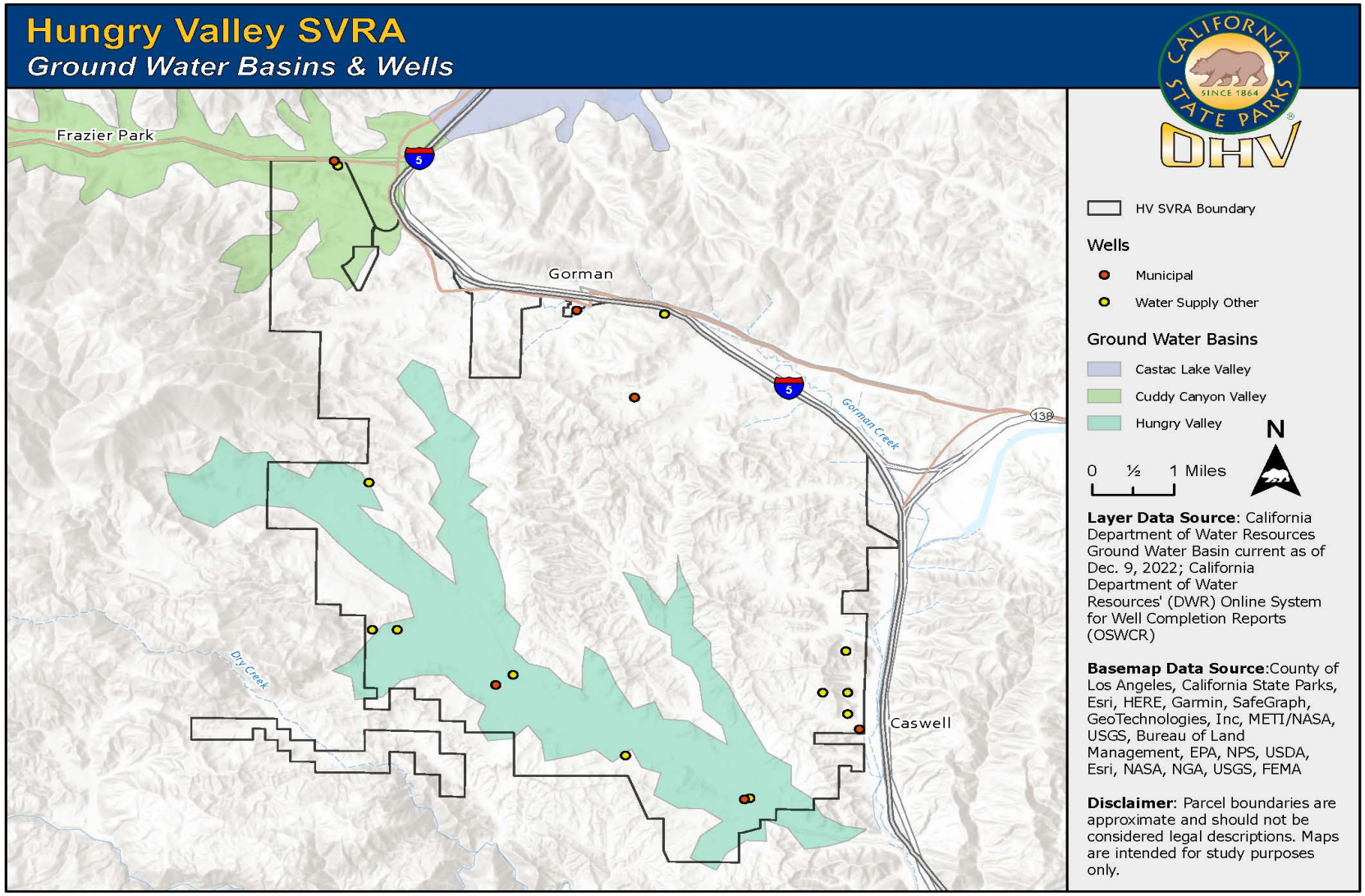


Figure 5. Hungry Valley SVRA groundwater basins and wells.

The streams in Hungry Valley SVRA are all ephemeral, except for a small section of the Cañada de Los Alamos in lower (southern) Hungry Valley, which has a small summer base flow, Gorman Creek along the northeast boundary, and a small perennial spring in the Oak Preserve (Fig. 6). Generally, the creek channels within and near the SVRA are incised. Peak flows in the creek channels occur during or shortly after storm events. There is potential for large water and sediment discharges during and immediately after rainstorms. Between storms, there is little or no water in streams. Creek channels transport sediment and provide surface water drainage.

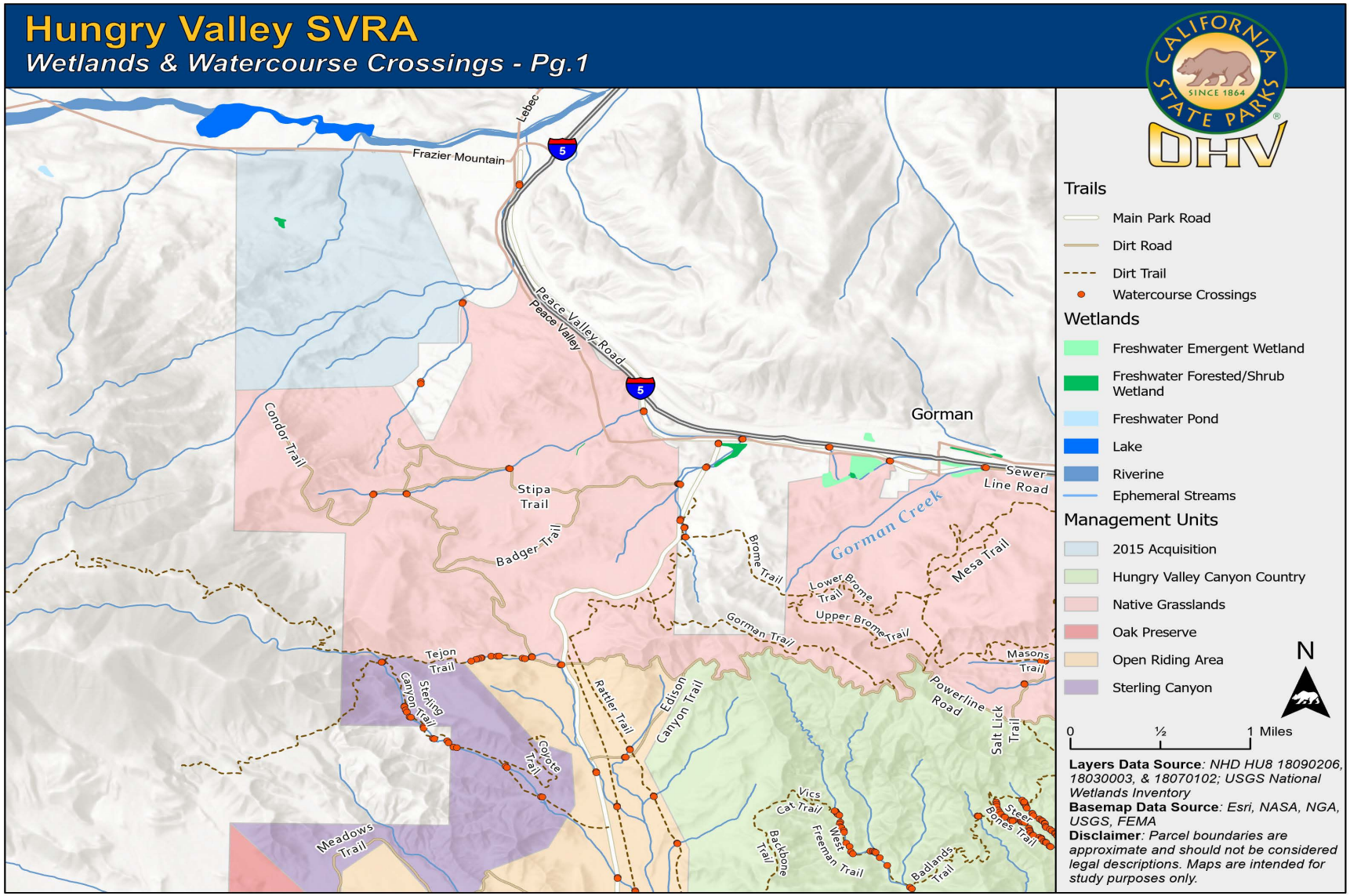
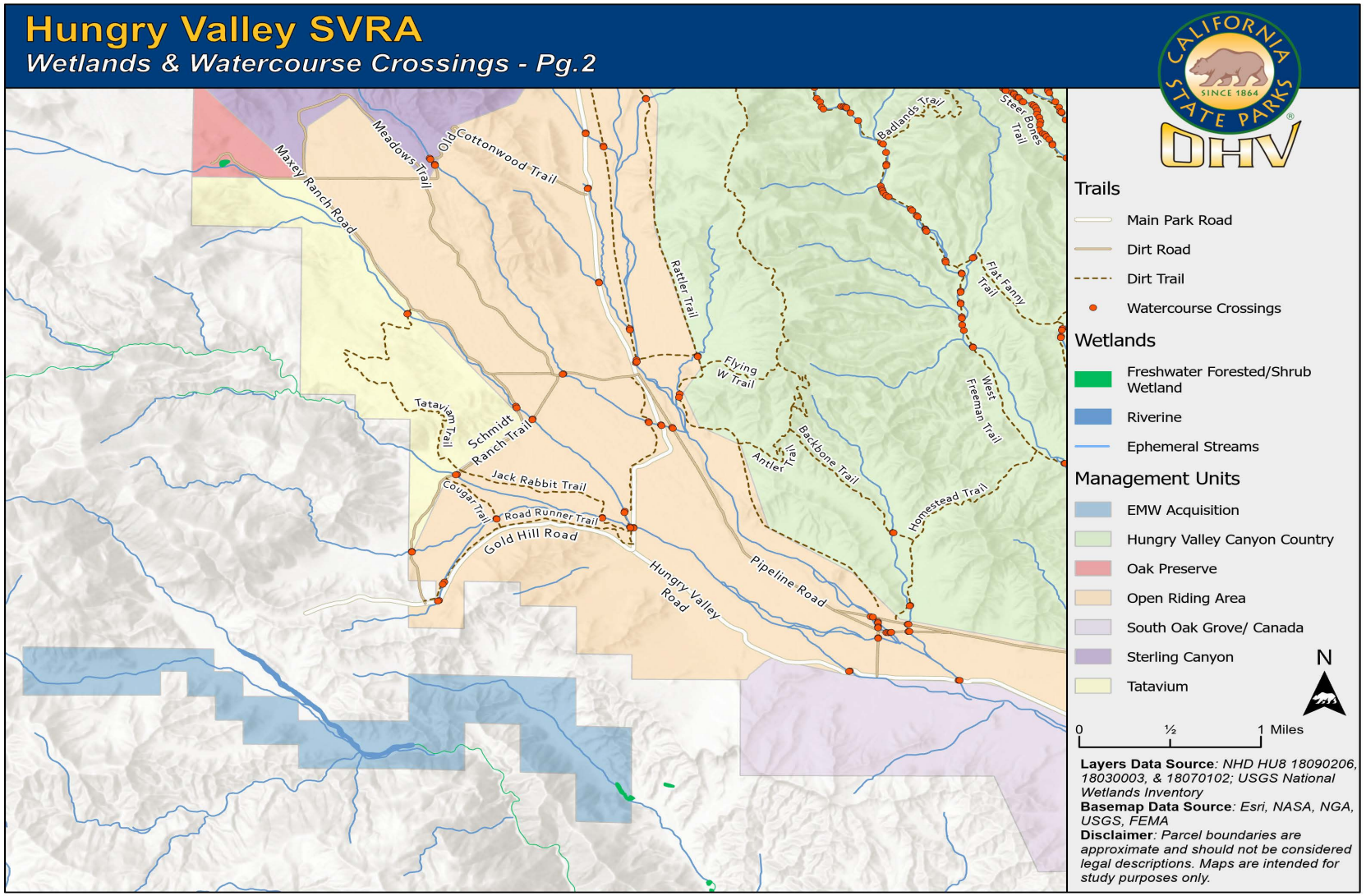


Figure 6.1. Wetlands, waterways, and watercourse crossings within and surrounding Hungry Valley SVRA managements units.



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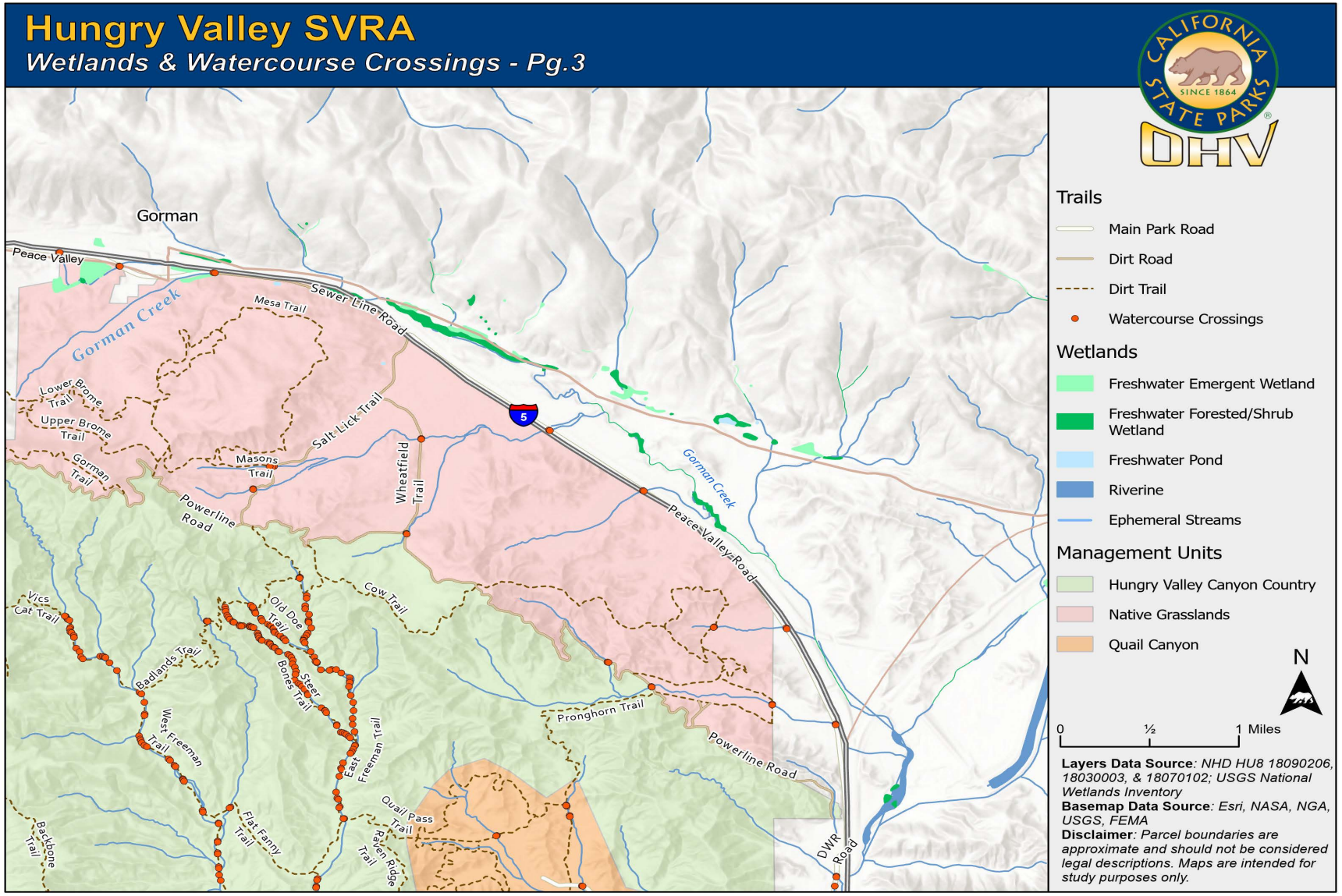

Figure 6.3. Wetlands, waterways, and watercourse crossings within and surrounding Hungry Valley SVRA managements units.

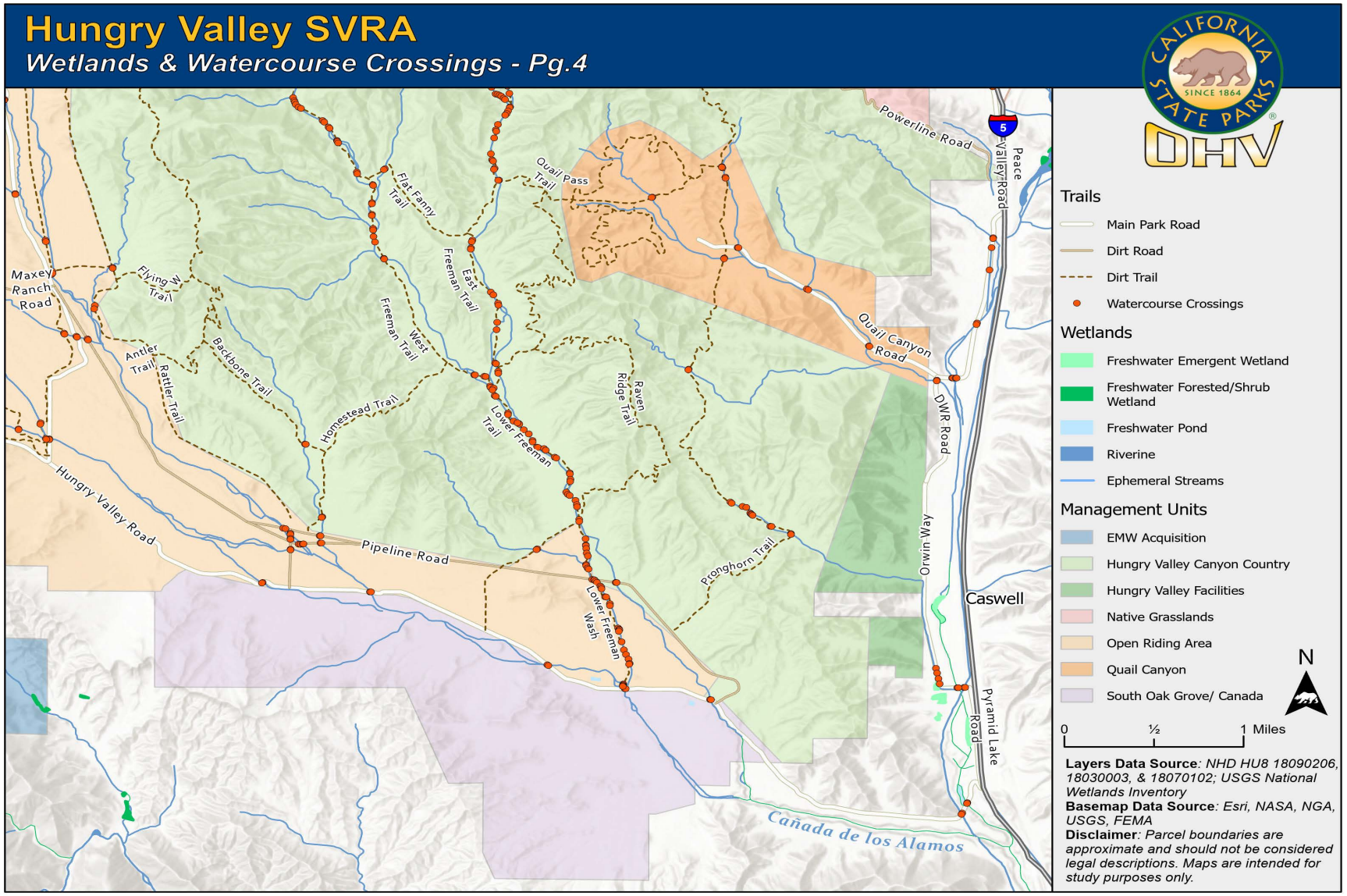

Figure 6.4. Wetlands, waterways, and watercourse crossings within and surrounding Hungry Valley SVRA managements units.

2.7. Delineation of Management Units

Hungry Valley SVRA is made up of 11 Resource Management Units (MUs). MUs provide a structure for implementing natural resource management activities. MUs are defined areas of land with unique identifiers which constitute manageable-sized areas for organizing and scheduling management work (Fig. 7). Delineation of Hungry Valley SVRA MUs was based on vegetation community differences, OHV use type, land acquisitions, Natural Preserve classification, and routine maintenance and management needs (Table 2). OHV use type for each MU is described below. It should be noted that the Hungry Valley SVRA General Plan is currently being updated and minor changes in OHV use type may occur in some MUs.

For those units that do not allow larger vehicles, trail limiters are installed. These limiters prevent larger OHVs (e.g., ROVs or trucks) from accessing certain trails that are designated for all-terrain vehicles (ATVs) and/or motorcycles. Hungry Valley SVRA has over 130 miles of trails with different OHV use type designations (Fig. 8, Appendix 1).

Table 2. Hungry Valley State Vehicular Recreation Area (SVRA) management unit (MU) descriptions.

Number	MU Name	Dominant Vegetation Community	OHV Use Type
1	Oak Preserve	Oak-pinyon-juniper-yucca woodland	Full-size dirt road / hiking trail (No public driving other than park employees and private property owners behind park)
2	Native Grasslands	Grasslands / Rabbitbrush-sagebrush shrubland / Riparian	Full-size trails for any OHV (Riders must stay on trails only)
3	2015 Acquisition	Grasslands / Rabbitbrush-sagebrush shrubland / Oak woodland / Badlands	Full-size dirt roads (Closed to the public, and not in the General Plan yet)
4	Quail Canyon	Oak-juniper-yucca woodland / Rabbitbrush-sagebrush shrubland	Full-size dirt road and parking lot / Motocross track (for dirt bikes only) / Full-size trails (Riders must stay on trails)
5	Egget / Marjay / Ward (EMW) Acquisition	Pinyon-oak-juniper-yucca woodland / Rabbitbrush-sagebrush shrubland	Full-size dirt roads (Closed to the public)
6	Open Riding Area	Juniper-yucca open woodland	Mix of single-track through full-size trails (Riders may ride wherever they want)
7	Sterling Canyon	Pinyon-oak-juniper-yucca woodland	Full-size OHV trails
8	Tatavium	Pinyon-oak-juniper-yucca woodland	ATV trails
9	Hungry Valley Canyon Country	Oak-juniper-yucca woodland / Chaparral	Mix of single-track through full-size trails
10	South Oak Grove / Cañada	Oak woodland / Rabbitbrush-sagebrush shrubland / Riparian	Full-size dirt road (Riders must stay on road)
11	Hungry Valley Facilities	Juniper-yucca open woodland	Full-size paved roads and trails (only accessible by staff)

1) Oak Preserve: This management unit is 84 acres. The site history of this unit includes being a significant area for Native American gatherings as well as a part of Maxey Ranch used for homesteading. The Maxey's gifted this 60-acre area to parks in the 1980s, and it was designated a Natural Preserve. The dominant vegetation community is composed of valley oak, pinyon pine, and juniper. This area is a designated Natural Preserve only open to foot traffic and private resident vehicle traffic via a dirt road that leads to private properties to the west of Hungry Valley SVRA. The Oak Preserve dirt road has been in existence at least as far back as the Maxey Ranch was homesteaded. After heavy storms, water from Frazier Mountain drains onto the Oak Preserve dirt road, which requires maintenance if the installed rolling dip fails to protect the road. This road is heavily trafficked as an access road to the privately-owned properties to the west of the Hungry Valley SVRA boundary. These properties include the Maxey Ranch and a hemp farm. The Oak Preserve contains a freshwater spring that flows perennially above ground for a section of approximately 300 feet. The Oak Preserve MU has been delineated as a unique management unit because of its Natural Preserve status, unique vegetation community, and cultural significance.

2) Native Grasslands: This management unit is 4,265 acres. The site history of this unit includes homestead ranching and grazing as well as unmanaged OHV riding before Hungry Valley SVRA became a state park. The dominant vegetation community is composed of native grasses as well as rabbitbrush-sagebrush shrubland and naturalized annual grasses (non-native). The trails in this area are designated as trails-only for OHV use and can accommodate vehicles as large as 4x4 trucks. Trails in this area are susceptible to degradation in wet weather, which is why this area is closed after rain or snowfall. This area is also popular for non-OHV enthusiasts during the wildflower season as they drive around enjoying the flower blooms from their vehicles. This area requires management of invasive plant species, such as Dalmatian Toadflax, through pesticide application as well as a biocontrol weevil. Dalmatian Toadflax was originally used as an ornamental plant that became very invasive in rangelands and wildlands. The cause of introduction of this plant into Hungry Valley SVRA is unknown but may have come from early homesteaders or the I-5 freeway. On the far edge of the grasslands just to the west of I-5 is a small section of riparian area (Gorman Creek) comprised of cottonwood and willow trees. The riparian area also requires invasive plant management, mainly pepperweed removal. The Native Grasslands MU has been delineated as a unique management unit because of its unique vegetation community and similar management requirements across the MU.

3) 2015 Acquisition: This management unit is 717 acres. The site history of this unit includes homestead ranching and grazing as well as unmanaged OHV riding before Hungry Valley SVRA became a state park. The dominant vegetation community is composed of native grasses as well as oak woodland and rabbitbrush-sagebrush shrubland and naturalized annual grasses (non-native). Pinyon pine woodland was prominent in the area, but it burned in the 2013 Grand Fire and has not regenerated. There is no public vehicular access to this area of the park, and it is considered closed because it is not currently in the General Plan. The dirt roads in this area were put in place by Southern California Edison utility company so they could access their power towers. Dirt utility roads in this area are maintained by California State Parks staff as well as Southern California Edison staff. This property is used informally by Frazier Mountain High School sports teams for trail running and conditioning.

High school students always stay on the trails and have little impact on the dirt utility roads. This area requires management of invasive plant species, such as Dalmatian Toadflax, through pesticide application. The cause of introduction of this plant into Hungry Valley SVRA is unknown but may have come from early homesteaders or the I-5 freeway. The 2015 Acquisition MU has been delineated as a unique management unit because it is a recently acquired state park property, has a unique vegetation community, and has similar management requirements across the MU.

4) Quail Canyon: This management unit is 636 acres. The site history of this unit includes homestead ranching and grazing as well as unmanaged OHV riding before Hungry Valley SVRA became a state park. The dominant vegetation community comprises oak-juniper-yucca woodland as well as rabbitbrush-sagebrush shrubland. This area requires management of an enclosed motocross track and various loop trails. The motocross track maintenance includes reshaping track features every Wednesday and as needed throughout the week. The surrounding loop trails can accommodate vehicles as large as 4x4 trucks and are maintained as needed. This area is designated as trails-only for OHV use and must be managed for off-trail riding. Special events occur at Quail Canyon approximately four to eight times in a calendar year. Examples of these special events include Babes in the Dirt (an all-female dirt bike club), motocross grand prixs, and various film shoots. This area requires constant monitoring of the motocross track soil levels to keep track features suitable for high quality recreation. The Quail Canyon MU has been delineated as a unique management unit because it has a unique OHV use type and requires similar management strategies across the MU.

5) Egget / Marjay / Ward (EMW) Acquisition: This management unit is 549 acres. The site history of this unit includes homestead ranching and a private campground. The name EMW comes from the three different historical landowners that the state eventually acquired the land from (Egget, Marjay, and Ward). Part of the unit contained a private campground that went out of service sometime in the early 2000s when it was sold to the state. Part of this unit burned in the 2012 Hill Fire. The dominant vegetation community is composed of pinyon pine, juniper, scrub oak, and yucca plant communities as well as rabbitbrush-sagebrush shrubland. There is one dirt road in this unit that can accommodate vehicles as large as 4x4 trucks. The dirt road was likely created by the first landowners. The road is in good condition and rarely needs maintenance. There is no public vehicular access to this area of the park as it is currently closed. The EMW Acquisition MU has been delineated as a unique management unit because this land acquisition has never been monitored for flora and fauna, and it is separate from the rest of the park.

6) Open Riding Area: This management unit is 3,392 acres. The site history of this unit includes homestead ranching and grazing as well as unmanaged OHV riding before Hungry Valley SVRA became a state park. This is the only remaining open riding area in the park since the land was purchased in 1980. The dominant vegetation community is composed of juniper-yucca open woodland. In addition to open riding, there are designated trails in this area ranging in size from motorcycle single track to 4x4 truck. The area also contains all 11 of the park's campgrounds, along with ATV and motorcycle practice tracks and a 4x4 practice course. The area consists of many rider-created trails called volunteer trails. A lot of these volunteer trails are redundant and remove vegetative habitat from the area creating loose soils. This area requires management through rehabilitation of volunteer trails because of its open riding status. The goal of rehabilitating volunteer

trails is to reduce redundant trails that all lead to the same area, increase vegetative cover, and increase soil stability. Only designated trails are maintained by Hungry Valley SVRA heavy equipment operators and volunteer trails are left unmanaged. The Open Riding Area MU has been delineated as a unique management unit because of its open riding status and similar management requirements across the MU.

7) Sterling Canyon: This management unit is 567 acres. The site history of this unit includes homestead ranching and grazing as well as unmanaged OHV riding before Hungry Valley SVRA became a state park. The dominant vegetation community is composed of pinyon-oak-juniper-yucca woodland. Pinyon pine woodland was prominent in the area, but it burned in the 2013 Grand Fire and has not completely regenerated. The trails in this area are designated as trails-only for OHV use and can accommodate vehicles as large as 4x4 trucks. Trails in this area are susceptible to high degradation in wet weather, which is why this area is often closed after rain or snowfall. The trail system is characterized by a trail running along a steep canyon with loose soils and large rocks. This trail requires regular maintenance and monitoring as it washes out frequently in wet weather. This unit has trails highly susceptible to erosion due to both soil type and trail design, requiring regular trail maintenance. The Sterling Canyon MU has been delineated as a unique management unit because of its vegetation community and similar management requirements across the MU.

8) Tatavium: This management unit is 552 acres. The site history of this unit includes homestead ranching and grazing as well as unmanaged OHV riding before Hungry Valley SVRA became a state park. This area was a part of two illegal marijuana grow operations that were discovered in May 2016. The grow sites were planned to be cleaned and rehabilitated after Rangers apprehended the individuals involved. In December 2021, the California State Parks Special Enforcement Team came to Hungry Valley SVRA to clean the area. Black pipes were gathered and piled for helicopter removal. Pesticides left by the illegal grow will also be disposed of properly. The marijuana grow was in a remote location and did not affect OHV use in the area. The dominant vegetation community is composed of pinyon-oak-juniper-yucca woodland. This area is designated as trails-only for OHV use and can accommodate vehicles as large as ATVs. Trails in this area are stable and require minimal maintenance yearly. The main trail (Tatavium Trail) is characterized by a steady incline up a hill that flattens out at the top for most of the trail and descends back down to Maxey Ranch Road. The ascent and descent of this trail are monitored for wash outs and erosion. The Tatavium MU has been delineated as a unique management unit because of its vegetation community and similar management requirements across the MU.

9) Hungry Valley Canyon Country: This management unit is 7,357 acres. The site history of this unit includes homestead ranching and grazing as well as unmanaged OHV riding before Hungry Valley SVRA became a state park. This area was also culturally significant to the Native American population as evidenced by discovered cultural artifacts. The dominant vegetation community is composed of oak-juniper-yucca woodland and chaparral. Trails in the unit are in sandy washes in the valley floors of the canyons. The canyon walls are too steep and erodible for OHV access. Additionally, because canyon walls are so steep and soils are so loose, the area is subject to potential slumping of land from the steep canyon sides and is also prone to landslides. This area is designated as trails-only for OHV use and can accommodate vehicles as large as 4x4 trucks. This unit requires

regular maintenance of trails, especially after rain. The Hungry Valley Canyon Country MU has been delineated as a unique management unit because of its unique geology, vegetation community, and similar management requirements across the MU.

10) South Oak Grove / Cañada: This management unit is 1,239 acres. The site history of this unit includes homestead ranching and grazing as well as unmanaged OHV riding before Hungry Valley SVRA became a state park. This area is also culturally significant because of its use by the Native American population. The dominant vegetation community is composed of valley oak and rabbitbrush-sagebrush shrubland along with a riparian area dominated by cottonwoods and willows. This unit contains one of the main roadways into Hungry Valley SVRA, called Hungry Valley Road. Besides the road, there are no other trails in this area and no new trails are planned. Hungry Valley Road is maintained regularly because it is a main access road that can accommodate all commercial vehicles. This area is seen as a buffer zone between Hungry Valley SVRA and the Angeles National Forest as it transitions from OHV riding at Hungry Valley SVRA to non-OHV riding and a campground on United States Forest Service land. The South Oak Grove / Cañada MU has been delineated as a unique management unit because of the unique vegetation community.

11) Hungry Valley Facilities: This management unit is 287 acres. The site history of this unit includes historic hunting shacks, private inholdings, and a passageway for historic travelers on what is now the I-5 freeway. The dominant vegetation community is composed of juniper-yucca open woodland. This area contains the Hungry Valley facilities, which includes housing, a dormitory, and offices. This area is not open to OHV riding and is mainly used by Hungry Valley SVRA employees. The public does not use this area to access the park except for on the main access road (Orwin Way) that runs along the southeastern boundary of the park and leads to the park's south entrance. Staff use connector trails in this area to access the park via OHVs. The only maintenance activities that occur in this area are maintaining dirt driveways to state housing and maintaining staff connector trails as needed. The Hungry Valley Facilities MU has been delineated as a unique management unit because of similar management requirements across the MU.

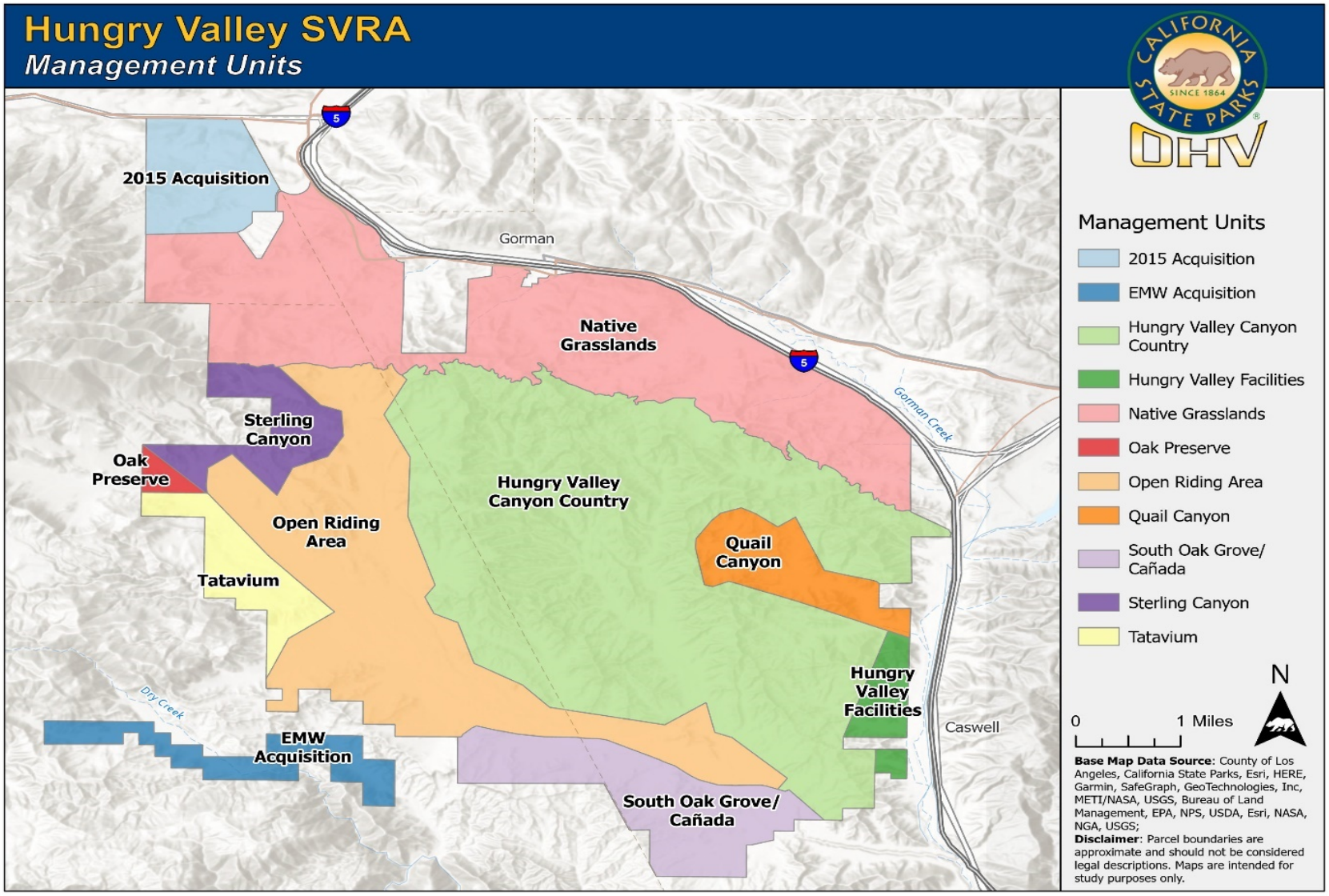

Figure 7. The 11 management units of Hungry Valley SVRA.

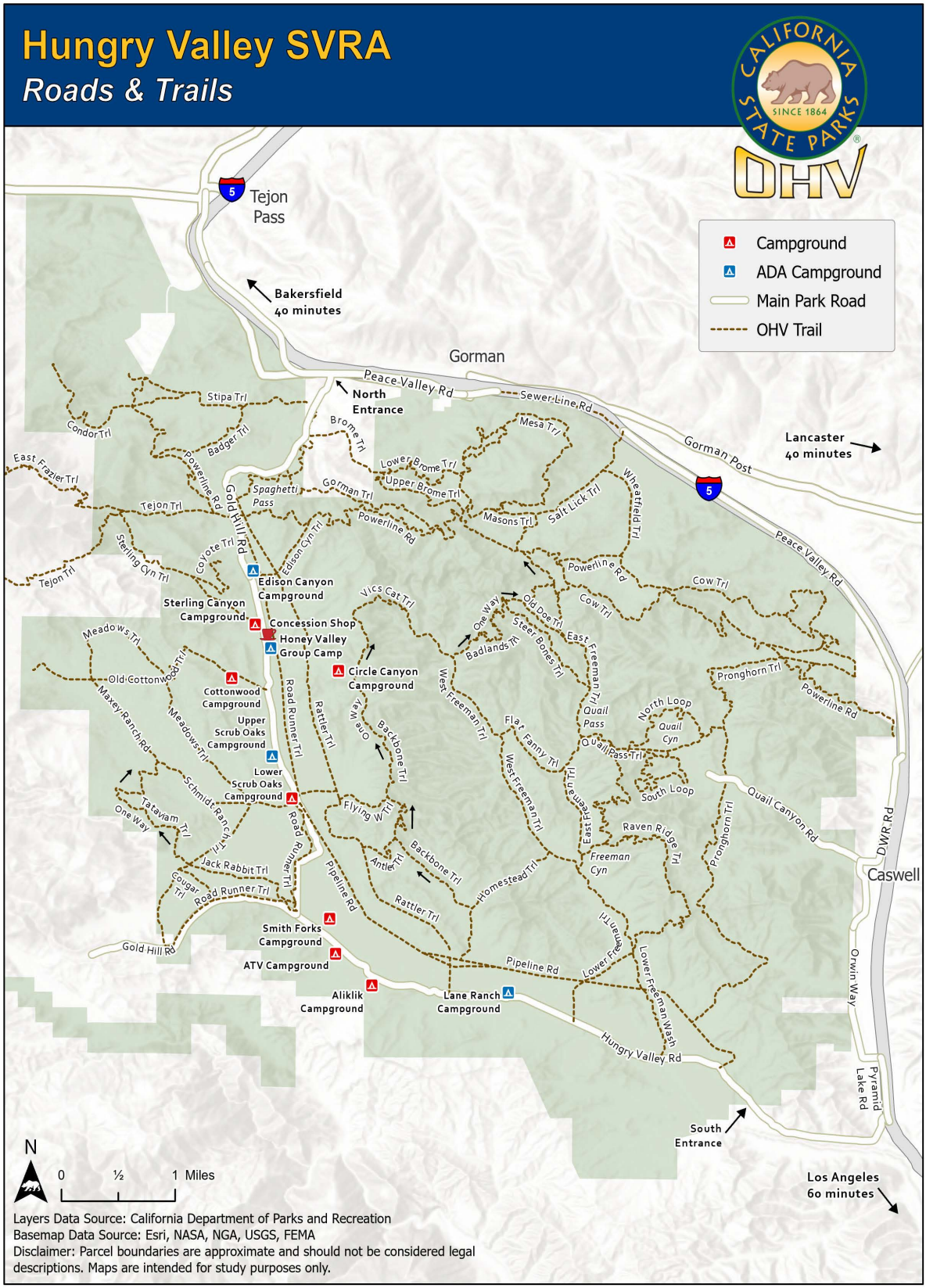

Figure 8. Hungry Valley SVRA roads and trails system.

3. Goals and Objectives

The purpose of Hungry Valley SVRA is to provide OHV recreation opportunities while conserving and improving natural and cultural resources. Soil conservation through the SCP is needed to maintain sustainable soil conditions for the park's ecosystems and the OHV recreation that occurs in the park. Adaptive management is a critical part of the SCP because it allows for informed management actions that adapt over time base on site conditions and monitoring. This section provides a description of the goals and objectives developed for adaptative soil management at Hungry Valley SVRA.

3.1. Soil Conservation Plan Goals and Objectives

The overall goal of the SCP is to setup a process for the park to assess compliance with the Soil Conservation Standard, identify maintenance needs associated with compliance, and outline a monitoring plan that informs adaptive management. More specifically, the overarching objectives of the SCP are to establish baseline conditions, identify and define maintenance and management practices and schedules, prevent impacts to resources beyond the park boundary, establish a repeatable program to understand the efficacy of the management, and implement mechanisms that allow for adaptation over time.

The 2025 SCP objectives tier directly from the goals of the Soil Conservation Standard (CDPR 2020), consider objectives from relevant state and regional conservation documents, and incorporate best available science. The 2025 SCP objectives follow S.M.A.R.T. (specific, measurable, achievable/attainable, realistic, and timely) format principles and inherently conform to best available science and adaptive management. The objectives are based on information gathered from the existing conditions assessment and span the next five years. Further details on the objectives and management responses can be found in the Maintenance and Monitoring sections below.

- **Objective 1:**
  By 2030, assess compliance with the Soil Conservation Standard and Guidelines, by collecting trail condition evaluation data for all 130 miles of authorized trails at Hungry Valley SVRA using the Green-Yellow-Red rating system and the OHV Trail Condition Evaluation Form.

  Target:
  - Maintain 130 miles of authorized trails at Hungry Valley SVRA through 2030.

- **Objective 2:**
  Through 2030, ensure trail density within the 734-acre section of the Open Riding MU at Hungry Valley SVRA does not exceed 20% of the initial trail density assessment, which was 37% bare ground.

Target:

- Maintain the trail density so it does not increase more than 20% beyond the initial assessment in the Open Riding MU through 2030. This means trail density (bare ground) will be maintained between 37%-57% within the 734-acre area.

- **Objective 3:**

  Through 2030, identify and document red-rated trail sections or features that emerge in the Native Grasslands, Open Riding Area, Sterling Canyon, and Canyon Country MUs after storm events with greater than 0.5 inches of precipitation falling over the course of 24 hours.

  Target:

  - Maintain the Native Grasslands, Open Riding Area, Sterling Canyon, and Canyon Country MUs to have zero red-rated trail sections after storm events through 2030.

- **Objective 4:**

  Through 2030, ensure soil disturbance from large special events held at Hungry Valley SVRA is minimized by keeping all activities confined to public-use areas, assuring no new user-created trails are established, and making sure no new ground disturbance occurs.

  Target:

  - Maintain special event usage areas by having zero new user-created trails, zero red-rated trail conditions, and no new ground disturbance through 2030.

- **Objective 5:**

  Using general field observations through 2030, identify and document any new red-rated trail sections or features that were not addressed by the trail condition evaluations at Hungry Valley SVRA.

  Target:

  - Maintain Hungry Valley SVRA with no new red-rated trail sections or features through 2030.

- **Objective 6:**

  Through 2030, ensure all major, non-routine maintenance activities at Hungry Valley SVRA are completed in a manner that is compliant with the Soil Conservation Standard and Guidelines and follows principles of the Mechanized Construction Maintenance Checklist.

  Target:

  - Maintain Hungry Valley SVRA compliance with the Soil Conservation Standard and Guidelines and follow the Mechanized Construction Maintenance Checklist through 2030.

4. Assessment

A desktop assessment of soil resources at Hungry Valley SVRA has been provided in Section 2. Beyond that, Hungry Valley SVRA does not currently have trail condition data; therefore, trail condition evaluations and assessment must be conducted to develop a baseline to gauge successful soil conservation and assess management actions. Assessment of trail conditions at Hungry Valley SVRA will be conducted on a rotational basis starting in 2025. A "rotational basis" means that assessment of trails will begin in one MU of the SVRA and continue to the next MU until trail and ground conditions within all MUs have been assessed. Each MU will be assessed once over a five-year period. When this is completed, the assessment process will begin again. The purpose of trail assessments and reassessments is to document soil conditions within Hungry Valley SVRA to identify maintenance/repair needs, evaluate trail performance, and establish a process for future monitoring. Assessments will be used to identify areas and trails that exhibit recurring soil loss and to analyze changes in conditions over time. Through yearly trail assessments, Hungry Valley SVRA natural resources staff will be able to identify areas of the park that need more focused maintenance and/or redesign to minimize soil loss unrelated to natural processes.

4.1. Trail Assessments

Beginning in 2025, Trail Assessments will be systematically completed over the course of five years to evaluate the condition of designated OHV trails in Hungry Valley SVRA. Each trail in the Hungry Valley SVRA trail network will be assessed once over the five years. The OHV Trail Condition Evaluation Form and Code Key will be used to rate trails green, yellow, or red and will be documented using an Excel workbook (Appendix 2).

The Trail Evaluation Form (TEF), is a standardized method of recording trail data regarding soil conservation. The TEF was created by the United States Department of Agriculture / Forest Service and has been incorporated into the California Department of Parks and Recreation, OHMVR division's Soil Conservation Standard (CDPR 2020) to be used for trail evaluations within each SVRA. The TEF requires information such as trail name, type of vehicle trail can accommodate, trail difficulty, location, and site characteristics. Each trail is broken down into defined segments and evaluated based on trail condition codes and cause codes. Trail condition codes are categorized into green, yellow, and red indicators. The condition codes are defined and categorized into water control, erosion off-trail, sediment traps, tread wear, tread width, off-trail travel, watercourse crossing approach, channel section, and outboard fill. The cause codes are a list of 20 different possible causes for why the trail is exhibiting soil loss. Trail evaluators will record comments on observations and recommendations not captured by the basic codes and any unique and non-repeatable data. Photographs and their associated file number will also be taken for representative depictions of trails segments and trail segments given a red condition code.

Trail assessments will be grouped into Hungry Valley SVRA MUs beginning at the top of the watershed at the northern portion of the park and following the watershed south. Working at the top of the watershed will also allow for a better visualization of the start of soil loss problems. As a supplement to the Trail Condition Evaluation Form, natural resources staff will also use ArcGIS Online application (e.g., Field Maps) to geospatially represent trail ratings across the park. This geographic information system

(GIS) data will be used to generate paper and/or digital maps, which will be shared with trail maintenance staff. The maps will give heavy equipment operators a visual representation of trails that need maintenance so they can prioritize maintenance activities.

Point feature ratings will be implemented in a comprehensive view of each trail segment. Point features include trail intersections and trail tread features including ruts, rills, and gullying as well as watercourse crossings. Trail drainage diversion features and drainage outlets, such as water breaks, rolling drain dips, and sediment catchments will also be assessed. Point features will be rated green, yellow, and red and will aid in determining the overall rating of each trail segment. Point features for a given trail segment will be grouped together to give an overall rating for the trail segment. A single red point feature for an otherwise green rated trail does not make the trail segment red but will inform maintenance priorities in the future.

Trail segments will be grouped into Hungry Valley SVRA MUs, split up based on trail name, and in general will be one mile in length unless observed conditions dictate the need to shorten a trail segment. Trail segments will generally start from the top of the watershed or sub-watershed and continue to the point where the trail exits the lower portion of the watershed or sub-watershed. Trail condition evaluations that start in one MU and bisect another will be confined to the original MU being assessed.

For Quality Assurance/Quality Control (QA/QC), natural resources staff will be properly trained to ensure data are consistently collected. As Trail Assessments are implemented, natural resources staff will monitor a subset of the trails together so that the ratings and methods are standardized. As assessment data are collected, the SCP will be updated to reflect that these data have been captured.

4.2. Trail Assessment Schedule

Hungry Valley SVRA trail assessments will take place in August and September when park visitation is minimal and prior to the wet season. This will allow Hungry Valley SVRA staff to conduct assessments with fewer riders in the park and in time to inform maintenance before the wet season. If additional time is needed, assessments will take place outside of those months. During this 5-year assessment schedule, trail monitoring and maintenance will continue throughout the park (see the Monitoring section for the 5-year assessment schedule).

5. Maintenance Plan

The maintenance plan outlines Hungry Valley SVRA's maintenance schedule, maintenance activities conducted, equipment used for maintenance, and documentation of maintenance. Trail maintenance is dynamic; therefore, this information will be updated annually or as needed to adapt to management objectives and persistent maintenance problems identified by the initial assessment and the monitoring plan below. Assessments through trail condition evaluations and other monitoring strategies will be used to inform maintenance activities.

5.1. Trail Maintenance Schedule

Trails are consistently maintained throughout the year based on trail condition, determined through monitoring and observation, and weather conditions. Starting in 2025, assessments through standardized trail condition evaluations and other forms of monitoring (see Monitoring Plan section below) will be used to inform trail maintenance. Most trail maintenance takes place during the rainy season (approximately November through April) when there is enough moisture in the soil to adequately work and compact trail features. Certain trails (described in the Delineation of Management Unit section above) that are susceptible to erosion after heavy precipitation are closed during rain or snow events and maintained after rain or snow has ceased. During the dry period, a water truck must be used to maintain the main roads and the Quail Canyon Motocross Track when necessary.

The trail crew consists of natural resources staff who work to maintain the trails and structures (e.g., fences, ramadas, etc.) throughout the park. General field observations are conducted by the trail crew on a weekly basis, but of particular importance are the observations after weekends, busy time periods, and special events. These trail observations inform maintenance activities, which are often conducted on an as-needed basis.

Southern California Edison (SCE) also occasionally maintains trails (mainly Powerline Road and trails in the 2015 Acquisition MU) that they use in the park to access power towers for maintenance. The trails are normally maintained with a grader. SCE has no set schedule for performing trail maintenance, and there is potential for conflict between the goals of our maintenance operations and theirs. Therefore, Hungry Valley SVRA staff are working on fostering clearer communication and a stronger collaboration between SCE and Hungry Valley SVRA, and SCE is required to notify natural resources staff when they will be conducting any kind of work in the park.

5.2. Trail Maintenance Equipment

The trail maintenance equipment consists of hand tools and tractors referred to as heavy equipment. The trail crew uses hand tools, whereas the heavy equipment operators use a variety of machinery to conduct trail maintenance activities at Hungry Valley SVRA. The heavy equipment includes road graders, mini excavators, skip loaders, backhoes, and trail dozers. The equipment used for maintaining trails is based on the trail width and the nature of the maintenance work.

5.3. Trail Maintenance Conducted

Trail maintenance activities are determined by the Hungry Valley SVRA Maintenance Department and Natural Resources Department. The type of maintenance conducted is dependent on the current condition and factors in trail difficulty/skill rating and accessibility. Easily accessible trails or wider roads and trails, such as dirt or gravel roadways that can accommodate 4x4 trucks, are maintained with a grader, whereas more difficult or narrower trails (ATV or motorcycle trails) require a dozer or mini excavator or work completed by hand.

Trail maintenance activities are largely driven by soil moisture; therefore, work is usually completed early in the rainy season when adequate moisture is available. Trail maintenance includes repair of trail tread, water breaks, drains, and sediment traps. Trail tread is maintained by repairing rills and gullies with reclaimed sediment from water breaks, berms, and sediment traps. Berms are pulled in on an annual basis in areas where they tend to build up (usually on steep cross slopes and at breaks in grade) and redistributed over trail tread. Unintended bumps in the trail tread can be ripped with heavy equipment and regraded into a smooth surface that allows for a controlled flow of water. Water breaks and drains are repaired using heavy equipment to reform the water break and drain so that they divert water properly off the trail. Sediment traps are repaired by reclaiming sediment from sediment traps and reapplying it to the trail tread.

Trail maintenance also includes the installation of new water breaks, drains, and sediment traps to reduce the amount of soil loss on a given trail. The installation of water breaks and drains allows water to run off the face of the trail without picking up enough momentum to carry sediment off the trail. Water breaks and drains become increasingly important as the slope of the trail increases. Generally, the number of necessary water breaks and drains increases as the slope and length of a trail increases. In addition to water breaks and drains, sediment traps are added to catch sediment that can be reclaimed and replaced on the trail tread.

5.4. Trail Maintenance Documentation

Trail maintenance documentation will include information on project type, project or management action location and spatial extent, project or management action timeframe, and soil moisture and weather conditions at time of maintenance. Trail maintenance is documented and entered into Maximo, a spreadsheet program, as an electronic work order. The work order contains equipment used, equipment usage hours, and location of maintenance. Trail maintenance work orders are also entered into an Excel spreadsheet as a supplemental record. General field observation notes are documented during the trail maintenance process. This information is kept as a hard copy in a binder and stored in the maintenance and/or natural resources offices.

5.5. Trail Maintenance by Management Unit

The following section details the specific maintenance activities that take place within each MU at Hungry Valley SVRA.

Oak Preserve

1) Oak Preserve: This unit contains a single dirt road that is not open to OHV use but is used by park staff and private landowners and can accommodate 4x4 trucks. This road is heavily trafficked as it is an access road to privately-owned properties to the west of the Hungry Valley SVRA boundary. OHV use is not permitted on the road, but the public can access the area by hiking in. After heavy storms, water from Frazier Mountain drains on to the Oak Preserve dirt road, which requires maintenance by park staff if the installed rolling dip fails to protect the road. Park staff maintain the dirt road with a grader as needed, but only within the Oak Preserve as we do not maintain the road beyond the Hungry Valley SVRA boundary.

Native Grasslands

2) Native Grasslands: This area is designated as trails only for OHV use, and no off-trail riding is permitted. Most trails can accommodate vehicles as large as 4x4 trucks, but some are for ATVs and motorcycles only. Gorman Trail is for motorcycles only. The soils contain more clay, which holds moisture and allows maintenance activities to be performed after heavy precipitation to prevent erosion. Trail maintenance includes repair of trail tread, water breaks, drains, and sediment traps. Trail tread is maintained by repairing rills and gullies with reclaimed sediment from water breaks, berms, and sediment traps. All berms created after fixing trail tread will be redistributed over the trail. The trails are closed during and after heavy precipitation events and prioritized for maintenance activities due to increased erosion after precipitation. Trails that are closed due to precipitation include Badger Trail, Condor Trail, Stipa Trail, and a small section of Powerline Trail. Graders, skip loaders, and dozers are used to maintain the trails in this area.

2015 Acquisition

3) 2015 Acquisition: There is no public vehicular access to this area of the park. This area may open to the public in the future once the General Plan is updated, but it is uncertain what types of recreation will be allowed. This area is accessed by park staff and Southern California Edison (SCE) via dirt access roads that are maintained by both parks and SCE operators. The roads are large enough for 4x4 trucks and to accommodate heavy equipment used by SCE to maintain their power towers. The roads are maintained with a grader or skip loader as needed after heavy precipitation.

Quail Canyon

4) Quail Canyon: This area requires management of a motocross track, which is mostly made of clay and is only used by dirt bike riders. The track is maintained almost daily for dirt bike riding and is closed on Wednesdays so track features can be reshaped. The track is also closed during heavy precipitation events or if heavy precipitation is forecasted. Runoff is diverted through culverts into a wash near the track, which helps to minimize erosion on the track. A variety of heavy equipment is used to maintain the motocross track, including dozers, a grader, and a backhoe. Special events are held at the track several times a year, and maintenance is prioritized before and after these events take place. The loop trails in the area surrounding the track are for OHV use and can accommodate vehicles as large as 4x4 trucks, but most are suitable for ATVs and motorcycles only. The loop trails must be managed for off-trail riding, which creates volunteer trails. The trails are maintained with dozers or skip loaders as needed after heavy precipitation.

EMW Acquisition

5) EMW Acquisition: There is no public vehicular access to this area of the park as it is currently closed. There are no plans to open this area to the public in the future because it is not connected to Hungry Valley proper, so OHV access would be difficult. However, there is a dirt access road in this area because of its past use as a campground. The dirt road was likely created by the first landowners who had a campground on the property. The road can accommodate vehicles as large as 4x4 trucks. The road is in good condition and rarely needs maintenance but can be maintained with a grader or skip loader as needed after heavy precipitation.

Open Riding

6) Open Riding: This area is designated as open riding for OHV use and is 3,392 acres. It has an open riding status because of inherited disturbance before Hungry Valley SVRA became a state park. When the park was purchased in 1980, this area remained open riding, whereas the rest of the park was managed differently. The open riding boundary was fenced off in the 1990s to delineate the area. This area requires management through rehabilitation of rider-created trails because of its open riding status. A lot of these created trails are redundant and remove vegetative habitat from the area, creating loose soils. Only designated trails are maintained by Hungry Valley SVRA heavy equipment operators and volunteer trails are left unmanaged. The goal of rehabilitating volunteer trails is to reduce redundant trails that all lead to the same area, increase vegetative habitat, and increase soil stability. If trails in this area become an issue (being rutted due to excessive erosion), fencing or straw bales are used to prevent riding in the damaged area. Park Rangers attempt to prevent vegetation destruction by prohibiting new trail creation through law enforcement in this area.

   The area contains all 11 of the park's campgrounds, along with ATV and motorcycle practice tracks and a 4x4 practice course. The campgrounds, practices tracks, and 4x4 course are maintained with a grader as needed, especially if heavy precipitation causes a need for maintenance in these areas. This area also has two hill climbs (South Wall and Middle Wall) that require periodic maintenance. Both South Wall and Middle Wall were rehabilitated to repair erosion damage and create a single route up and down the climbs. There are many water crossings (mostly washes) in this area that must be monitored and maintained. The trails range from single track (motorcycle width) to full size (4x4-truck width) and are maintained with graders, skip loaders, dozers, or by hand as needed after heavy precipitation. This area also contains one of the main roads in the park, which is maintained throughout the year using a grader and a water truck to introduce moisture when it has not rained.

Sterling Canyon

7) Sterling Canyon: This area is designated as trails-only for OHV use and trails can accommodate vehicles as large as 4x4 trucks. The trails are rocky with loose soils and require regular trail maintenance after heavy precipitation. The main trail in the area, Sterling Canyon Trail, is often closed after heavy rain or snowfall. The trails are maintained with a dozer as needed after heavy precipitation.

Tatavium

8) Tatavium: This area is designated as trails-only for OHV use, and trails are only accessible by ATV or motorcycle. The main trail in the area, Tatavium Trail, is occasionally closed after heavy rain or snowfall. The trails are maintained with a dozer as needed after heavy precipitation.

Hungry Valley Canyon Country

9) Hungry Valley Canyon Country: This area is designated as trails-only for OHV use and has trails ranging from single track (motorcycle width) full size (4x4-truck width). The area is characterized by badlands, washes, and canyons with loose soils, which require regular trail maintenance after heavy precipitation. Antler, Backbone, Badlands, Flying W, and Vic's Cat Trails are often closed after heavy rainfall. Due to the sandy nature of the soils, moisture is lost more quickly, and therefore maintenance is prioritized in these areas after heavy precipitation. The trails are maintained with a dozer, grader, or skip loader depending on their size and OHV use type.

South Oak Grove / Cañada

10) South Oak Grove / Cañada: This area is a designated as trails only and contains one of the main roadways into Hungry Valley SVRA. Besides the road, there are no other trails in this area and no new trails are planned. The road is maintained throughout the year using a grader and a water truck to introduce moisture when it has not rained. There is also a major drainage crossing in this area where water is flowing from the north of the park and into the Cañada de Los Alamos, which eventually connects to Pyramid Lake to the south. This drainage is known as Kinsey Crossing and the crossing is maintained with a grader as needed after heavy precipitation.

Hungry Valley Facilities

11) Hungry Valley Facilities: This area is not open to OHV riding and is mainly used by Hungry Valley SVRA employees. This area contains offices, residences, and a dormitory. The public does not use this area to access the park except the main paved access road (Orwin Way) that runs along the southeastern boundary of the park and leads to the park's south entrance. Staff use connector trails in this area to access the park by OHVs, and these trails are maintained as needed with a dozer. State housing gravel driveways are maintained as needed using a grader or dozer.

6. Monitoring Plan

The overall intent of the Monitoring Plan is to implement a monitoring program that gauges the effectiveness of maintenance actions and projects, ensures OHV trails, roads, and other facilities are in compliance with the Soil Conservation Standard through recurring assessments, and to capture annual maintenance needs. The objectives span the next five years. The following are broad objectives of the Monitoring Plan, and each is expanded on in the sections below:

- Evaluating the condition of authorized OHV trails annually to determine maintenance needs and priorities.
- Ensuring there is no trespass into non-OHV areas.
- Ensuring unauthorized volunteer trails do not extend into trails-only riding areas.

- Monitoring drainages and water crossings for excessive or otherwise unnatural erosion.
- Identifying areas in need of repair after storm events.
- Pre-approving special event routes and performing post-event inspections for maintenance needs.
- Ensuring maintenance activities are effective and implemented as intended.

In addition to the monitoring components described above, natural resources staff conduct opportunistic visual monitoring as a part of the daily activities at Hungry Valley SVRA. General field observations are conducted by the trail crew on a weekly basis, but of particular importance are the observations after precipitation events, weekends, high visitation, and special events. These trail observations inform maintenance activities, which are often conducted on an as needed basis.

6.1. Monitoring Schedule

The monitoring activities outlined in the following sections generally follow a monitoring schedule (Table 3).

Table 3. Monitoring plan schedule for Hungry Valley SVRA.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Trail Condition Evaluation								Done just before rainy season.				
Trail Photo Monitoring	Done as needed year-round.											
Miscellaneous Photo Monitoring	Done as needed year-round.											
Open Riding Area Monitoring	Done in conjunction with other management activities year-round.											
Post Precipitation Event Inspections	Done as needed.									Done as needed.		
Special Event Monitoring	Done as needed year-round.											
General Field Observations	Done in conjunction with other management activities year-round.											
Post-Maintenance Monitoring	Done after maintenance activities year-round.											

6.2. Trail Condition Evaluation

Objective 1: By 2030, assess compliance with the Soil Conservation Standard and Guidelines, by collecting trail condition evaluation data for all 130 miles of authorized trails at Hungry Valley SVRA using the Green-Yellow-Red rating system and the OHV Trail Condition Evaluation Form.

- Year 1: As natural resources staff become familiar with assessing trails using the Trail Condition Evaluation Form, trail assessments will be conducted in the northern portion of Hungry Valley SVRA at the top of the watershed. This area of Hungry Valley SVRA will include the 2015 Acquisition and Native Grasslands management units.

- Year 2: Trail assessments will continue south along the watershed. Resource staff will have more experience after year one and will be more comfortable with the Trail Condition Evaluation Form. The Sterling Canyon, Open Riding Area, and Hungry Valley Canyon Country management units will be assessed during year two.

- Year 3: Trail assessments will include any management units that were left over from year two and continue south to the Oak Preserve, Tatavium, and Quail Canyon management units.

- Year 4: Trail assessments will include any management units that were left over from year three and continue south to the South Oak Grove/Cañada and EMW Acquisition management units.

- Year 5: Trail assessments will include any management units that were left over from year four and conclude with the Hungry Valley Facilities management unit.

Target:

- Maintain 130 miles of authorized trails at Hungry Valley SVRA through 2030.

Monitoring and Management Response: If no issues are found during trail assessments, no actions are needed in that area. If problems are identified, a prioritized maintenance list will be generated within two weeks of trail assessments to repair any issues and perform maintenance needs within one month of discovery. This will ensure there are no red-rated trail sections or features. Problem areas may have photos taken to document before and after images.

Trail Condition Evaluations, as described in the 2020 Soil Conservation Standard (CDPR 2020), will be systematically completed over five years to evaluate the condition of designated OHV trails in Hungry Valley SVRA. The OHV Trail Condition Evaluation Form will be used, and trails will be rated using the green, yellow, red (GYR) Code Key (Appendix 2). These evaluations will be used for an initial assessment and repeated over time to allow ongoing monitoring of changes in trail conditions. Trails in areas with high erosion hazard and use levels (Native Grasslands, Open Riding Area, Sterling Canyon, and Canyon Country MUs) will be prioritized in the order and frequency of trail evaluations. In addition to the Trail Condition Evaluation Form, trail conditions will be documented on ArcGIS Online using the Field Maps application.

6.3. Open Riding Area Monitoring

Objective 2: Through 2030, ensure trail density within the 734-acre section of the Open Riding MU at Hungry Valley SVRA does not exceed 20% of the initial trail density assessment, which was 37% bare ground.

Target:

- Maintain the trail density so it does not increase more than 20% beyond the initial assessment in the Open Riding MU through 2030. This means trail density (bare ground) will be maintained between 37%-57% within the 734-acre area.

Monitoring and Management Response: If trail density remains below 20% of the initial assessment percentage, we have met our goal. However, if trail density increases by 20% or more from the initial assessment, resources staff will identify new trail development and revegetate affected areas. Any projects identified will be reviewed pursuant to CEQA prior to implementation. Analysis using GIS software and land imagery will provide a percentage of bare ground and vegetation cover.

Park staff observe and monitor the 734-acre Open Riding MU section (Fig. 9) for newly damaged vegetation that could result in new trail creation. If an excessive number of new trails are being created, especially those that encroach on trails-only riding areas, new trails will be blocked off with either fencing or hay bales to minimize the trail density of the area and allow natural revegetation to occur.

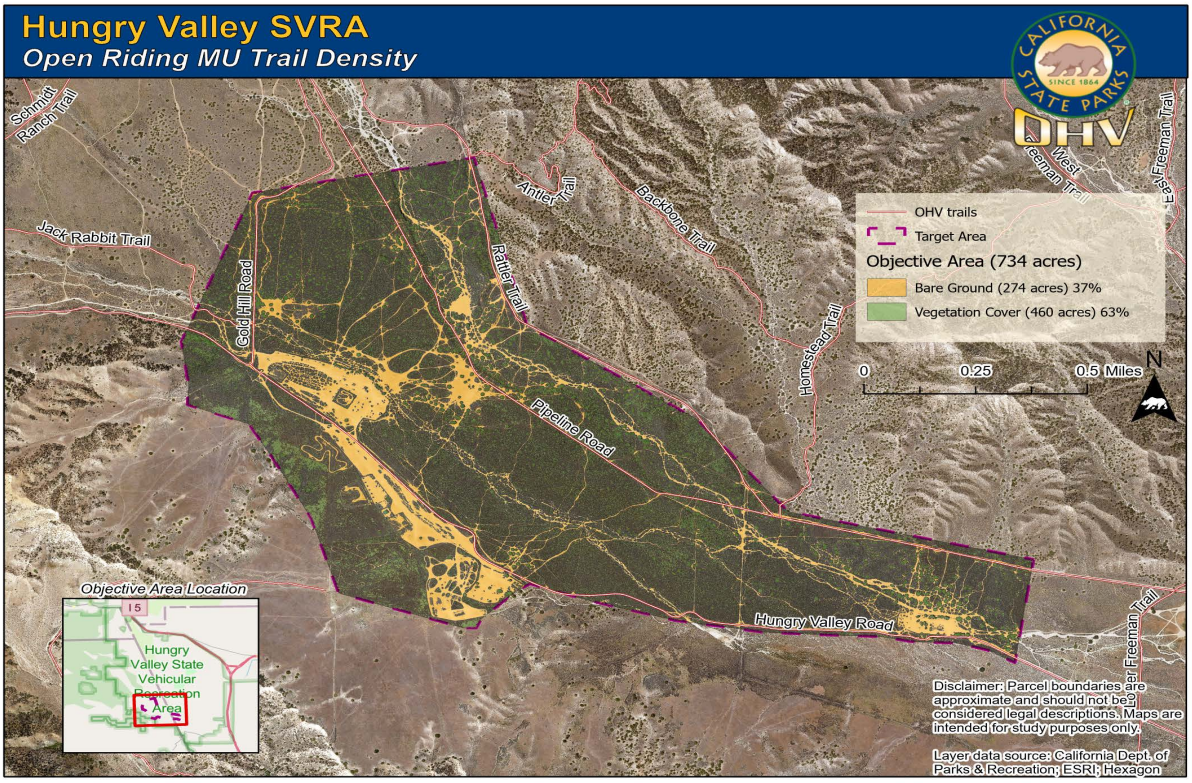

Figure 9. The 734-acre section of the Open Riding MU showing percentage of bare ground and vegetation cover.

6.4. Post Precipitation Event Inspections

Objective 3: Through 2030, identify and document red-rated trail sections or features that emerge in the Native Grasslands, Open Riding Area, Sterling Canyon, and Canyon Country MUs after storm events with greater than 1 inch of precipitation falling over the course of 24 hours.

Target:

- Maintain the Native Grasslands, Open Riding Area, Sterling Canyon, and Canyon Country MUs to have zero red-rated trail sections after storm events through 2030.

Monitoring and Management Response: Within two weeks of major storm events, perform inspections of known problem areas in the Native Grasslands, Open Riding Area, Sterling Canyon, and Canyon Country MUs based on their erosion hazard. If no issues are found during inspections, no actions are needed. If problems are identified, a prioritized maintenance list will be generated to mitigate issues and perform maintenance needs. All red-rated trail sections and features resulting from the storm, especially in areas of high erosion hazard that may present recurring issues (i.e., Native Grasslands, Open Riding Area, Sterling Canyon, and Canyon Country MUs), will be repaired within one month following a storm event. These areas will be monitored for future issues after storm events. Problem areas may have photos taken to document before and after images.

After heavy precipitation events, park staff inspect the roads and trails to assess damage and problem areas. Trails in MUs with high erosion hazard (Native Grasslands, Open Riding Area, Sterling Canyon, and Canyon Country MUs) are prioritized for these inspections. Based on Trail Condition Evaluations, trails with existing issues of erosion are noted so that when a precipitation event occurs, those trails can be prioritized for maintenance. Trail photos will be taken as needed in MUs with high erosion hazard (listed above) and deemed high risk for potential failure due to drainage issues or blow outs. These photos will be taken after heavy precipitation events when trails are more susceptible to damage and are more likely to require timely maintenance.

After a precipitation event, there is a short window of time for maintenance to take place before the soil moisture evaporates. Park staff inform the district's heavy equipment operator(s) of the trails in need of repair. Conducting maintenance and repair after a precipitation event does not necessarily mean the park is out of compliance with the Soil Conservation Standard or that there is a sediment effect beyond the park's boundary, but trail sections may be temporarily closed due to safety issues. An annual summary of post precipitation event inspections will be included as an appendix in the Compliance Report and Action Plan.

6.5. Special Event Monitoring

Objective 4: Through 2030, ensure soil disturbance from large special events held at Hungry Valley SVRA is minimized by keeping all activities confined to public-use areas, assuring no new user-created trails are established, and making sure no new ground disturbance occurs.

Target:

- Maintain special event usage areas by having zero new user-created trails, zero red-rated trail conditions, and no new ground disturbance through 2030.

Monitoring and Management Response: Pre- and post-event monitoring will occur after large special events to monitor soil-related impacts. If pre- and post-event inspections show no new ground disturbance or other issues, no actions are needed. If inspections determine special events are causing issues, natural resources staff will work with the special event coordinator to address issues and to add verbiage to special event permits that further stresses the importance of following guidelines. If issues continue, use of special event areas will be limited or prevented to reduce soil-related impacts.

The natural resources staff at Hungry Valley SVRA will visually inspect special event routes before and after the event takes place. Typically, there are several special events at Hungry Valley SVRA each year. Special event permit forms (DPR 246) for Hungry Valley SVRA usually contain the following guidelines pertaining to soil:

- All vehicles, equipment, and animals will be confined to public access roads, campgrounds, or parking lots to avoid activities that may cause soil disturbance.
- No new trail creation shall be permitted.
- No new ground disturbance shall occur.

6.6. General Field Observations

Objective 5: Using general field observations through 2030, identify and document any new red-rated trail sections or features that were not addressed by the trail condition evaluations at Hungry Valley SVRA.

Target: Maintain Hungry Valley SVRA with no new red-rated trail sections of features through 2030.

Monitoring and Management Response: If no issues are found during general field observations, no actions are needed. If a red-rated trail condition is identified, a prioritized maintenance list will be generated to fix any issues and perform maintenance needs within two weeks of discovery. The area will also be monitored for future issues.

These observations are performed in conjunction with other management activities in the park and can trigger routine maintenance in MUs. General field observations can inform the monitoring schedule and determine if adjustments in monitoring activities are needed.

6.7. Post-Maintenance Monitoring

Objective 6: Through 2030, ensure all major, non-routine maintenance activities at Hungry Valley SVRA are completed in a manner that is compliant with the Soil Conservation Standard and Guidelines and follows principles of the Mechanized Construction Maintenance Checklist.

Target:

- Maintain Hungry Valley SVRA compliance with the Soil Conservation Standard and Guidelines and follow the Mechanized Construction Maintenance Checklist through 2030.

Monitoring and Management Response: Within a week following major, non-routine maintenance activities, natural resources staff will perform site visits to ensure maintenance was executed properly and effectively according to the Soil Conservation Standard and Guidelines. Staff will ensure the maintenance checklist was implemented and adhered to. If the maintenance has sufficiently repaired the issue, no action is needed. If more repairs are needed, natural resources staff will work with the heavy equipment operator(s) to continue repairing the area.

Staff perform site visits after non-routine maintenance activities to ensure the maintenance was executed properly and effectively. Non-routine maintenance activities include repairing washed out trails, targeted trail projects, or SCE trail maintenance activities. This monitoring is to confirm that the issue was resolved or determine if additional work is needed.

Post-maintenance monitoring will ensure that maintenance activities follow the guidance in Appendix 4 of the Soil Conservation Standard and Guidelines (CDPR 2020). This includes ensuring that

maintenance activities disturb or mobilize as little sediment or vegetation as necessary to meet the objectives.

7. Compliance Report and Action Plan

A Compliance Report will be written and submitted each year. The report will discuss progress on achieving SCP objectives and include a change analysis documenting improvements between yearly trail assessments and documentation of maintenance activities and infrastructure improvements.

An Action Plan will be written and submitted as part of the Compliance Report each year. This plan will include a list of planned actions that Hungry Valley SVRA will implement to guarantee continued adherence to the Soil Conservation Standard (CDPR 2020). A description of future projects and planned work for the upcoming year will also be described in the Action Plan.

8. References

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9. Appendices

Appendix 1 – Trail Table and Trail Closure Map

Table 4. Hungry Valley State Vehicular Recreation Area (SVRA) campsites, practice tracks, trails, and roads. Included is the type of equipment used to maintain the trail/site, the type of off-highway vehicle (OHV) that can use the area, if the area is closed after heavy precipitation, the management unit (MU) the area falls in, and the approximate mileage of the trail.

Campground	Equipment Type Needed	Trail Size Capacity	Precipitation Closure	Management Unit	Trail Length (miles)
Aliklik	Grader / Skip Loader	Truck	No	Open Riding	N/A
Circle Canyon	Grader / Skip Loader	Truck	No	Open Riding	N/A
Cottonwood	Grader / Skip Loader	Truck	No	Open Riding	N/A
Edison	Grader / Skip Loader	Truck	No	Open Riding	N/A
Lane Ranch	Grader / Skip Loader	Truck	No	Open Riding	N/A
Lower Scrub Oaks	Grader / Skip Loader	Truck	No	Open Riding	N/A
Smith Forks	Grader / Skip Loader	Truck	No	Open Riding	N/A
Sterling	Grader / Skip Loader	Truck	No	Open Riding	N/A
Upper Scrub Oaks	Grader / Skip Loader	Truck	No	Open Riding	N/A
Quail Canyon Track	Multiple	Motorcycle	Yes	Open Riding	N/A
Practice Track	Sutter	Motorcycle	No	Open Riding	N/A
Kids ATV Track	Sutter	ATV	No	Open Riding	N/A
Adult ATV Track	Sutter	ATV	No	Open Riding	N/A
Mini Track	Sutter	Motorcycle < 150cc	No	Open Riding	N/A
4X4 Practice Track	Multiple	Truck	No	Open Riding	N/A
Trail Name	**Equipment Type Needed**	**Trail Size Capacity**	**Precipitation Closure**	**Management Unit**	**Trail Length (miles)**
Antler Trail	Sutter / Mini Excavator	ATV	Yes	HV Canyon Country	0.54
Backbone Trail	Sutter / Mini Excavator	ATV	Yes	HV Canyon Country	3.54
Badger Trail	Sutter / Mini Excavator	Truck	Yes	Native Grasslands	0.92
Badlands Trail	Sutter / Mini Excavator	ATV	Yes	HV Canyon Country	2.5
Brome Trail	Sutter / Mini Excavator	ATV	Yes	Native Grasslands	0.78
Circle Canyon Trail	Dozer / Skip Loader	Truck	No	Open Riding Area	0.74
Condor Trail	Dozer / Skip Loader	Truck	Yes	Native Grasslands	1.65
Cougar Trail	Dozer / Skip Loader	Truck	No	Open Riding Area	0.38
Cow trail	Sutter / Mini Excavator	ATV	No	Native Grasslands	4.75
Coyote Trail	Sutter / Mini Excavator	ATV	No	Sterling Canyon	0.71
East Freeman Trail	Sutter / Mini Excavator	Truck	No	HV Canyon Country	2.95
Edison Canyon Trail	Dozer / Skip Loader	Truck	No	Open Riding	0.69
Flat Fanny Trail	Sutter / Dozer	Truck	No	HV Canyon Country	0.7
Flying W Trail	Sutter / Mini Excavator	ATV	Yes	HV Canyon Country	0.74
G.P. Loops	Skip Loader	ATV	No	Quail Canyon	4.29
Gold Hill Road	Grader	Truck	No	Open Riding and Native Grasslands	7.5
Gorman Trail	Sutter / Mini Excavator	Motorcycle	No	Native Grasslands	1.64
Homestead Trail	Sutter / Dozer	Truck	No	HV Canyon Country	1.3
Hungry Valley Road	Grader	Truck	No	South Oak Grove and Open Riding	5.12
Jack Rabbit Trail	Dozer / Skip Loader	Truck	No	Open Riding	0.93

Trail Name	Equipment Type Needed	Trail Size Capacity	Precipitation Closure	Management Unit	Trail Length (miles)
Lower Brome Trail	Sutter / Mini Excavator	ATV	Yes	Native Grasslands	1.13
Lower Freeman Trail	Dozer	Truck	No	HV Canyon Country	1.69
Masons Trail	Sutter / Mini Excavator	ATV	Yes	Native Grasslands	0.32
Maxey Ranch Road	Dozer / Skip Loader	Truck	No	Open Riding	2.04
Meadows Trail	Dozer / Skip Loader	Truck	Yes	Open Riding	2.42
Mesa Trail	Sutter / Mini Excavator	ATV	Yes	Native Grasslands	4.18
Old Cottonwood Trail	Dozer	Truck	No	Open Riding	1.67
Old Doe Trail	Sutter / Mini Excavator	ATV	Yes	HV Canyon Country	0.44
Peace Valley Road	Grader	Truck	No	Native Grasslands	N/A
Pipeline Road	Dozer / Skip Loader	Truck	No	Open Riding	4.24
Powerline Road	Dozer / Skip Loader / Grader	Truck	Yes	HV Canyon Country and Native Grasslands	10.3
Pronghorn Trail	Dozer	Truck	No	HV Canyon Country	5.18
Quail Canyon Road	Grader	Truck	No	Quail Canyon	1.36
Quail Pass Trail	Sutter / Dozer	ATV	No	Quail Canyon	2.29
Rattler Trail	Dozer / Skip Loader	Truck	No	Open Riding	4.54
Raven Ridge Trail	Sutter	Motorcycle	Yes	HV Canyon Country	4.31
Red-tail Canyon Trail	Dozer / Skip Loader	Truck	No	Open Riding	N/A
Road Runner Trail	Dozer / Skip Loader	ATV/Truck	No	Open Riding	6.24
Salt Lick Trail	Dozer / Skip Loader	Truck	No	Native Grasslands	1.41
Schmidt Ranch Road	Dozer / Skip Loader	Truck	No	Open Riding	1.8
Sewer Line Road	Grader	Truck	No	Native Grasslands	1.0
Steer Bones Trail	Sutter	ATV	Yes	HV Canyon Country	1.1
Sterling Canyon Trail	Skip Loader	Truck	Yes	Sterling Canyon	1.51
Stipa Trail	Skip Loader	Truck	Yes	Native Grasslands	1.52
Tatavium Trail	Sutter / Mini Excavator	ATV	No	Tatavium	1.75
Upper Brome trail	Sutter / Mini Excavator	ATV	Yes	Native Grasslands	1.0
Vic's Cat Trail	Sutter / Mini Excavator	ATV	Yes	HV Canyon Country	0.55
West Freeman Trail	Dozer / Grader	Truck	No	HV Canyon Country	2.8
Wheatfield Trail	Skip Loader	Truck	No	Native Grasslands	0.83

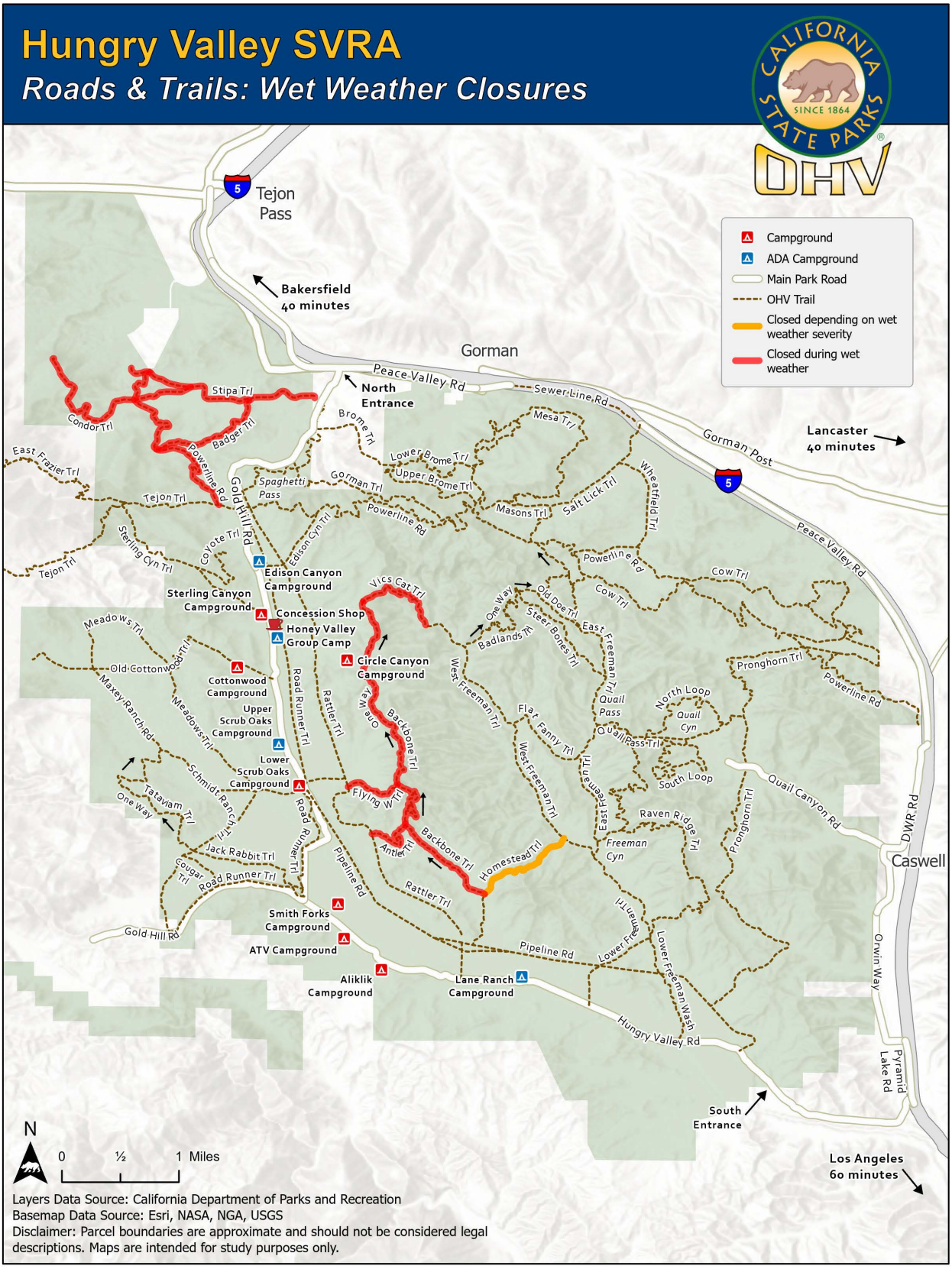

Figure 10. Map depicting trail closures during precipitation events at Hungry Valley SVRA.

Appendix 2 – Trail Evaluation Form

I. Form Header Information

Trail Name / No.
Enter name and/or number of the trail for the rated segment.

Vehicle Type
Circle one or more of the vehicle types, MC (motorcycle), ATV (all-terrain vehicle), or 4x4 (four wheel drive), or SM (snow mobile).

Trail Difficulty
Circle one of the trail difficulties, easiest, more difficult, most difficult.

USGS Quad
Enter the name of the USGS topographic map quadrangle on which the rated segment occurs.

Planning Watershed
Enter in either the name or the code for the CalWater (2.2) planning watershed in which the trail occurs (http://www.ca.nrcs.usda.gov/features/calwater/).

Begin Segment
Enter the location where the rated segment starts. This could be a GPS file designation, a named trail junction, a milepost, etc.

End Segment
Enter the location where the rated segment ends. This could be a GPS file designation, a named trail junction, a milepost, etc.

Site Characteristics
Give a generic description of the site and soil-related conditions that exist along the trail.

Soil/Geology
Enter a brief description of the soil and/or geologic units on which the trail segment is located. Information can be provided from field observations by a qualified soil scientist or geologist, or it may be obtained from NRCS or USFS soils maps, geological publications listed in the California Geological Survey (CGS) geology/soils index and website, and other published and unpublished reports including various planning documents.

Vegetation
Enter a brief description of the primary vegetation present in the vicinity of the trail.

Range of Side Slopes

Circle the range of side slope percent (%) that the segment of trail crosses.

Trail Slope
Enter the average trail slope and the maximum trail slope in percent (%) for the segment evaluated.

Rating (GYR)
As the final step in completing the form, enter the recommended overall rating for the whole segment. Enter only *one* letter for the rating: a G, Y, or R.

GPS Ref
Enter the file name of the GPS record. Add location information following post-processing of the GPS record.

Rated By
Enter your name or initials as the rater.

Date
Enter the date the field observations were made and recorded.

Reviewed By
Signature of responsible official who reviewed and acted on the rating.

Date
Date reviewed by responsible official.

Page __ of __
Enter page number and total number of pages used to rate the segment.

II. Form Body Information

Column 1 – Section; Begin – End
For features with a length dimension, enter the beginning and ending distance of that feature, e.g. 1200 feet to 1500 feet for a 300foot feature. Distance can either be from an established reference point such as a trail marker (mile post) or intersection, or the GPS file designation for the beginning and ending points.

Column 2 - Section Length Enter the length of the section being evaluated
and note whether it is an estimate or has been measured.

Column 3 - Trail Slope
Enter the slope (grade) of the tread surface for the section evaluated as a percent (%) If the slope varies, enter the range followed by the slope most typical for the section in parentheses, e.g. 3 – 25% (6%).

Column 4 - Crossings

Facing downstream, every crossing has three primary components: the left approach (LA), the right approach (RA) and the channel section (CS). Enter a checkmark (√ or X) in the column corresponding to the part of the crossing being evaluated, e.g. LA for left approach. Rate each component on a separate line. Rate each approach according to G7, Y7, or R7. Rate each channel section according to G8, Y8, or R8. Record the condition of all watercourse approaches even if the rating is a G7. This serves as documentation that the approach was evaluated.

	Approach Length (from last water break or drainage divide to channel)		
Trail Gradient	< 30 feet	30 – 150 feet	> 150 feet
< 8 %	G7	G7	Y7
8 – 20%	G7 or Y7	Y7 or R7	R7
> 20%	Y7 or R7	R7	R7

Guidelines for Rating Approaches to Watercourse Crossings

The key concept is sediment delivery. Where runoff water from a trail is drained onto a natural slope a long distance from a watercourse, most sediment is filtered out before it can reach a watercourse.

Column 5 - GYR Condition Codes

Enter the appropriate condition code using the Green, Yellow, Red indicators of trail conditions listed as guidelines. More detailed descriptions are presented in the expanded 2008 Soil Conservation Guidelines/Standards for OHV Recreation Management.
Where variable conditions are encountered, the rater will have to use good judgment using the condition codes as an overall guide. Additional details can be written in the comments section of the form.

Column 6 - Cause Codes

Using the cause codes provided as guidelines, enter a cause code for each trail section where a condition code was entered in Column 5. More detailed cause code descriptions are presented in the expanded 2008 Guidelines/Standards. Most trail condition problems have multiple causes. Generally, one to three causes, listed in order of importance, will be enough to describe the problem. If the cause of an observed condition is unique, then describe that cause in the comments column. A cause code combined with a GYR condition code will usually both describe the problem and identify a treatment.

Column 7 – Comments

Record observations and recommendations not captured by the basic codes, including unique non-repeatable data.

Column 8 – Photograph Number (s)

Enter the identification number(s) for photographs taken of the evaluated section. As a minimum, one photo should be taken for each section given a Red condition code. If the entire trail segment has been rated Green, take at least one photograph of a representative section of the trail segment.

OHV Trail Condition Evaluation Form

Trail Name _____Trail No. _____ Vehicle Type: MC ATV 4x4 SM Trail Difficulty: easiest, more difficult, most difficult
USGS Quad _____ Planning Watershed _____ Begin Segment _____ End Segment _____
Site Characteristics: Soil/Geology _____ Vegetation _____ Side Slopes: 0-30% 30-50% >50%
RATING (**G**,**Y**,**R**) _____GPS Ref _____ Avg Trail Slope ___% Max Trail Slope ____% Rated By _____ Date _____ Reviewed By ____ Date ____ Page __ of __

Section B = Begin E = End	**Section Length**	**Trail slope**	**Crossings LA**	**CS**	**RA**	**Condition Codes**	**Cause Codes**	**Comments**	**Photograph Numbers**
B E									
B E									
B E									
B E									
B E									
B E									
B E									
B E									

OHV Trail Condition Evaluation Code Key

Green		Yellow		Red	
G1	**Water control** is provided by enough functional water breaks to divert runoff from the trail before it has the volume and velocity to cause erosion. Where present, rills occur on less than 1/3 of the distance between water breaks.	Y1	Water breaks do not divert all runoff from the trail because they are nearly filled to capacity and/or are partially breached, or spaced too widely. Where present, rills occur on more than 1/3 of the distance between water breaks	R1	Water breaks no longer divert runoff from the trail because they are full and/or have been breached, or are absent or spaced too widely. Gully or rill erosion may be present.
G2	No accelerated **erosion off-trail.** Runoff at water break outlets and on slopes adjacent to the trail is dispersed effectively. Vegetation or litter filters all sediment.	Y2	Rill erosion and/or sediment deposition occurs at water break outlets and/or on slopes adjacent to the trail. All sediment is filtered or deposited before it reaches a watercourse.	R2	Gully erosion occurs at water break outlets or on slopes adjacent to the trail and/or sediment is transported to a Type I or Type II watercourse.
G3	**Sediment traps**, where present, are functional and have adequate capacity for at least one season of use. Trapped sediment can be retrieved during normal maintenance.	Y3	Where present, most sediment traps are full or nearly full, but still functional. Most trapped sediment can be retrieved during normal maintenance.	R3	Where present, sediment traps have been breached and have a plume of sediment and/or a gully below the breach. Most sediment cannot be retrieved.
G4	**Tread wear** is minimal. Tread is generally incised less than 6 inches. Tread wear is generally evident on less than 1/3 of the distance between water breaks or on less than 1/3 of the tread width.	Y4	Tread wear is evident. Tread is generally incised 6 to 12 inches and tread wear is generally evident on more than 1/3 the distance between water breaks and on more than 1/3 of the tread width.	R4	Tread wear is severe. Tread incision is generally greater than 12 inches deep and tread wear is generally evident on the entire distance between water breaks.
G5	**Tread width** is generally no greater than 1.5 times the design width for the designated use.	Y5	Tread width is generally greater than 2 times the design width for the designated use and appears to be increasing.	R5	Tread width is generally greater than 3 times the design width for the designated use and has caused or is causing erosion, sedimentation, and damage to vegetation.
G6	**Off-trail travel is** limited to single tracks or single passes generally less than 300 feet long. Tracks are not eroded and have little effect on water control.	Y6	Off-trail travel is common, well defined, and generally greater than 300 feet long. Water control is inadequate and some erosion is apparent.	R6	Off-trail travel has caused severe resource damage, gully erosion, eroded hill climbs, or extensive damage to vegetation and/or sensitive habitat.
G7	**Approach to watercourse crossing** is short and has a gentle gradient. Tread is stable, shows little evidence of erosion, and is at design width. No damage to riparian vegetation outside the tread.	Y7	Approach to watercourse crossing is short and steep or long and gentle. Tread may show some evidence of erosion and may show evidence of widening. Minimal damage to riparian vegetation.	R7	Approach to watercourse crossing is both steep and long and/or tread is unstable and shows evidence of accelerated erosion. Approach may be widening and damaging riparian vegetation.
G8	**Channel Section** has only minor channel widening, minor bank erosion, no bars.	Y8	Channel Section has widened moderately, modest bank erosion, modest lateral and/or mid-channel bars.	R8	Channel Section has widened significantly, extensive bank erosion, large lateral and mid-channel bars.
G9	**Outboard Fill** is stable. Exhibits minor surficial sloughing without sediment transport	Y9	Outboard Fill is distressed. Exhibits cracking and Moderate sloughing w/ limited sediment transport.	R9	Outboard Fill has failed and sediment is moving down slope.

	CAUSE CODES		CAUSE CODES
C1	Water breaks not constructed to design standards	**C11**	Rocks or roots exposed in tread
C2	Water break spacing is too wide for conditions	**C12**	Barriers (natural or constructed) to control traffic are lacking
C3	Cascading runoff from a trail or road upslope	**C13**	Mechanical erosion makes maintenance ineffective
C4	Cascading runoff from an impervious surface upslope	**C14**	Storm intensity unusual or unique for the area
C5	Wet area caused by a seep or spring	**C15**	Design / layout /construction prevents effective drainage
C6	Excess soil moisture at time of use	**C16**	Uncompacted sidecast on outboard slope
C7	Trail section is poorly located (describe)	**C17**	Berms, Whoops, and stutter bumps
C8	Trail gradient is too steep for the type and/or amount of use occurring	**C18**	Crossing alters channel dimensions and/or stream gradient.
C9	Segment is not designed for the type or amount of use occurring	**C19**	Rutting or vegetation damage to meadow, spring, wet area, riparian area
C10	Trail Blockage, e.g. brush, logs, rockfall, landslide	**C20**	Segment is not designed for the type and amount of use occurring