NORTH TABLE MOUNTAIN ECOLOGICAL RESERVE

Land Management Plan

Prepared for:
State of California
The Resources Agency
Department of Fish and Game

December 2006

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NORTH TABLE MOUNTAIN ECOLOGICAL RESERVE

Land Management Plan

Approved by:

10/7/07

Acting Regional Manager — Date

11/9/07

Acting Deputy Director for Regional Operations — Date

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CHAPTER 1
Summary

This land management plan serves to help direct the management of the North Table Mountain Ecological Reserve to fulfill the acquisition goals of preserving and protecting the Northern Basalt Flow Vernal Pools habitat type and the rare and sensitive plants and animals that inhabit North Table Mountain. One of its most important components is the documentation of the historic range management practices that have been implemented on North Table Mountain for at least the past 45 years. Despite the impacts of non-native invasive plant species, range management practices have contributed to maintaining spectacular wildflower blooms that draw many visitors from near and far to the North Table Mountain Ecological Reserve. The popularity of the Reserve poses a critical management challenge that will require balancing the primary purpose of the Reserve with the impacts of increasing visitor use of the Reserve. Neither of these factors is well documented and their quantification should be instituted as an important management data gathering activity.

CHAPTER 2
Introduction

Purpose of Acquisition

The North Table Mountain Ecological Reserve (NTMER or Reserve) was acquired primarily to preserve and protect the rare Northern Basalt Flow Vernal Pools habitat type that supports sensitive plants and animals that are either locally endemic or unique to California. Northern Basalt Flow Vernal Pools habitat is found in only four localities in California. Sensitive plant and animal species that occur on the NTMER include Butte County meadowfoam (*Limnanthes floccosa* ssp. *californica*), Butte County golden clover (*Trifolium jokerstii*), Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*), and California horned lizard (*Phrynosoma coronatum frontale*).

Acquisition History

Acquisition of the NTMER was first proposed to and approved by the Wildlife Conservation Board in 1990, but the purchase was postponed until the landowner was able to transfer the title free of liens. On August 23, 1993, the acquisition was again proposed and approved by the WCB and on October 13, 1993, NTMER was acquired by the State of California. Funds for this acquisition were provided by Proposition 70, a 1988 voter approved initiative that designated funds specifically for the acquisition of Significant Natural Areas as identified by the Department of Fish and Game (CDFG). Approximately 3,273 acres were purchased at that time, and an additional 42 acres were acquired on December 24, 1997, for a total of 3,315 acres. The additional land was purchased to enable direct public access to the NTMER from the gravel parking lot on Cherokee Road.

Purpose of This Management Plan

The primary goal of this Management Plan is to protect and preserve the Northern Basalt Flow Vernal Pools habitat type and sensitive species on the NTMER. Other goals include:

- Providing direction for the NTMER management goals that are consistent with the acquisition purpose, the California Environmental Quality Act (CEQA), the California Endangered Species Act (CESA), and other pertinent laws.

- Guiding habitat, species, and programs management to achieve the CDFG's mission to protect and enhance plant and animal species for their ecological value and enjoyment by the public.

- Providing an overview of the NTMER operation, maintenance, and personnel needs to implement management goals and to serve as a planning aid for annual budget preparation.

- Providing a description of potential and actual environmental impacts that may occur during management activities, identify mitigation actions to negate or reduce any potential impacts, and provide necessary environmental documentation for compliance with state and federal statutes and regulations.

CHAPTER 3
Property Description

Geographical Setting

North Table Mountain (NTM) is located in Butte County approximately five miles north of the city of Oroville (Figure 1). It juts out into the Sacramento Valley along the western edge of the foothills of the Sierra Nevada. Its prominence in the landscape is due to its unique geological history, which is described below. Access to NTMER is provided by Cherokee Road (Figure 2), which is accessed from the south through State Highway 149 or from the north through State Highway 70. Official access is through a small parking lot on the west side of Cherokee Road. There is no designated trail system but a network of permanent and seasonal trails have been established by visitor use patterns. The NTMER itself encompasses 3,315 acres.

Property Boundaries and Adjacent Lands

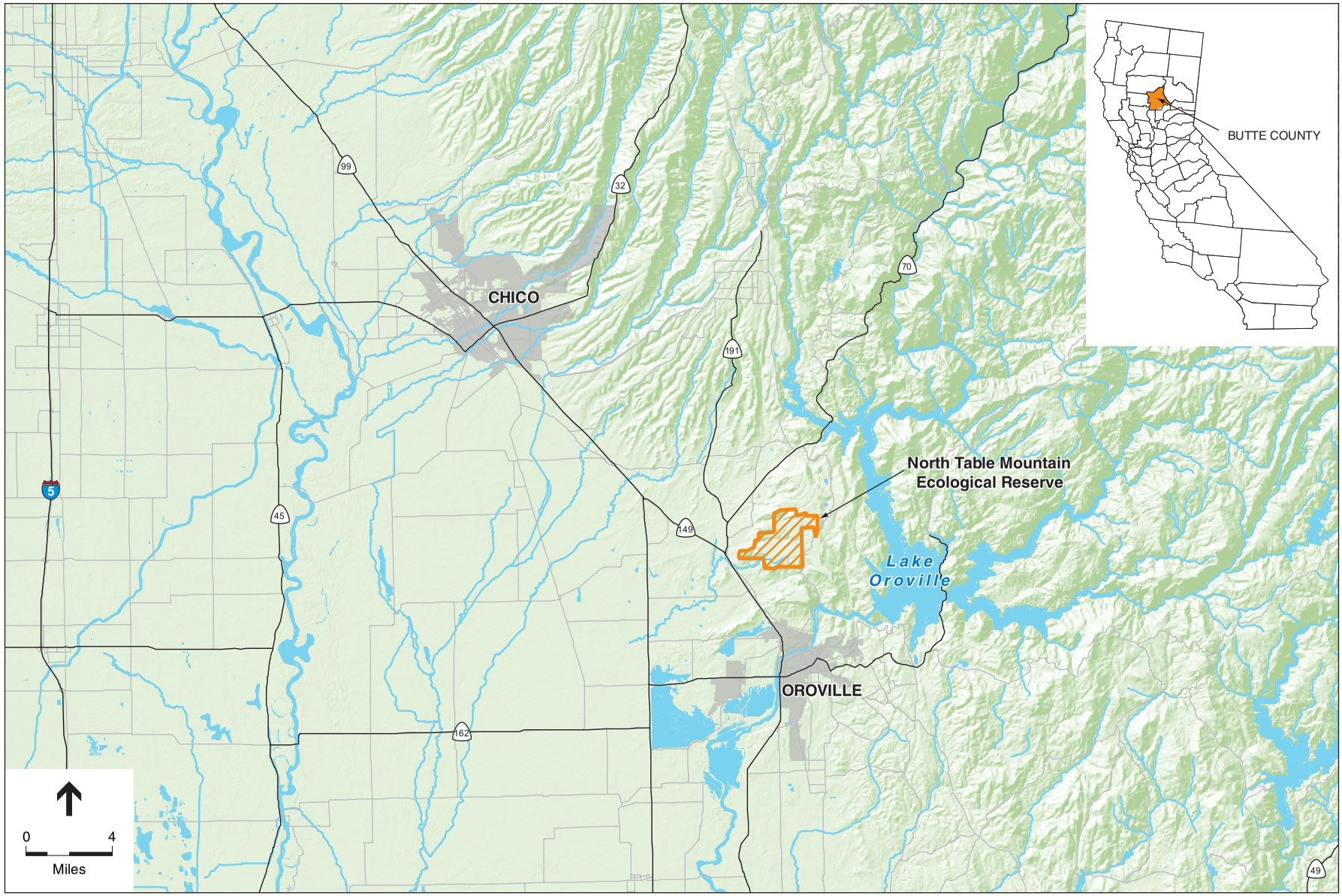
All surrounding lands are privately owned and are used as rangelands or for mining. Cherokee Road parallels the eastern side of the NTMER (Figure 2). The NTMER is located in the Oroville 7.5-minute United States Geological Survey (USGS) topographic quadrangle (quad) (Figure 3).

Geology, Soils, Climate, and Hydrology

North Table Mountain (NTM) is an isolated, relatively small, basalt-capped mesa that lies south of the vast basalt flows that blanket most of the northern end of the Sierra Nevada and southern Cascades (Wakabayashi and Sawyer 2001) (Photo 3-1). Approximately 57 to 35 million years ago, long before the Sierra Nevada existed, large, low-gradient river systems flowed westward to the ocean around the northern end of a raised topographic region. Gold-bearing gravels were deposited in the middle reaches of the rivers while finer sediment (Ione Formation) was deposited in their lower reaches (Wakabayashi and Sawyer 2001). The northern end of the Sierra Nevada roughly corresponds to the northern end of the ancient landscape, which sloped gently upward to the south. Between 35 million and 5 million years ago, a series of basalt lava floods flowed westward, sometimes for as far as 120 miles, from near the current location of Honey Lake Basin (Wakabayashi and Sawyer 2001). These flood basalts are probably related to the northeastward movement of the Yellowstone hotspot that generated the large areas of flood basalts throughout the northwestern United States (Wakabayashi and Sawyer 2001, Coe et al. 2005). North of the NTM, these basalt flows exist as large sheet flows covering the relatively flat ancient landscape

but, due to the southward increasing elevation of the ancient landscape, from NTM to their maximum southward extent (near the Stanislaus River), they exist only as stringers running through ancient river channels or water gaps (Wakabayashi and Sawyer 2001). Between 20 and 34 million years ago, other volcanic eruptions laid down a layer of rhyolitic tuff that buried much of the sheeted basalt flows. Approximately 16 million years ago, after a large river had cut a new river valley down through the tuff down to the underlying Ione Formation, a younger basalt flow, the Lovejoy Basalt, flowed westward through the river valley and formed a basalt cap over the exposed Ione Formation (Wakabayashi and Sawyer 2001). Later, approximately 5 million years ago, much of the central and northern Sierra Nevada was blanketed by volcanic andesite mudflows and the Sierra Nevada began a period of rapid uplift that tilted the Lovejoy Basalt and the other formations gently towards the west (Wakabayashi and Sawyer 2001). Down-cutting and erosion of the formations to the north, south, and west of NTM created an inverted topography in which the basalt-capped ancient river channel is currently the highest topographic point in the area.

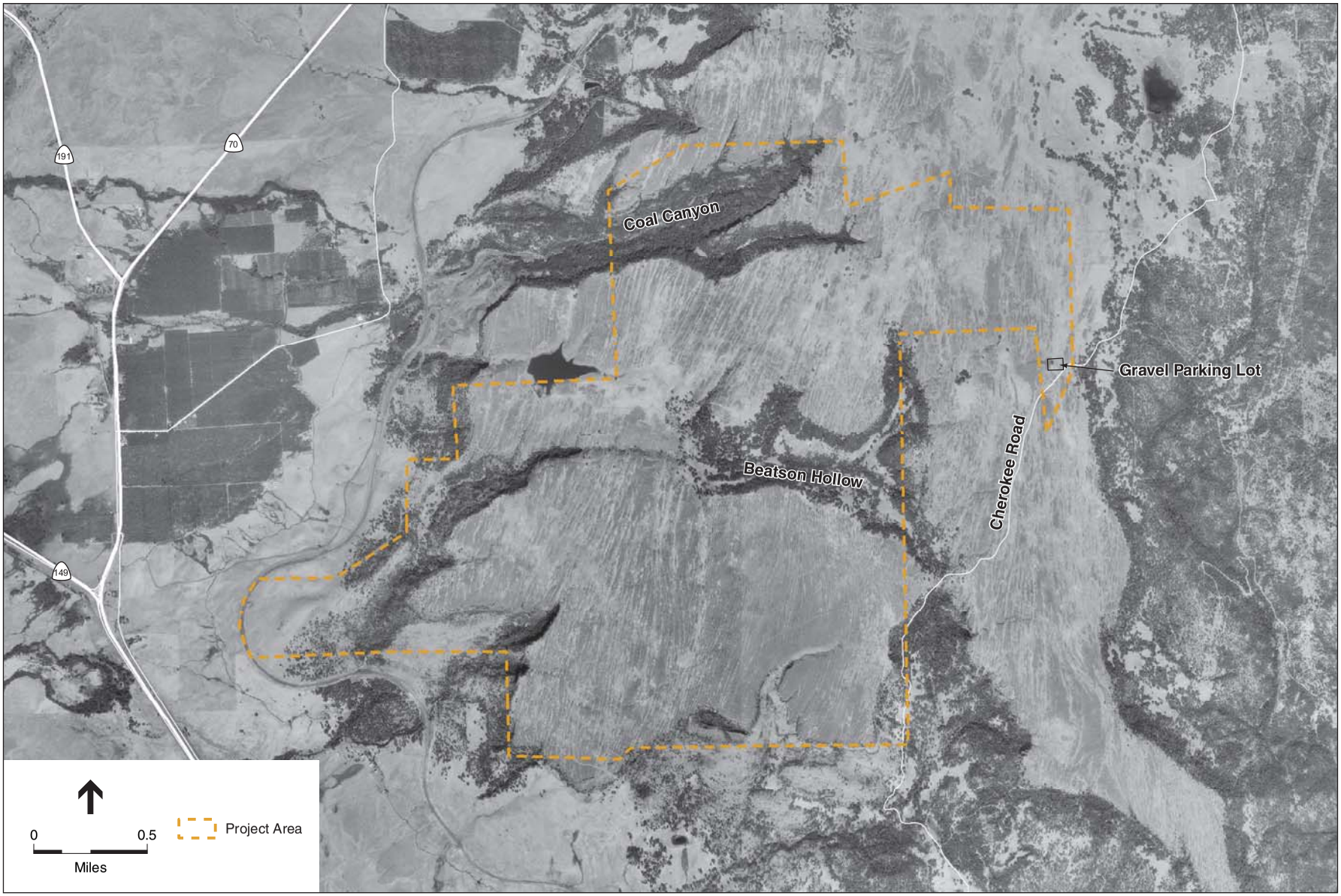
Photo 3-1: Coal Canyon Falls over Basalt Capped Mesa



SOURCE: USGS, 1993; and ESA, 2006

North Table Mountain Ecological Reserve . 204427

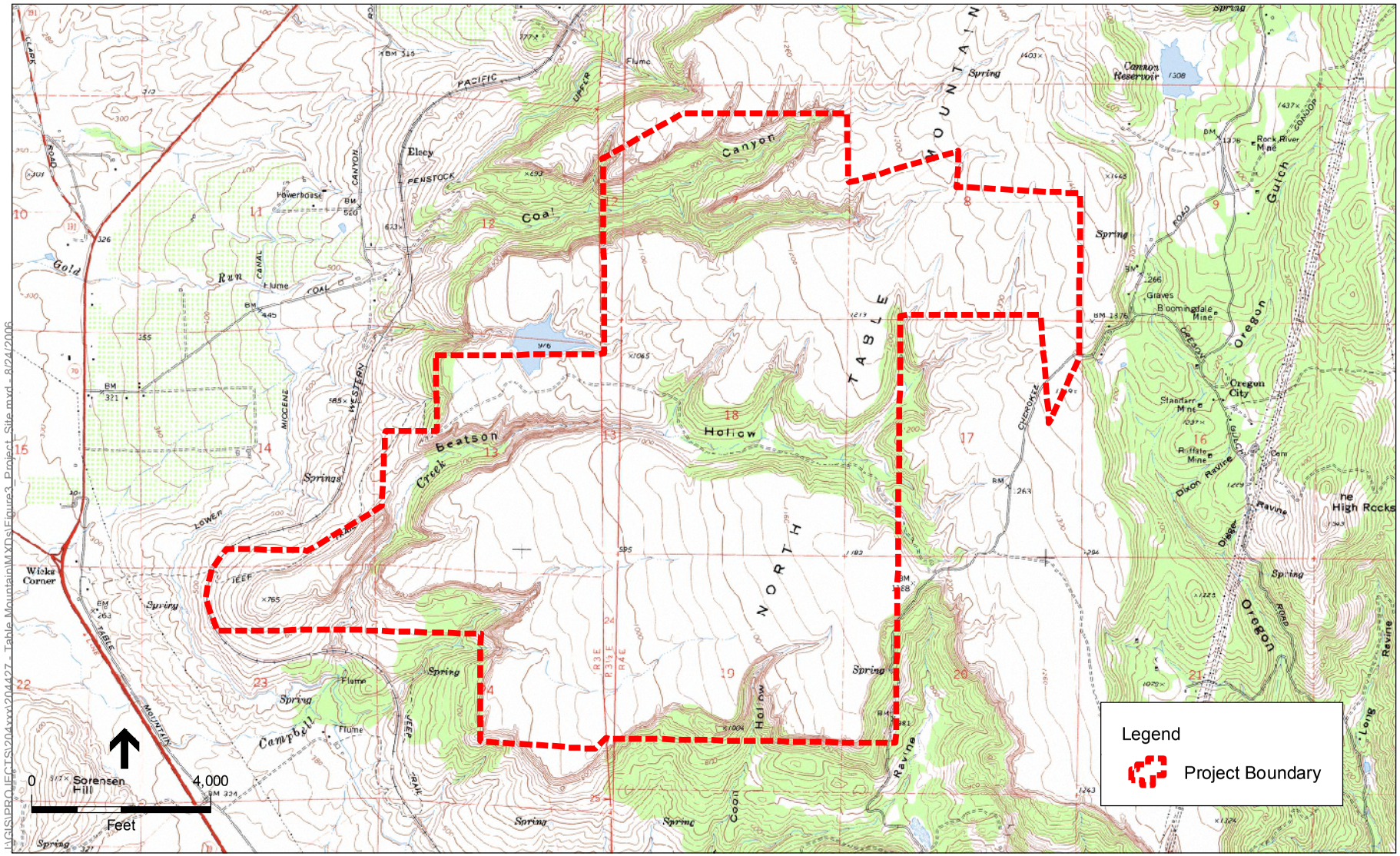
Figure 1
Vicinity Map



SOURCE: USGS, 1993; and ESA, 2006

North Table Mountain Ecological Reserve . 204427

Figure 2
Project Site



SOURCE: USGS, 1969-1973, CDFG, 2004 and ESA, 2006

North Table Mountain. 204427

Figure 3 Oroville USGS Quad

North Table Mountain Ecological Preserve Project Boundary

The soils of NTM are closely related to their parent material, the concavity or convexity of the undulating surface of the basalt, and the presence or absence of joint fractures in the rock (Rust 2000, National Resource Conservation District 2006) (Appendix A). As expressed on the surface, the undulations are represented by an alternating series of narrow north-to-south-trending cobble trains and swales that are oriented perpendicular to the west-dipping topography of the top (Appendix A, Figure 2, Photo 3-3). A few relatively level areas on the top of NTM have developed the mound and intermound topography that is characteristic of vernal pools (Photo 3-2). Because all of these sources of variation occur in relatively small areas, the soils on top of NTM are mapped as complexes of multiple soil phases (Rust 2000, National Resource Conservation District 2006) (Appendix A).

Photo 3-2: Vernal Pool in Mound/Intermound Topography

Most of the top of NTMER (1,641 acres) (Photos 3-3, 3-4, 3-5, 3-6) is mapped as the Rock Outcrop-Thermalrocks-Campbellhills Complex, 2-15% slopes (Appendix A). The Rock Outcrop phase comprises about 35 percent of this mapping unit and exists as low convex trains of basalt cobbles that are often covered by Hansen's spike moss (*Selaginella hansenii*). The Thermalrocks phase covers about 15 percent of the mapping unit and borders the Rock Outcrop phase. It is generally less than 10 inches deep and does not typically pond due to its relatively higher topographic position. It is covered by Hansen's spike moss, yellow carpet (*Blenosperma nanum*), blue dicks (*Dichelostemma capitatum*), and annual fescue (*Vulpia microstachys*). Campbellshills is a 40- to 60-inch-deep soil that covers the 30 percent of the mapping unit that runs along the middle portions of the swales in fractures. It ponds frequently during the wet season and is dominated by soft chess (*Bromus hordeaceus*) and sky lupine (*Lupinus nanus*).

Cherotable-Kramn Complex, 2-15% slopes, is the next most extensive soil complex found on the top of NTMER (407 acres) (Appendix A). The Cherotable soil phase is deep (40 to 60 inches), occupies relatively flat areas with no to very low mound topography, and is unique because it contains rounded quartz gravels and sands from an unknown source. The Kramn soil phase is found under 2- to 3-foot-high mounds and is generally 20 to 40 inches deep. Both soils are covered by annual grasses and forbs.

Eisley-Beatson Hollow-Campbell Hills-Rock Outcrop Complex, 2-5% slopes, is the third most widespread soil mapping unit on top of NTMER (271 acres) (Appendix A). This complex is present on level areas on top of NTM and has characteristic vernal pool mound and intermound topography. The Eisley soil phase (35 percent of mapping unit) underlies the mounds and averages 38 inches deep, while the Beatsonhollow soil phase (30 percent of mapping unit) varies from 1 to 17 inches deep, underlies the swales and vernal pools, and is frequently ponded. Bird's eyes (*Gilia tricolor*) and Douglas' violet (*Viola douglasii*) are present on the low mounds while the vernal pool bottoms are carpeted by Fremont's goldfields (*Lasthenia fremontii*), white flowered navarretia (*Navarretia leucocephala* ssp. *leucocephala*), and Table Mountain meadowfoam (*Limnanthes douglasii* ssp. *nivea*).

The soils of the canyons consist of two primary complexes: Coalcanyon-Rock Outcrop-Cliffs-Talus-Coonhollow complex, 30-200% slopes, and Coalcanyon-Talus Complex, 15-30% slopes (832 combined acres) (Appendix A). Where soils are present in these complexes, they are deeper than 40 inches and are well-drained. Vegetation on the soils is dominated by blue oak (*Quercus douglasii*), interior live oak (*Quercus wislizeni*), foothill pine (*Pinus sabiniana*), California bay (*Umbellularia californica*), and western poison oak (*Toxicodendron diversilobum*) (Photos 3-7 & 3-8).

In the Mediterranean-type climate of the NTM, essentially all precipitation falls as rain (annual mean 29 inches; 60 inches maximum and 15 inches minimum) with most falling from November through March (Western Regional Climate Center 2005). Summers are hot and dry with a mean high temperature of 94 degrees F and an extreme high of 115 degrees F. Winters are cool and wet with a mean low temperature of 38 degrees F and an extreme low temperature of 12 degrees F.

Photo 3-3: Aerial View of Cobble Trains and Swales near Coon Hollow

Photo 3-4: Surface View Northward with Cobble Trains and Swales

Photo 3-5: Aerial View of Area of Cobble Trains Covered by Patches of Deeper Soil (light areas) with Quartz Gravels

Photo 3-6: Surface View Northeastward across Area of Deeper Soils over Cobble Trains

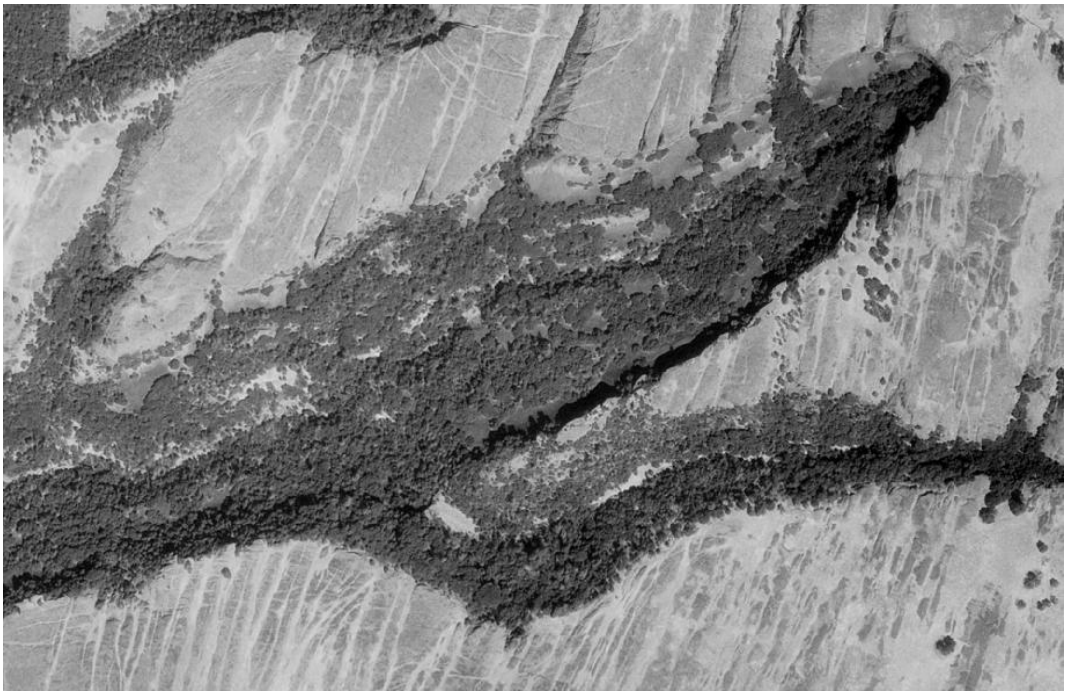


Photo 3-7: Aerial View of Upper End of Coal Canyon and its Vegetation

Photo 3-8: Vegetation in Canyon

The hydrology of NTM is dominated by the geologic substrate, by erosional features, and by soil features. The general slope of the basalt surface is to the west, and two deep canyons, Coal Canyon and Beatson Hollow, are being cut upslope by Coal Creek and Campbell Creek from the western edge of NTM towards the eastern edge (Figure 2). Undercutting of the basalt cap by these western drainages has resulted in high cliff faces that support three large waterfalls during the wet season (Photo 3-1). There are a few other minor drainages that are also cutting ravines upslope (Photo 3-3). On the top of NTM, ponding on the soil surface is determined by the depth to bedrock, microtopography, and the extent of cobbles. Areas with alternating cobble trains and swales pond briefly in the swales after rainstorms and the soils in the swales remain saturated for relatively long periods of time after the swales drain (Rust 2000). The tops of the cobble trains remain dry, but their lower margins may be briefly flooded after rainstorms. The vernal pools on the top of NTM are generally relatively shallow and pond and dry relatively rapidly (Photo 3-2).

Cultural Features

Archaeological

There is little archaeological data available for NTM and only a few small surveys have been made for sites or artifacts of native people (Kowta 1991). Four house pits were found at one location during one of those surveys.

Historical

Beginning in 1848 there was extensive mining activity immediately to the north, east, and south sides of NTM. During the 1860s and 1870s, two water conveyance systems were built across the west side of NTM to carry water to Morris Ravine for gold mining use (McDonald 1993). A flume system was erected at the base of NTM's bluff and a system of ditches, flumes, and iron pipes was built along the toe of NTM. Remnants of both systems exist but only a small section of the pipe has been mapped (Ledwith 2006). Existing vehicle trails appear not to be related to any historical structures.

Land Use

Livestock grazing has been the major historical land use of NTMER (Photo 3-9). Except for the recent elimination of biennial prescribed burning, cattle ranching operations on NTMER have used the same grazing management techniques for at least the past 45 years and those techniques have continued under the current lessee (T. York, personal communication). The entire top of NTM, NTMER and private lands combined, is stocked with approximately 360 mixed English-breed cow/calf pairs (calves 200 to 250 lbs) over a two- to three-week period after the fall green-up has begun. No records are available regarding the number of cow/calf pairs that are apportioned between NTMER and the adjacent private lands. This fact plus the annual variability in the amount of acreage available for lease on the private lands makes it difficult to precisely calculate

stocking rates for the NTMER. The animals are removed from the range between April 20 (dry springs) and May 10 (wet springs). Salt supplements that include selenium are provided at salt stations but the animals do not receive supplemental feed. Water is supplied during the wet season by seasonal streams and pools and by a stock pond on an adjoining private property. Dry season water is supplied by the stock pond and by four springs in the canyons. Typically, the animals are moved off the NTMER for pregnancy testing before the weather turns hot, but they can seek shade under the trees growing in the canyons as needed. The unique spatial arrangement of feed, water, and shade appears to maintain a particular grazing behavior that benefits most of the native plant species growing on the top of NTM.

Wildflower and waterfall viewing have been the main recreational activities on the NTMER (Photo 3-10). Most of this activity occurs in March and April, when 1,500 or more people daily may explore NTMER on weekends (Giordano 1993, H. Lomeli personal communication 2006) (Photo 3-11). Deer and upland game hunting is allowed at NTMER, but the hunting season is closed from November 15 through April 30.

Photo 3-9: Wildflowers with Cows Grazing at Western Edge of North Table Mountain

Photo 3-10: View towards Gravel Parking Lot

Photo 3-11: Hikers in Upper End of Beatson Hollow

CHAPTER 4
Vegetation Types, Habitat, and Species Descriptions

Vegetation Types and Habitats

Two sources of data describe and classify the vegetation types and plant habitats of NTM and neither source mapped the vegetation. As part of its Northern Sierra Nevada Foothills Project and in cooperation with CDFG, the California Native Plant Society conducted surveys and established the initial classifications of some of the vegetation types of NTM. These classifications are based on the California Vegetation Classification and Mapping Program (Sawyer and Keeler-Wolf 1995) and should be considered preliminary and subject to revision during the quality control and review process (A. Klein, personal communication). The second set of data was generated by Jim Jokerst, who conducted plant surveys on NTM from 1976 to 1982 and used his field experience to formulate 14 plant habitat types, based on vegetation composition, substrate type, and apparent wetness of the rock or soil (Jokerst 1983, Sacramento Valley Chapter of the California Native Plant Society 2003, Mackey and Bills 2004). These plant habitat types are primarily limited to the herbaceous communities on the top of NTM. A list of plant species recorded on NTM is attached as Appendix B. The California Wildlife Habitat Relationships System (CWHRS) (Meyer and Landenslayer 1988) provides habitat models that determine the potential wildlife species that may occur on NTMER. A list of wildlife species that are either known to occur or that are predicted to occur in habitats present on NTMER is provided in Appendix C.

Jokerst noted three reasons for the unusually high diversity of native plant species (287 taxa) present on NTM (Jokerst 1983). First, because of NTM's very shallow and rocky soils, agricultural disturbances (tilling, fertilization, and seeding of exotic species) have been minimal. Second, the extensive areas of exposed basalt or shallow soils over basalt provide habitats that permit plant species that are found on the floor of the Central Valley, such as white-flowered navarretia (*Navarretia leucocephala*), and species that are usually limited to higher elevation rocky soils, such as spreading navarretia (*Navarretia divaricata*), to coexist. Third, and what Jokerst considered to be the most important factor, there are a diversity of water and soil habitats available to the plant species for colonization. No floristic surveys have been done in the canyons or along the sides of NTM and the plant species in those areas have not been formally documented.

Because the distribution of plant species and the composition of vegetation are so closely linked to substrate and moisture regimes on NTM, it is difficult to separate vegetation types from plant habitat types (Photos 3-2, 3-4, 3-6, & 3-8). Additionally the habitat models of the CWHRS are more general than vegetation type or plant habitats and cross-walks between vegetation classification systems and CWHRS models are not always possible. Given these differences and constraints, each of the following classifications should be considered to be a habitat type unless it is explicitly classified as a vegetation type. Also, because the vegetation and habitats on NTM have not yet been completely characterized, it is unclear if published references to vernal pools refer exclusively to the Northern Basalt Flow Vernal Pools habitat or whether they implicitly include the frequently ponded swales of the Cobble and Swale Trains habitat described below. The reported locations of sensitive-status species, the field surveys by ESA staff in spring 2005, and the recently completed soil survey (Rust 2000, National Resource Conservation District 2006) all suggest that many references to vernal pools on NTM are actually references to the frequently ponded swales of the Cobble and Swale Trains habitat type.

Northern Basalt Flow Vernal Pools

Vernal pools are seasonally inundated wetlands that form during the wet season (Photo 3-2). Ponding in the pools occurs because the percolation of rainwater is blocked by an impermeable layer or barrier that causes a perched water table and the expression of vernal pools in depressions. The NTMER vernal pools are classified as Northern Basalt Vernal Pools because the top of the underlying basalt rock forms the impermeable barrier. On NTM, vernal pools are restricted to the Cherotable-Kramn soil complex (Appendix A), where the pools are underlain by the Cherotable soil series, while the adjacent uplands are underlain by the Kramn soil series. Jokerst's pool, wet margin, and low mound habitats are included within this habitat type. Vernal pool plants and animals are typically adapted to specific niches in the vernal pool system that are related to the duration or depth of inundation (Holland and Dains 1990, Simovich 1998). On NTM, common plant species in vernal pools include Fremont's goldfields (*Lasthenia fremontii*); bracted popcorn flower (*Plagiobothrys bracteatus*); toothed downingia (*Downingia cuspidata*); water pygmyweed (*Crassula aquatica*); turkey mullein (*Eremocarpus setigerus*); white-flowered navarretia; and seep monkey flower (*Mimulus guttatus*). While the pools are dominated by native plant species, the vegetation of the adjacent upland areas is dominated by non-native grasses such as soft chess and a varying mixture of herbaceous native species such as fringepod (*Thysanocarpus curvipes*).

Cobble and Swale Trains

Cobble and Swale Trains habitat is primarily restricted to the Rock Outcrop-Thermalrocks-Campbellhills Complex, 2-15% slopes (Appendix A), and includes Jokerst's dry cobbles, wet cobbles, wet margin, and thick soil habitats. The characteristic, almost wave-like, alternating pattern of this habitat type is clearly visible in aerial photographs of NTM (Figure 2, Photo 3-3) and in vegetation differences (Photo 3-4). The highest areas of the cobble trains are typically

lightly vegetated with Hansen's spike moss, blue dicks, and annual fescue, while the lower areas are thickly blanketed with Hansen's spike moss. Yellow carpet is common in the wet margins of the cobble trains, while the swales are dominated by non-native grasses such as soft chess and a varying mixture of native herbaceous species that includes sky lupine. Butte County golden clover occurs almost entirely within the swales of this habitat type (Photo 4-1).

Photo 4-1: Butte County Golden Clover, April 2005

Basalt Outcrops

The vegetation of basalt outcrops is variable because of the diversity of the rock substrate and moisture regimes. Jokerst's rock outcrop, outcrop edge, thin soil, fractured basalt, and cliff face habitats are included in this type. Characteristic plants of these habitat types include blue dicks; annual fescue; Hansen's spike moss; bitterroot (*Lewisia rediviva*); volcanic onion (*Allum cratercola*); bladder lomatium (*Lomatium utriculatum*); woody mountain jewel-flower (*Strepthantus tortuosus*); California manroot (*Marah fabaceus*); canyon dudleya (*Dudleya cymosa*); and lace lip fern (*Cheilanthes gracillima*).

Non-Native Grassland

The vegetation of areas with thicker soils on NTM is typically dominated by non-native annual grass species but may also support a relatively large number of native plant species. Spatially, this vegetation type can form relatively homogeneous areas, but it is often present as an inclusion within various habitat types such as on the mounds adjacent to vernal pools and in the swales

of the cobble and swale trains. The term *thicker soil* is used to emphasize the fact that soil depth is controlled by the upper surface of the basalt and that depth may be increased upwards or downwards. For example, the tops of mounds have thicker soils relative to the top of the basalt surface while soils in swales are thick because they form in deep fractures below the general surface of the basalt. Common non-native annual grass species include soft chess; lesser quaking grass (*Briza minor*), medusa-head (*Taeniatherum caput-medusae*); and slender wild oat (*Avena barbata*). Common native species include poison sanicle (*Sanicula bipinnatifida*); common fiddleneck (*Amsinckia menziesii*); and tomcat clover (*Trifolium willdenovii*).

Blue Oak Woodland

Blue Oak Woodland vegetation is found along the edge of the mesa, comprises about 20 percent of the vegetation of NTMER, and is dominated by blue oak. A few other native woody species are present, such as foothill pine and white-leaved manzanita (*Arctostaphylos vicida*), but the understory is typically dominated by annual species that include the native miner's lettuce (*Claytonia perfoliata*) and the non-native ripgut brome grass (*Bromus diandrus*).

Mixed Oak Woodland and Forest

This vegetation type is found along the sides and bottoms of the canyons and is dominated by interior live oak and western poison oak. Other native tree species present include blue oak; black oak (*Quercus kelloggii*); valley oak (*Quercus lobata*), canyon live oak (*Quercus chrysolepis*); California bay; California buckeye (*Aesculus californica*); madrone (*Arbutus menziesii*); and ponderosa pine (*Pinus ponderosa*) (Photo 3-8).

Northern Mixed Chaparral

Northern Mixed Chaparral vegetation is found along the edges of the canyons and typically consists of shrubby individuals of interior live oak and western poison oak. This vegetation type may be due to the regrowth of stump-sprouting trees that were cut during the mining period and that had been previously managed through the use of prescribed burns (T. York, personal communication).

Intermittent Riverine

This habitat type is present in Gold Run Creek in Coal Canyon and in Campbell Creek in Beatson Hollow. The streams begin flowing in the fall soon after the start of the wet season and may continue to flow into June. During the summer and fall, the only water present in the creeks is in a few pothole pools and near small springs.

Lacustrine

The only habitat of this type is a stock pond on top of NTM that lies partially within the boundaries of the NTMER.

Special-Status Species

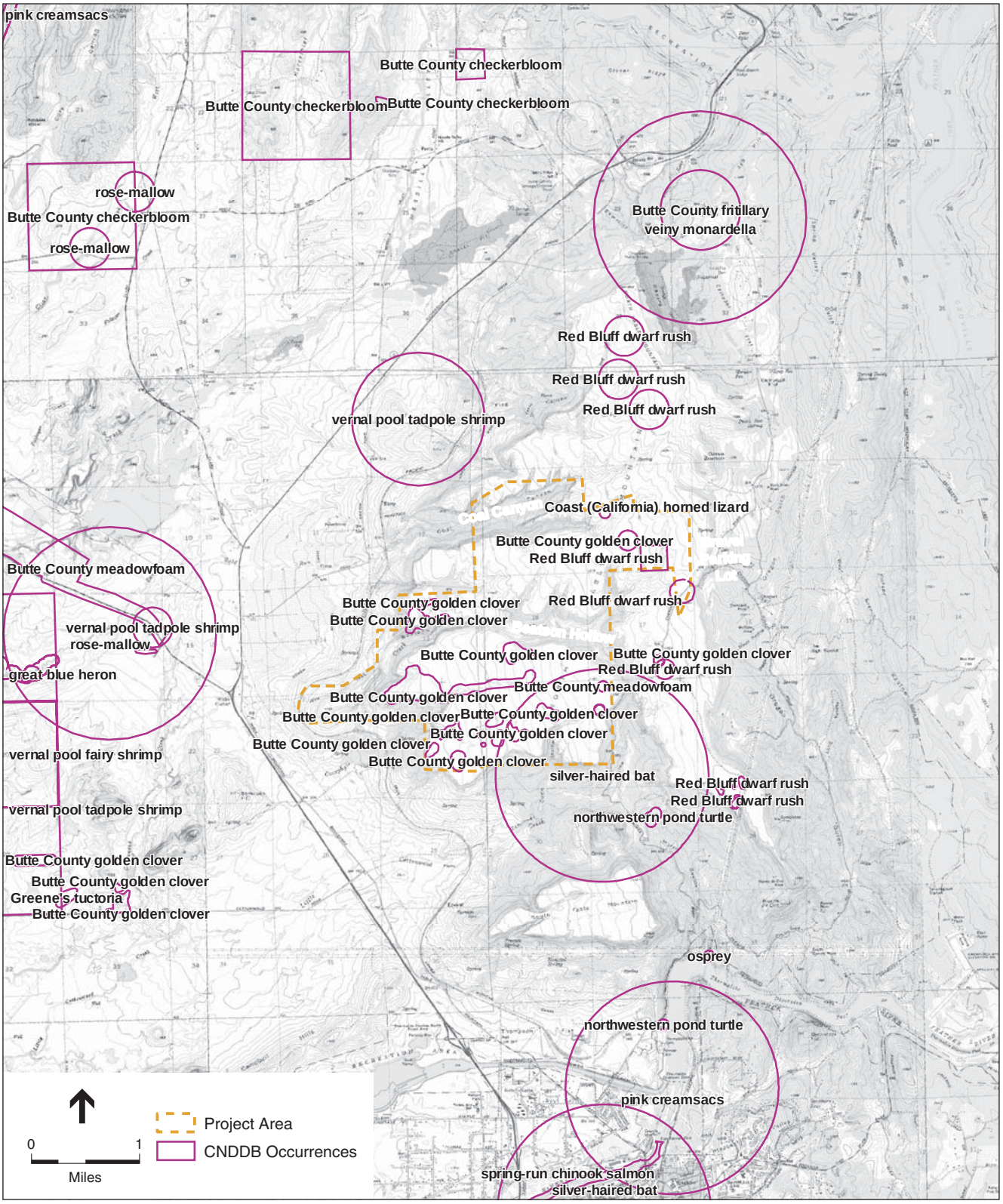
The list of federal endangered and threatened species compiled by the Sacramento office of the United States Fish and Wildlife Service (United States Fish and Wildlife Service 2005a), the Natural Diversity Database of the CDFG (California Department of Fish and Game 2006), and the CNPS Inventory of Rare and Endangered Plants (California Native Plant Society 2006) were consulted for sensitive species occurrences at NTMER (Figure 4 & Appendix D). The geographical range of the occurrence data includes the USGS Oroville 7.5-minute quad and the surrounding eight quads. Additionally, the published list of the Table Mountain flora was consulted for potential special-status species (Jokerst 1983, Sacramento Valley Chapter of the California Native Plant Society 2003, Mackey and Bills 2004).

Brief descriptions of sensitive-status plant and wildlife species that are know to occur on NTMER follow. Additional information for special-status species, including species with potential to occur on NTMER, is provided in Appendix D.

Plant Species

Butte County Meadowfoam

Butte County meadowfoam is a small annual plant with inconspicuous flowers that is included on both the federal and California endangered species lists (United States Fish and Wildlife Service 2005b). It is a rare subspecies that is related to the more widely distributed woolly meadowfoam (*Limnanthes floccose* ssp. *floccose*). A significant amount of research has been conducted on this subspecies so that some of its environmental requirements and life history traits are relatively well described. Its current and historical distribution is restricted entirely to Butte County and is roughly within the State Highway 99 corridor from NTM to just north of Rock Creek. It has been reported sporadically from NTMER (1973, 2005). Butte County meadowfoam is not adapted to long-duration flooding and is typically found along the high water mark of vernal pools and along the bottoms of swales. This makes its populations vulnerable to non-native invasive species (NIS), such as medusa-head grass, which produces dense layers of thatch. Conservation actions require reducing the thatch through appropriate grazing management (Griggs 2000, Marty 2005, United States Fish and Wildlife Service 2005b). In 2005, the NTMER population was associated with white-flowed navarretia, Freemont's goldfields (*Lasthenia fremontii*), white-tipped clover (*Trifolium varigatum*), and coyote thistle (*Eryngium castrense*) and was found in a broad swale or shallow vernal pool on the Eisley-Beatsonhollow-Campbellhills-Rock Outcrop soil complex.



SOURCE: USGS, 1993; CNDDB, 2006; and ESA, 2006

North Table Mountain Ecological Reserve . 204427

Figure 4
CNDDB Occurrences

Butte County Golden Clover

This small annual clover is a CNPS 1B species that is only found on NTM and along Cottonwood Road immediately west of NTM. Surveys of the NTMER by ESA staff located many large populations that were primarily confined to the bottoms of swales. As was the case with Butte County meadowfoam, this environmental requirement makes its populations vulnerable to thatch accumulation driven by NIS species such as medusa-head grass and appropriate grazing management is a required conservation action (Griggs 2000, Marty 2005, United States Fish and Wildlife Service 2005b). On NTM, this subspecies is found in swales with fluctuating ponding on the Rock Outcrop-Thermalrocks-Campbellhills and Eisley-Beatsonhollow-Campbellhills-Rock Outcrop soil complexes.

Red Bluff Dwarf Rush

This small grass-like plant is a CNPS 1B subspecies that favors relatively unvegetated areas along the upper margins of vernal pools according to collection records (Ahart 2003). Very little else is known about this subspecies. On NTM, this subspecies is found in swales with fluctuating ponding on the Eisley-Beatsonhollow-Campbellhills-Rock Outcrop soil complex.

Animal Species

Coast Horned Lizard

California horned lizard is a large gray, tan, or reddish-brown lizard with a spiny head and two parallel rows of pointed scales running along each side of its body (Jennings and Hays 1994). It is endemic to California with a patchy distribution in the Central Valley from Shasta County south to the Peninsula Range. It is also found in both the inner and outer South Coast Ranges. Adults emerge from hibernation in late March and are active until July when they aestivate until August when they briefly emerge and then disappear into overwintering sites. Their daily diurnal activity is driven by thermoregulation requirements. They typically emerge just before sunrise from their burial sites in the soil and begin basking. As their body temperature increases they thermoregulate by either shifting the orientation of their bodies relative to the sun or moving in and out of the shade. During the warmest part of the day, California horned lizard covers itself with loose soil to stay cool. They have high site fidelity because effective temperature regulation requires that they be familiar with their surroundings. In the later afternoon, individuals re-emerge from the substrate and resume their activities. California horned lizards prey on beetles and native ants and probably take many other species of insects when those prey are seasonally abundant. It occurs in a wide variety of habitats that possess the critical resources of loose soils and structure for thermoregulation.

CHAPTER 5

Management Goals and Environmental Impacts

Definition of Terms Used in This Plan

Biological elements are species, habitats, or communities for which specific management goals have been developed within the plan.

Public use elements are any recreational, educational, scientific, or other use activity appropriate to and compatible with the purposes for which this property was acquired.

Facility maintenance elements are general-purpose elements describing the maintenance and administrative program, which helps maintain the orderly and beneficial management of the area.

Biological goals are statements of intended long-range results of management based upon the feasibility of maintaining, enhancing, or restoring species populations and/or habitat (i.e., these goals provide a statement of desired future conditions on the Reserve).

Public use goals are statements of the desired type and level of public use compatible with the biological element goals previously specified in the plan.

Tasks are the individual projects or work elements undertaken to implement the goal and are useful in planning operation and maintenance budgets.

Biological Elements: Goals, Objectives, and Environmental Impacts

Goals and Objectives

Element 1. Northern Basalt Flow Vernal Pools and Cobble and Swale Trains Habitat Types

Goal: To preserve and protect these habitat types on the Reserve.

Objective 1: Appropriately manage the vegetation of NTMER as necessary to maintain the existing conditions.

Task 1. Continue the historic grazing management regimen as described in the cultural features section. This task will require that the actual stocking rate be determined; because there is no fence separating private lands from the NTMER, all of the top of NTM is stocked as a single pasture and it is currently impossible to calculate the stocking rate for the Reserve from the number of cow/calf pairs present without more site-specific information. Periodic surveys to determine how many animals are actually using the Reserve will be required to calculate the actual stocking rate for the Reserve. Because grazing management on the NTMER site has been consistent for 45 years and appears to have contributed to the preservation of Northern Basalt Flow Vernal Pools and Cobble and Swale Trains habitat types, no changes to the grazing management regimen should be instituted without strong evidence that such changes are required to protect sensitive-status species and the Northern Basalt Flow Vernal Pools and the Cobble and Swale Trains habitat types. An example of a change in grazing management would be the fencing of riparian areas in the canyons to protect riparian vegetation. This action would alter the behavior of the cows and might lead to negative impacts to sensitive habitat types or special-status species. Consult with qualified range management specialists with vernal pool expertise who are with the University of California Cooperative Extension Program and the USDA Natural Resources Conservation Service to: 1) Analyze the current grazing plan and determine the appropriate stocking rate, duration of grazing, frequency of grazing, rotation, timing, and appropriate grazing species for achieving the conservation goals for NTMER, and; 2) If necessary based on strong and conclusive scientific evidence acquired from multi-season field experiments (a 5-year experiment period is recommended to account for California's annual climate variations), develop a grazing plan that will achieve the stated conservation goals of the NTMER.

Task 2. Establish areas, with feedback from the current range manager, where salt stations may be established with minimal impacts to the Northern Basalt Flow Vernal Pools and Cobble and Swale Trains habitat types or to sensitive-status species. The impacts to be minimized include trampling of plants, soil compaction, erosion, and localized salt concentrations in the soil. It is unclear if it is better to establish salt stations in the same locations year after year or to move the salt stations to different locations each year to spread out the impacts. The soil disturbance created by the animals at the salt

station will tend to benefit weedy plant species and it may be better to keep the disturbance localized rather than spreading it out over a relatively large area to reduce the number of populations and the size of populations of the weedy species. This is a management issue that warrants further study. At a minimum, the range manager should be consulted about locating salt stations to encourage the cows to remain widely distributed across NTMER, and a spring survey should be conducted during the height of the wildflower season to identify relatively large upland areas that are dominated by NIS and lack sensitive-status plant species for establishing the locations of potential salt stations. Study, develop, and implement best management practices for the location and duration of salt stations. The DFG will investigate the effects of salt stations on native plants. The DFG is aware that salt licks have a beneficial effect for livestock and wildlife providing needed nutrients and minerals, but also tends to congregate animals, thereby increasing the potential for soil disturbance. The DFG is currently unaware of any information that salt licks have a detrimental effect to native plants other than those due to hoof impacts (soil compaction).

Task 3. The DFG will commit to conducting small multi-season grazing exclusions experiments using portable electric fences to determine how the Northern Basalt Flow Vernal Pools and Cobble and Swale Trains habitats, individual sensitive-status species, and non-native invasive species will respond to either the reduction or the elimination of grazing. Potential experimental treatments would be no grazing, grazing until January 15 and then no grazing, and historical grazing levels. Areas with high densities of NIS and of critical areas such as vernal pools and rock outcrops should be included in the study.

Element 2. Sensitive-Status Species

Goal: To preserve and protect sensitive-status species on the Reserve.

Objective 1: Appropriately manage the NTMER as necessary to maintain existing conditions and conduct surveys for sensitive-status species in areas that have not been previously surveyed.

Task 1. Continue the historic grazing management regimen and consider the studies and experiments suggested under Element 1. Study, develop, and implement best management practices for the location and duration of salt stations.

Task 2. Conduct botanical and wildlife surveys in the canyons and along the sides of the NTMER for sensitive-status plant and animal species. Plant surveys should focus on identifying and surveying outcrops of the Ione Formation and animal surveys should focus on areas with appropriate habitat.

Task 3. Conduct surveys in the canyons and along the sides of the NTMER for NIS that may impact sensitive-status species or the Northern Basalt Flow Vernal Pools and Cobble and Swale Trains habitat types. Populations of NIS that may impact either of the target biological elements should be ranked for control based on (1) their current distribution, current population sizes, and anticipated growth rates; (2) their potential impacts to target vegetation, habitat types, and special-status species; (3) the likelihood of successfully eliminating the NIS from the Reserve; and (4) the amount of resources necessary for a successful eradication or control effort. Populations of NIS that may impact non-target biological elements should be ranked for management, based on the availability of resources and on the four ranking criteria used for target biological elements.

Task 4. Focused NIS surveys should be conducted annually in May to detect any newly introduced NIS species so that they can be controlled before they have a chance to spread. If resources are available, additional surveys throughout the year are advisable. The surveys should be conducted in and around the parking lot and the paths leading from the parking lot, along dirt access roads and Cherokee Road, and in all areas where fire or road crews have operated within the past three years. The ranking criteria described in Task 3 should be used to determine if NIS control action is necessary. One species that should be of concern is barb goatgrass (*Aegilops triuncialis*), which has the ability to establish dense populations in poor and shallow soils and is highly resistant to control by grazing.

Task 5. Conduct surveys in the canyons and along the sides of the NTMER to determine if prescribed burning is necessary for maintaining the existing plant communities or any sensitive-status species identified under Task 2 of this element.

Environmental Impacts

The continuation of the historical grazing management regime is necessary to preserve and protect the Northern Basalt Flow Vernal Pools and Cobble and Swale Trains habitat types and sensitive-status species. NIS such as medusa-head grass produce a deep and persistent thatch layer that eliminates many native species. These NIS species are especially problematic in swales and shallow vernal pools where Butte County meadowfoam, Butte County golden clover, and Red Bluff Dwarf Rush are typically found on the NTMER. Insufficient grazing of medusa-head grass has been cited as the reason for the decline of one population of Butte County meadowfoam (United States Fish and Wildlife Service 2005b). Current research on the Northern Basalt Flow Vernal Pools on Kennedy Table/Big Table Mountain near Fresno indicates that grazing is necessary to preserve this vegetation type (M. McCrary, unpublished data). Additionally, research results from other types of vernal pools clearly indicate that management actions must address NIS and thatch accumulation to preserve the characteristic vegetation of those vernal pools (Griggs 2000, Marty 2005). Prescribed burning is not a viable alternative to grazing for controlling thatch on the NTMER because the many areas of unvegetated or lightly vegetated exposed bedrock, cobble trains, and shallow soils make achieving a uniform burn in the more vegetated areas highly unlikely. Because the range is stocked in the fall, the animals removed by mid-May, and no supplemental feed supplied, the possibility of the seed of NIS being introduced through grazing operations is negligible. During a site visit in February 2006, there were no discernable significant impacts to woody vegetation in the upper reaches of Beatson Hollow (J. Gerlach, personal observation). Salt stations are an essential part of grazing management and disturbances at salt stations will have no significant negative impact on sensitive habitat or sensitive species if the salt stations are located appropriately. For these reasons, the continuation of the historical grazing management regimen will have no significant negative environmental impacts.

Public Use Elements: Goals and Environmental Impacts

Goals and Objectives

Element 1. Public Access for Recreation and Environmental Education.

Goal 1: To allow public access to the Reserve for recreation and environmental education that is consistent with its primary goal of protecting and preserving the Northern Basalt Flow Vernal Pools and Cobble and Swale Trains habitat types and sensitive-status species.

Objective 1: Provide appropriate access for recreational and educational visitors.

Task 1. Determine the historic and current visitation rates to NTMER during the wildflower season.

Task 2. Monitor and map any significant impacts of visitor use on the Northern Basalt Flow Vernal Pools and Cobble and Swale Trains habitat types, sensitive-status species, trails, cultural resources, and infrastructure.

Task 3. If necessary, identify any management or public education measures necessary for reducing visitor impacts and take appropriate action.

Task 4. If visitation rates are increasing, develop policies that will protect sensitive areas.

Goal 2: To develop cooperative agreements with community and volunteer groups to help manage the property.

Goal 3: To develop cooperative/joint management strategies with the Department of Parks and Recreation.

Goal 4: Evaluate the trail design and usage for compatible purposes.

Goal 5: To develop cooperative agreements with neighboring landowners regarding methods to discourage illegal trespass by the public on neighboring private properties.

Environmental Impacts

These actions are generally focused on data acquisition and analysis and will have no significant negative environmental impacts.

Facility Maintenance Elements: Goals and Environmental Impacts

Goals and Objectives

Element 1. Provide adequate facilities for public access to the extent that the Northern Basalt Flow Vernal Pools and Cobble and Swale Trains habitat types and individual sensitive-status species are not significantly impacted.

Goal 1: To allow public access to the Reserve for recreation and environmental education that is consistent with its primary goal of protecting and preserving sensitive habitats and species.

Objective 1: Provide facilities to minimize waste impacts.

Task 1. Provide toilet facilities and refuse containers in the parking area that are appropriate for daily visitation rates as they vary through the year and during especially showy wildflower seasons.

Objective 2: Consider access issues to NTMER under the Americans with Disabilities Act.

Task 1. Review the appropriate standards and requirements and take appropriate action.

Goal 2: Public access will be evaluated to determine if adequate legal access exists and to determine how to discourage illegal trespass on neighboring private properties.

Objective 1: Incorporate public access knowledge gained through Public Use Element 1, Goal 5.

Task 1: Determine where the public is accessing the NTMER.

Objective 2: Place additional signage and barricades, as necessary, to direct the public towards legal access points and to discourage illegal trespass on neighboring private lands.

Goal 3: Continue to evaluate the potential for additional land acquisition to provide protection to currently unprotected sensitive plant, water, and animal resources, and to provide additional legal access to the NTMER.

Environmental Impacts

The toilet facilities are provided in a parking lot and the Americans with Disabilities Act analysis is conceptual; therefore, these actions will have no significant negative environmental impacts. Plans developed subsequent to these analyses will be reviewed under CEQA.

CHAPTER 6
Operations and Maintenance Summary

Operations and Maintenance Tasks to Implement Plan

If appropriate as based on a range management plan, continue the current grazing leases. The final two years of the lease will provide payment and in-kind services totaling $31, 650.00 per year. Monitor seasonal and peak visitor use of NTMER and take appropriate actions. Consider potential for improving Americans with Disabilities Act access to NTMER.

Existing Staff and Additional Personnel Needs Summary

Personnel Needs and Costs				
Staff	**Hours per week**	**Hours per year**	**Cost per hour**	**Personnel Cost**
Wildlife Protection officer	4	208	$37.18	$7,733.71
Associate Biologist	8[1]	416	$43.77	$18,207.28
Scientific Aid	8	416	$16.73	$6,957.60
			Total Personnel Costs	**$32,898.59**
Operational and Maintenance Costs				
	Cost per acre	**Total Acres**		
Small Moderate Public Use Area	$30	3315		$99,450
(The $30 per acre covers costs associated with maintaining the area for public recreation, for example: fuel, vehicle repairs, signage, dump fees, gate & fence repair, etc., and conduct of field studies and analysis)				
			Total Operational Costs	**$99,450**
			Subtotal of Costs	$132,348.59
			Administrative Indirect Costs. 20.19%	$26,721.18
			Total Annual Project Costs in 2006 Dollars	**$159,069.77**

[1] Two hours per week currently

CHAPTER 7
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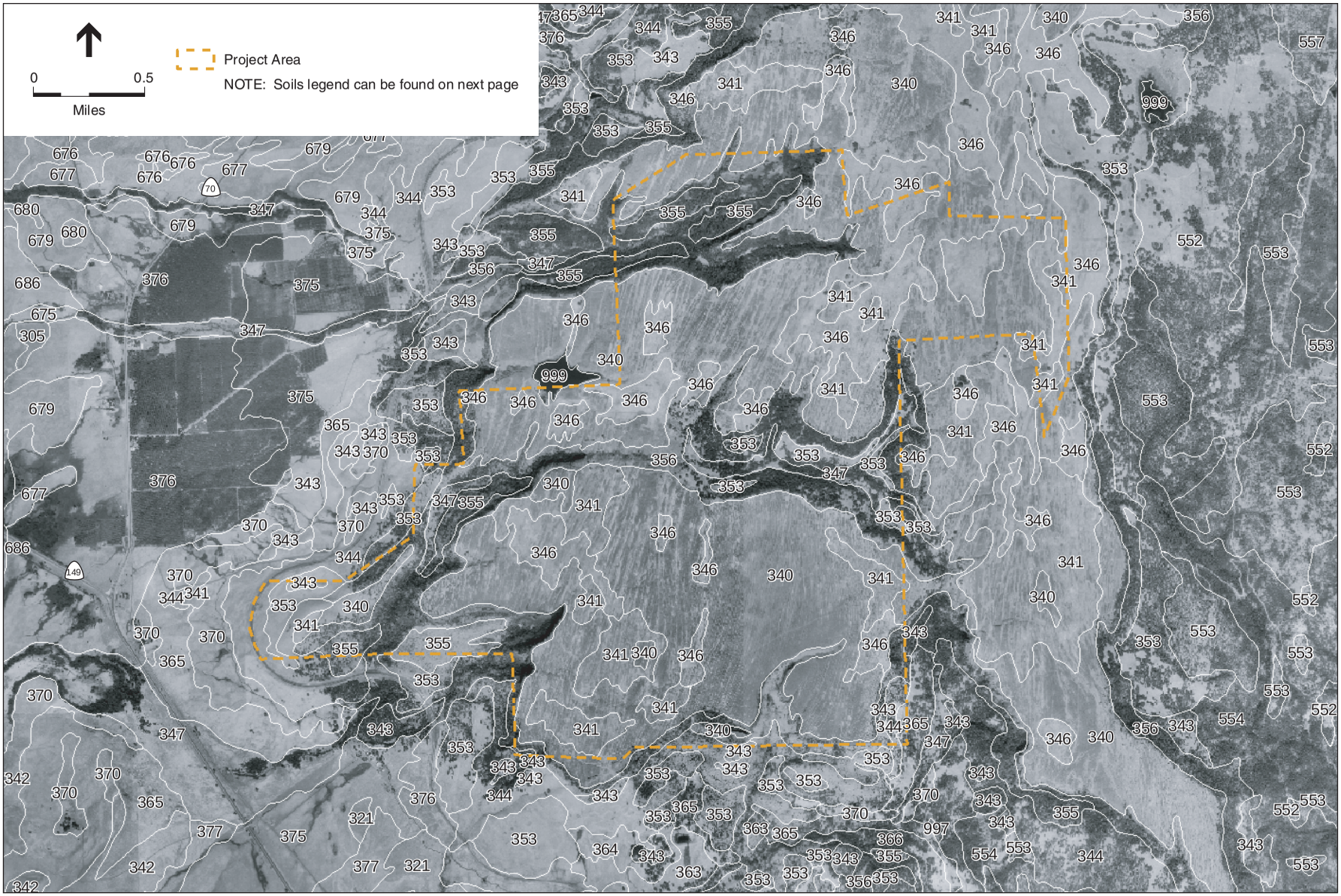
Appendix A
Soil Survey

ESA



SOURCE: USGS, 1998; USDA, 2005; and ESA, 2006

SOIL SURVEY LEGEND

Symbol	Number of Acres	Soil Type
340	1,641	Rock outcrop-thermal rocks-Campbell Hills Complex, 2 to 15% slopes
341	271	Elsey-Beatson Hollow-Campbell Hills-rock outcrop complex, 2 to 5% slopes
343	8	Coal Canyon-Coon Hollow Complex, 5 to 15% slopes
344	61	Coal Canyon-Coon Hollow-rock outcrop complex, 15 to 30% slopes
346	407	Cherotable-Kramn complex, 2 to 15% slopes
347	69	Haplic Palexeralfs Loam, 2 to 15% slopes
353	79	Cherokee Spring gravelly silt loam, 2 to 15% slopes
355	142	Coal Canyon-Talus Complex, 15 to 30% slopes
356	690	Coal Canyon-rock outcrop, cliffs-talus-Coon Hollow complex, 30 to 200% slopes
365	4	Palexerults, 15 to 30% slopes
999	3	Water

Appendix B
Plant Species List

SacValley CNPS Plant List[1]
THE FLORA OF TABLE MOUNTAIN
Butte County, California

From: "*The Vascular Plant Flora of Table Mountain, Butte County, California"* by James D. Jokerst in Madrono, Vol. 30, No. 4, November Supplement 1983. Scientific names have been brought into line with *The Jepson Manual* (Hickman, 1993, 3rd Printing). Common names were obtained from *Manual of the Vascular Plants of Butte County, California* (Vernon H. Oswald, 1994).

Habitats as defined by Jokerst are as follows:

Bedrock Outcrops. These are areas of exposed, flat-surfaced basalt bedrock that often resemble miniature mesas. Small amounts of soil particles and organic matter accumulate in the fractures, depressions, and margins.

Thin Soils. This type is formed by thin accumulations of soil and organic matter that overlie the Bedrock Outcrops. Floristically both habitats share many species.

Outcrop Edges. These are represented by a narrow band (less than 0.75 m) of small (0.1-1.0 cm in diameter) fractured basalt cobbles, mostly overlain by soil that encircles the Bedrock Outcrops. The large amount of surface water runoff appears to influence which species occur here.

Dry Cobbles. These are areas with moderate amounts of accumulated soil and large (greater than 15 cm diameter), partially exposed basalt cobbles.

Wet Cobbles. These are the same as Dry Cobbles habitats but occur in areas where water seeps over the surface after moving horizontally along impervious subsurface strata.

Cliff Faces. The vertical basalt cliffs that merge characteristics of the previous five habitat types. During the spring, water often seeps over these.

Fractured Basalt. Such areas are represented by piles of large, dry, fractured basalt cobbles with no visible soil present, often found at the base of sloping or vertical outcrops.

Low Mounds. This habitat is defined by thin, well-drained, somewhat rocky soils with no exposed cobbles. These areas resemble mima mounds on portions of the mesa.

Thick Soils. The thickest, most highly developed grassland soils typify this type of habitat and represent the final stage of grassland succession on the mesa.

Shaded Soils. Thick, well-developed soils of shaded or protected localities, such as under oaks or in steep-sided draws, characterize this habitat.

Wet Margins. These are adjacent to intermittent creeks and also encircle vernal pools at or above their high water mark with damp, somewhat clayey soils.

Vernal Pools. This habitat occurs in vernal pools and hogwallows below their high water mark after drying has occurred.

Standing Water. This habitat is formed by the standing water of intermittent creeks and vernal pools.

Ruderal. Ruderal habitats are represented by disturbed sites, dirt roads, and areas adjacent to the only public road across the mesa: Cherokee Road.

Species marked with an asterisk (*) are non-native species.

April 2003 (CC)

[1] *Courtesy California Native Plant Society, Sacramento Valley Chapter: http://www.sacvalleycnps.org/*

FLORA OF TABLE MOUNTAIN

Family	Species	Common Name	Habitats Where Found
	QUILLWORTS AND SPIKE MOSSES		
Isoetaceae			
	Isoetes howellii	Howell's quillwort	Vernal pools. Occasional
	Isoetes nuttallii	Nuttall's quillwort	Low mounds, vernal pools. Overlooked, common
Selaginellaceae			
	Selaginella hansenii	Hansen's spike moss	Bedrock outcrops, thin soils, wet cobbles, cliff faces. Common
	FERNS AND ALLIES		
Marsileaceae			
	Pilularia americana	American pillwort	Vernal pools
Polypodiaceae			
	Polypodium calirhiza	Intermediate polypody	Wet cobbles, cliff faces, shaded soils.
Pteridaceae			
	Cheilanthes gracillima	Lace lip fern	Bedrock outcrops, thin soils, cliff faces. Common on basalt in protected localities.
	Pellaea andromedifolia	Coffee fern	Dry cobbles, cliff faces, fractured basalt
	Pellaea mucronata	Bird's foot fern	Dry cobbles, cliff faces, fractured basalt.
	Pentagramma triangularis ssp. *triangularis*	Gold-backed fern	Wet cobbles, cliff faces, shaded soils. Common in mesic, protected areas.
	Pentagramma triangularis ssp. *semipallida*	Silver-backed fern	Fractured basalt. Rare, known from single location at mesa's north tip.
	CONIFERS		
Pinaceae			
	Pinus ponderosa	Ponderosa pine	Shaded soils. Uncommon in draws at the mesa's edge.
	Pinus sabiniana	Gray pine	Shaded soils. Common along the mesa's edge.
	FLOWERING PLANTS - DICOTS		
Amaranthaceae			
	*Amaranthus albus**	Tumbleweed	Ruderal, along Cherokee Road.
Anacardiaceae			
	Toxicodendron diversilobum	Poison oak	Shaded soils, protected ravines.
Apiaceae			
	Eryngium vaseyi var. *vallicola*	Vasey's coyote thistle	Vernal pools. Common
	Lomatium marginatum	Margined lomatium	Fractured basalt, low mounds.

Family	Species	Common Name	Habitats Where Found
	Lomatium utriculatum	Bladder lomatium	Thin soils, outcrop edges, dry cobbles, cliff faces. Common.
	Perideridia oregana	Oregon yampah	Fractured basalt. Occasional.
	Sanicula bipinnata	Poison sanicle	Thick soils. Common.
	Sanicula bipinnatifida	Purple sanicle	Thick soils. Common.
	*Scandix pecten-veneris**	Shepherd's needle	Shaded soils, ruderal. Common weed.
Aristolochiaceae			
	Aristolochia californica	California pipevine	Dry cobbles, fractured basalt. Common.
Asteraceae			
	Achyrachaena mollis	Blow wives	Outcrop edges, dry cobbles.
	Agoseris heterophylla	Annual agoseris	Thin soils, low mounds, thick soils
	Bidens frondosa	Sticktight	Vernal pools. Uncommon.
	Blennosperma nanum	Yellow carpet	Thin soils, low mounds, wet margins. Common.
	Calycadenia oppositifolia	Butte Co. calycadenia	Thin soils. Uncommon. Rare but not endangered in California.
	Calycadenia truncata	Rosinweed	Dry cobbles, fractured basalt, low mounds. Common.
	*Centaurea solstitialis**	Yellow star thistle	Thick soils, ruderal.
	*Chamomilla suaveolens**	Common pineapple weed	Dry cobbles, low mounds, thick soils, ruderal. Common.
	*Conyza floribunda**	Many-flowered horseweed	Shaded soils. Rare
	*Filago gallica**	Narrow-leaved filago	Vernal pools, ruderal.
	Gnaphalium canescens ssp. *thermale*	Small-headed cudweed	Dry cobbles. Uncommon at north edge.
	Gnaphalium palustre	Western marsh cudweed	Vernal pools
	Grindelia camporum	Valley gumplant	Ruderal
	Hemizonia fitchii	Fitch's spikeweed	Low mounds, thick soils encircling wet margins
	*Hypochaeris glabra**	Smooth cat's ear	Dry cobbles, low mounds, thick soils
	*Lactuca serriola**	Prickly lettuce	Thick soils
	Lagophylla glandulosa	Glandular hareleaf	Thick soils encircling wet margins
	Lasthenia californica	California goldfields	Outcrop edges, low mounds, wet margins. Common.
	Lasthnia fremontii	Fremont's goldfields	Wet margins, vernal pools. Common
	Layia fremontii	Fremont's tidytips	Wet margins, vernal pools. Uncommon.
	Micropus californicus	Slender cottonweed	Low mounds, vernal pools
	Microseris acuminata	Sierra foothill microseris	Wet margins
	Psilocarphus brevissimus	Dwarf woolly marbles	Vernal pools. Abundant in nearly all pools
	Psilocarphus oregonus	Oregon woolly-marbles	Vernal pools, ruderal. Uncommon
	Psilocarphus tenellus	Slender woolly marbles	Vernal pools. Mixed with *P. brevissimus.*
	*Senecio sylvaticus**	Wood groundsel	Low mounds
	*Senecio vulgaris**	Old-man-in-the-spring	Thin soils, outcrop edges, low mounds, thick soils, ruderal. Common in annual grassland.
	*Silybum marianum**	Milk thistle	Thick soils, shaded soils. Common under oaks.
	Uropappus lindleyi	Lindley's microseris	Dry cobbles, cliff faces
	Xanthium strumarium	Cocklebur	Vernal pools

Family	Species	Common Name	Habitats Where Found
Boraginaceae			
	Amsinckia menziesii var. *intermedia*	Common fiddleneck	Thick soils, ruderal. Common on grassy slopes.
	Amsinckia menziesii var. *menziesii*	Menzies' fiddleneck	Thick soils, ruderal. Common.
	Cryptantha flaccida	Weak-stemmed cryptantha	Low mounds. Uncommon.
	Plagiobothrys austinae	Austin's popcorn flower	Vernal pools.
	Plagiobothrys bracteatus.	Bracted popcorn flower	Vernal pools. Common.
	Plagiobothrys fulvus	Fulvous popcorn flower	Thick soils
	Plagiobothrys glyptocarpus	Sculptured popcorn flower	Vernal pools. Common
	Plagiobothrys nothofulvus	Common popcorn flower	Thick soils. Common
	Plagiobothrys stipitatus var. *micranthus*	Small-flowered popcorn flower	Vernal pools.
	Plagiobothrys stipitatus var. *stipitatus*	Large-flowered popcorn flower	Vernal pools. Uncommon.
Brassicaceae			
	Arabis breweri var. *austini*	Austin's rockcress	Cliff faces. Common on mesa's west edge; rare but not endangered in California.
	Athysanus pusillus	Petty athysanus	Shaded soils. Uncommon.
	*Capsella bursa-pastoris**	Shepherd's purse	Thick soils, ruderal.
	Cardamine oligosperma	Western bittercress	Shaded soils, wet margins.
	Draba verna	Spring whitlow grass	Thin soils. Uncommon.
	Lepidium nitidum	Shining pepper grass	Low mounds. Common.
	*Raphanus raphanistrum**	Jointed charlock	Thick soils, shaded soils.
	*Sisymbrium officinale**	Hedge mustard	Shaded soils. Common along mesa's edge.
	Streptanthus diversifolius	Variable-leaved jewelflower	Bedrock outcrops, thin soils. Possibly the northernmost Sierra Nevada population.
	Streptanthus tortuosus var. *suffrutescens*	Woody mountain jewel-flower	Bedrock outcrops, thin soils, cliff faces. This rare variety is common here.
	Thysanocarpus curvipes	Fringepod	Low mounds, thick soils. Infrequent
	Thysanocarpus curvipes var. *elegans*	Fringepod	Dry cobbles, low mounds, thick soils. Common.
Callitrichaceae			
	Callitriche heterophylla var. *bolanderi*	Variable-leaved water starwort	Standing water
	Callitriche marginata	Winged water starwort	Low mounds, wet margins. Common but overlooked
Campanulaceae			
	Downingia cuspidata	Toothed downingia	Vernal pools. Common in dried pools.
	Githopsis specularioides	Common bluecup	Thin soils, outcrop edges, low mounds.
	Heterocodon rariflorum	Heterocodon	Vernal pools. Uncommon.
Caprifoliaceae			
	Sambucus mexicana	Blue elderberry	Shaded soils. Uncommon.

Family	Species	Common Name	Habitats Where Found
Caryophyllaceae			
	*Cerastium glomeratum**	Sticky mouse-eared chickweed	Dry cobbles, low mounds, thick soils. Common.
	Minuartia californica	California sandwort	Thin soils, low mounds. Uncommon.
	Minuartia douglasii	Douglas' sandwort	Bedrock outcrops, outcrop edges. Common.
	*Petrorhagia dubia**	Grass pink	Low mounds, thick soils.
	Sagina decumbens ssp. *occidentalis*	Western pearlwort	Wet margins, vernal pools.
	*Silene gallica**	Windmill pink	Shaded soils, ruderal.
	*Spergularia rubra**	Ruby sandspurry	Low mounds, thick soils, ruderal.
	*Stellaria media**	Common chickweed	Wet cobbles, low mounds, thick soils, shaded soils. Common.
Crassulaceae			
	Crassula aquatica	Water pygmyweed	Wet margins, vernal pools.
	Crassula connata	Pigmyweed	Thin soils, outcrop edges, dry cobbles, wet cobbles, low mounds, ruderal. Common.
	*Crassula tillaea**	Mossy pigmyweed	Thin soils, outcrop edges, dry cobbles, wet cobbles, low mounds.
	Dudleya cymosa	Canyon dudleya	Cliff faces
	Parvisedum pumilum	Dwarf stonecrop	Bedrock outcrops, thin soils, outcrop edges, wet cobbles.
Cucurbitaceae			
	Marah fabaceus var. *agrestis*	California manroot	Fractured basalt. Common, creeping on cobble piles.
	Marah watsonii	Taw manroot	Fractured basalt, creeping on cobble piles.
Ericaceae			
	Arctostaphylos manzanita	Big manzanita	Low mounds, shaded soils. Occasional.
	Arctostaphylos viscida	White-leaved manzanita	Low mounds, shaded soils. Occasional.
Euphorbiaceae			
	Chamaesyce ocellata ssp. *ocellata*	Valley spurge	Low mounds, thick soils.
	Eremocarpus setigerus	Turkey mullein	Thick soils, wet margins, ruderal.
Fabaceae			
	Astragalus pauperculus	Depauperate milk vetch	Thin soils, low mounds. Uncommon. Rare but not endangered in Calif.
	Lotus humistratus	Foothill lotus	Low mounds, thick soils. Common.
	Lotus micranthus	Small-flowered lotus	Thin soils, outcrop edges, low mounds, thick soils.
	Lotus wrangelianus	Wrangel lotus	Outcrop edges, low mounds. Common.
	Lupinus albifrons var. *albifrons*	Silver bush lupine	Cliff faces, fractured basalt. Common as mesa's west edge.

Family	Species	Common Name	Habitats Where Found
	Lupinus bicolor ssp. *pipersmithii*	Bicolored lupine	Shaded soils.
	Lupinus bicolor ssp. *tridentatus*	Bicolored lupine	Thin soils, outcrop edges, dry cobbles, low mounds. Common.
	Lupinus nanus	Sky lupine	Outcrop edges, dry cobbles, low mounds, thick soils, ruderal. Most common lupine on mesa.
	Lupinus pachylobus	Big-podded lupine	Thick soils, shaded soils. Common under oaks.
	Lupinus polycarpus	Small-flowered lupine	Outcrop edges, dry cobbles, low mounds, thick soils, ruderal. Common.
	*Medicago polymorpha**	Common bur clover	Thick soils, shaded soils, wet margins, vernal pools.
	*Medicago praecox**	Mediterranean bur clover	Not observed by author Jokerst.
	Trifolium albopurpureum	Indian clover	Thin soils, low mounds.
	Trifolium depauperatum	Cowbag clover	Dry cobbles, wet cobbles, low mounds. Common.
	Trifolium microcephalum	Small-headed clover	Dry cobbles, thick soils.
	*Trifolium subterraneum**	Subterranean clover	Outcrop edges, dry cobbles, low mounds, thick soils.
	Trifolium variegatum	White-tipped clover	Wet margins. Common along all waterways.
	Trifolium willdenovii	Tomcat clover	Thick soils. Common.
	*Vicia villosa**	Winter vetch	Ruderal. Only on disturbed soil.
Fagaceae			
	Quercus chrysolepis	Canyon live oak	Thick soils, shaded soils. Uncommon.
	Quercus douglasii	Blue oak	Thick soils, shaded soils. Common along ravines and at mesa's edge.
	Quercus kelloggii	California black oak	Shaded soils. Uncommon.
	Quercus lobata	Valley oak	Shaded soils.
	Quercus wislizenii	Interior live oak	Thick soils, shaded soils. Common.
Gentianaceae			
	Centaurium venustum	Canchalagua	Wet margins.
	Cicendia quandrangularis	Timwort	Wet margins. Uncommon.
Geraniaceae			
	*Erodium botrys**	Long-beaked stork's bill	Dry cobbles, wet cobbles, low mounds, thick soils. Common.
	*Erodium brachycarpum**	Short-fruited stork's bill	Thin soil, low mounds.
	*Erodium cicutarium**	Red-stemmed filaree	Thick soils. Uncommon.
	*Geranium dissectum**	Cut-leaved geranium	Wet margins. Rare in seepage areas.
	*Geranium molle**	Dove's foot geranium	Shaded soils. Common in ravines and under oaks.
Hippocastanaceae			
	Aesculus californica	California buckeye	Shaded soils. Uncommon in ravines.
Hydrophyllaceae			
	Nemophila heterophylla	Variable-leaved nemophila	Shaded soils. Common.
	Phacelia cicutaria	Caterpillar phacelia	Fractured basalt. Common.
	Phacelia egena	Rock phacelia	Dry cobbles, cliff faces, fractured basalt.

Family	Species	Common Name	Habitats Where Found
Hypericaceae			
	Hypericum anagalloides	Tinker's penny	Wet margins, vernal pools.
	*Hypericum perforatum**	Klamathweed	Vernal pools, ruderal. Occasional near water.
Lamiaceae			
	Lycopus americanus	Cut-leaved bugleweed	Wet margins, vernal pools.
Lauraceae			
	Umbellularia californica	California bay	Shaded soils. Common.
Limnanthaceae			
	Limnanthes douglasii ssp. *rosea*	Rosy meadowfoam	Wet margins. Common.
	Limnanthes floccosa ssp. *californica*	Butte County meadowfoam	Not observed by author Jokerst. Rare and endangered species. May be extinct here.
Lythraceae			
	*Lythrum hyssopifolium**	Hyssop loosestrife	Wet margins, vernal pools. Occasional.
Malvaceae			
	Sidalcea calycosa	Annual sidalcea	Wet margins, vernal pools. Common along creeks.
	Sidalcea hartwegii	Hartweg's sidalcea	Thin soils. Uncommon.
Onagraceae			
	Clarkia arcuata	Kellogg's clarkia	Thin soils, low mounds.
	Clarkia purpurea ssp. *quadrivulnera*	Purple clarkia	Dry cobbles, low mounds, thick soils.
	Epilobium densiflorum	Dense-flowered spike primrose	Wet margins, vernal pools.
	Epilobium torreyi	Torrey's spike primrose	Wet margins, vernal pools.
Orobanchaceae			
	Orobanche uniflora	Naked broomrape	Wet cobbles. Scarce in shaded areas.
Oxalidaceae			
	*Oxalis corniculata**	Creeping wood sorrel	Shaded soils, wet margins. Uncommon.
Papaveraceae			
	Eschscholzia caespitosa	Foothill poppy	Thin soils, dry cobbles, low mounds.
	Eschscholzia lobbii	Fryingpans	Thin soils, outcrop edges, dry cobbles, fractured basalt, low mounds, thick soils. Common.
Plantaginaceae			
	Plantago elongata	Elongate plantain	Wet margins, vernal pools. Uncommon.
	Plantago erecta	Erect plantain	Thin soils, outcrop edges, low mounds. Common.
Polemoniaceae			

Family	Species	Common Name	Habitats Where Found
	Gilia capitata ssp. *pedemontana*	Foothill globe gilia	Dry cobbles, fractured basalt. Occasional.
	Gilia tricolor	Bird's eye gilia	Low mounds. Common.
	Linanthus bicolor	Bicolored linanthus	Low mounds, thick soils. Common.
	Linanthus ciliatus	Whisker brush	Vernal pools. Uncommon.
	Linanthus filipes	Wild baby's breath	Outcrop edges. Common.
	Linanthus parviflorus	Cherokee linanthus	Low mounds. Uncommon.
	Navarretia divaricata	Spreading navarretia	Thin soils, low mounds. Common on mesa but not frequent at low elevations in Sacto. Valley.
	Navarretia intertexta	Needle-leaved navarretia	Wet margins, vernal pools. Uncommon.
	Navarretia leucocephala	White-flowered navarretia	Vernal pools. Common in most vernal pools.
	Navarretia tagetina	Marigold navarretia	Thin soils, low mounds. Common.
	Phlox gracilis	Slender phlox	Dry cobbles, wet cobbles.
Polygonaceae			
	Eriogonum nudum	Nude buckwheat	Thin soils, dry cobbles, low mounds.
	Polygonum californicum	California knotweed	Outcrop edges, low mounds. Uncommon
	Polygonum hydropiperoides	Mild water pepper	Vernal pools, standing water. Common in wet areas.
	Pterostegia drymarioides	Pterostegia	Wet cobbles. Uncommon.
	*Rumex acetosella**	Common sheep sorrel	Cliff faces, thick soils. Uncommon
	*Rumex crispus**	Curly dock	Thick soils, ruderal. Common
	*Rumex pulcher**	Fiddle dock	Thick soils, shaded soils, ruderal.
Portulacaceae			
	Calandrinia ciliata	Redmaids	Thin soils, outcrop edges, low mounds, thick soils. Common.
	Claytonia perfoliata	Common miner's lettuce	Shaded soils
	Lewisia rediviva	Bitter root	Bedrock outcrops, thin soils. Occasional
	Montia fontana ssp. *amporitana*	Water montia	Standing water. Common on rocks in shallow water.
	Montia fontana ssp. *chondrosperma*	Water montia	Wet margins.
Primulaceae			
	*Anagalis arvensis**	Scarlet pimpernel	Thick soils, shaded soils, wet margins. Common.
	Dodecatheon clevelandii ssp. *patulum*	Lowland shootingstar	Thin soils, low mounds. Common on well-drained soils.
Ranunculaceae			
	Delphinium nudicaule	Red larkspur	Wet cobbles, cliff faces, fractured basalt.
	Delphinium patens	Spreading larkspur	Cliff faces, fractured basalt. Common.
	Delphinium variegatum	Royal larkspur	Low mounds, thick soils.
	Myosurus minimus	Common mousetail	Wet margins, vernal pools. Uncommon.
	Ranunculus aquatilis var. *hispidulus*	Water buttercup	Standing water.

Family	Species	Common Name	Habitats Where Found
	Ranunculus bonariensis var. *trisepalus*	Three-sepaled buttercup	Vernal pools. Rare on mesa.
	Ranunculus canus	Sacramento Valley buttercup	Wet margins. Common on damp soil.
	*Ranunculus muricatus**	Prickle-seeded buttercup	Wet margins. Common.
Rhamnaceae			
	Rhamnus tomentella ssp. *tomentella*	Hoary coffeeberry	Dry cobbles, fractured basalt. Uncommon.
Rosaceae			
	Aphanes occidentalis	Western lady's mantle	Low mounds. Common but overlooked.
Rubiaceae			
	Galium aparine	Cleavers	Dry cobbles, wet cobbles, fractured basalt, shaded soil.
	*Galium parisiense**	Wall bedstraw	Ruderal. Common roadside weed.
	Galium porrigens var. *tenue*	Narrow-leaved climbing bedstraw	Fractured basalt, shaded soils. Rare.
	*Sherardia arvensis**	Field madder	Low mounds, thick soils, ruderal. Common.
Salicaceae			
	Populus fremontii ssp. *fremontii*	Fremont's cottonwood	Shaded soils. Occasional along creeks.
	Salix laevigata	Red willow	Shaded soils. Along creeks.
	Salix lasiolepis	Arroyo willow	Shaded soils. Along creeks.
Saxifragaceae			
	Lithophragma bolanderi	Bolander's woodlandstar	Dry cobbles, wet cobbles, fractured basalt, thin soils.
	Lithophragma parviflorum	Small-flowered woodland-star	Wet cobbles, fractured basalt. Occasional.
	Saxifraga californica	California saxifrage	Wet cobbles. Common.
	Saxifraga integrifolia	Hooker's saxifrage	Wet cobbles. Common.
Scrophulariaceae			
	Antirrhinum cornutum	Spurred snapdragon	Ruderal. Uncommon.
	Castilleja attenuata	Valley tassels	Outcrop edges, dry cobbles, low mounds.
	Castilleja exserta	Purple owl clover	Thin soils, outcrop edges, dry cobbles. Common.
	Collinsia sparsiflora var. *brucae*	Few-flowered collinsia	Dry cobbles, wet cobbles, low mounds. Common.
	Collinsia tinctoria	Sticky Chinese houses	Dry cobbles, fractured basalt. Common.
	Gratiola ebracteata	Bractless hedge hysopp	Wet margins, vernal pools.
	Keckiella breviflora	Gaping keckiella	Cliff faces.
	Mimulus douglasii	Purple mouse ears	Outcrop edges, dry cobbles.
	Mimulus floribundus	Floriferous monkey flower	Wet cobbles, cliff faces, shaded soils. Common.
	Mimulus guttatus	Seep monkey flower	Wet margins, vernal pools. Common.
	Mimulus kelloggii	Kellog's monkey flower	Outcrop edges, dry cobbles. Common.
	Mimulus tricolor	Tricolored monkey flower	Vernal pools. Occasional.

Family	Species	Common Name	Habitats Where Found
	Triphysaria eriantha ssp. *eriantha*	Johnnytuck	Thin soils, low mounds. Common.
	Veronica peregrina ssp. *xalapensis*	Purslane speedwell	Wet margins, vernal pools. Common.
Valerianaceae			
	Plectritis macrocera	White plectritis	Dry cobbles, wet cobbles. Common.
Violaceae			
	Viola douglasii	Douglas' violet	Thin soils, dry cobbles, low mounds. Common.
	Viola purpurea ssp. *quercetorum*	Oakwoods violet	Dry cobbles, wet cobbles.
Viscaceae			
	Arceuthobium americanum	Lodgepole pine dwarf mistletoe	Rare; parasitic on *Pinus sabiniana.*
	Phoradendron villosum	Hairy mistletoe	Occasional; parasitic on *Quercus douglasii*

FLOWERING PLANTS - MONOCOTS

Cyperaceae			
	Bulbostylis capillaris	Hair-like bulbostylis	Vernal pools.
	Carex subfusca	Rusty slender sedge	Wet margins, vernal pools. Occasional.
	Cyperus eragrostis	Tall cyperus	Wet margins, vernal pools. Common.
	Cyperus squarrosus	Awned cyperus	Vernal pools. Uncommon.
	Cyperus strigosus	False nutsedge	Wet margins, vernal pools. Common.
	Eleocharis acicularis	Needle spike rush	Wet margins. Common.
	Eleocharis macrostachya	Pale spike rush	Vernal pools. Common.
Juncaceae			
	Juncus bufonius	Common toad rush	Low mounds, wet margins, vernal pools. Common.
	*Juncus capitatus**	Leafy-bracted dwarf rush	Wet margins, vernal pools. Uncommon.
	Juncus leiospermus	Red Bluff dwarf rush	Wet margins, vernal pools. Was considered extinct until recently and is commonly found on mesa.
	Juncus uncialis	Inch-high rush	Vernal pools. Uncommon.
Juncaginaceae			
	Lilaea scilloides	Flowering quillwort	Vernal pools. Occasional.
Lemnaceae			
	Lemna minor	Lesser duckweed	Standing water. Uncommon.
Liliaceae			
	Allium amplectens	Clasping onion	Dry cobbles, low mounds, ruderal. Common.
	Allium cratericola	Volcanic onion	Bedrock outcrops, thin soils. Abundant on bedrock
	Allium membranaceum	Papery onion	Dry cobbles, fractured basalt. Scarce at north tip.
	Brodiaea elegans	Elegant brodiaea	Low mounds. Widely scattered, occasional.
	Brodiaea minor	Bluestars	Thin soils, low mounds. Uncommon.
	Calochortus albus	White globe lily	Dry cobbles. Uncommon in shaded areas at the mesa's north tip.

Family	Species	Common Name	Habitats Where Found
	Calochortus luteus	Yellow mariposa lily	Thin soils, low mounds, ruderal.
	Chlorogalum pomeridianum	Wavy-leaved soap plant	Outcrop edges, dry cobbles, fractured basalt, low mounds. Common.
	Dichelostemma capitatum	Bluedicks	Thin soils, outcrop edges, dry cobbles, cliff faces, low mounds, thick soils. Very common on mesa.
	Dichelostemma multiflorum	Round-toothed ookow.	Dry cobbles, low mounds, thick soils, ruderal. Common.
	Odontostomum hartwegii	Hartweg's odontostomum	Thin soils, outcrop edges, fractured basalt.
	Triteleia hyacinthina	Wild hyacinth	Wet margins. Rare, only found at one locality.
	Triteleia ixioides ssp. *unifolia*	Dark-stained prettyface	Low mounds, thick soils. Common.
	Triteleia laxa	Ithuriel's spear	Low mounds. Occasional.
	Triteleia lilacina	Glassy wild hyacinth	Thin soils, outcrop edges, low mounds. Common.
Poaceae			
	Agrostis microphylla	Small-leaved bentgrass	Thin soils, outcrop edges, low mounds.
	*Aira caryophyllea**	Silver European hairgrass	Thin soils, outcrop edges, low mounds, thick soils.
	Alopecurus saccatus	Vernal pool foxtail	Vernal pools, standing water. Common.
	Aristida oligantha	Oldfield three awn	Wet margins.
	Aristida ternipes var. *hamulosa*	Hook three awn	Thin soils, outcrop edges, thick soils. Rare; northernmost known population in Sacto. Valley.
	*Avena barbata**	Slender wild oat	Low mounds, thick soils, ruderal. Common.
	*Briza minor**	Lesser quaking grass	Low mounds, thick soils, wet margins. Common.
	*Bromus diandrus**	Ripgut brome	Thick soils, ruderal.
	Bromus hordeaceus ssp. *hordeaceus**	Soft chess	Outcrop edges, dry cobbles, low mounds, thick soils, ruderal.
	Bromus hordeaceus ssp. *molliformis**		Dry cobbles, thick soils. Common.
	Bromus madritensis ssp. *madritensis**	Foxtail chess	Dry cobbles. Uncommon.
	Bromus madritensis ssp. *rubens**	Red brome	Thick soils, shaded soils, ruderal.
	*Cynodon dactylon**	Bermuda grass	Shaded soils, vernal pools.
	*Cynosurus echinatus**	Hedgehog dogtail	Shaded soils. Common under shade of oaks.
	Deschampsia danthonioides	Annual hairgrass	Wet margins, vernal pools.
	*Echinochloa crus-galli**	Barnyard grass	Vernal pools. Common.
	Elymus glaucus	Blue wild rye	Dry cobbles. Uncommon at mesa's west edge.
	Elymus x*hansenii*		Dry cobbles, cliff faces. Rare.
	*Gastridium ventricosum**	Nutgrass	Thin soils, outcrop edges. Common.
	Hordeum brachyantherum	Meadow barley	Wet margins. Rare.
	Hordeum marinum ssp. *gussoneanum**	Mediterranean barley	Outcrop edges, ruderal. Common.
	Hordeum murinum ssp. *leporinum**	Hare wall barley	Shaded soils, ruderal. Common.
	*Koeleria phleoides**	Bristly Koeler's grass	Thin soils, low mounds, thick soils. Common.
	*Lamarckia aurea**	Goldentop	Dry cobbles, fractured basalt. Occasional.
	*Lolium multiflorum**	Annual ryegrass	Thick soils, shaded soils. Uncommon.
	Melica californica	California melic	Thin soils, dry cobbles, cliff faces, fractured basalt. Common.

Family	Species	Common Name	Habitats Where Found
	Nassella pulchra	Purple needlegrass	Rare, only known from herbarium collection.
	*Paspalum dilatatum**	Dallisgrass	Vernal pools.
	*Phalaris caroliniana**	Carolina canarygrass	Vernal pools. Uncommon.
	*Phalaris paradoxa**	Paradox canarygrass	Vernal pools. Uncommon.
	*Poa annua**	Annual bluegrass	Thick soils, shaded soils, wet margins. Common.
	Poa secunda ssp. *secunda*	One-sided bluegrass	Thin soils, outcrop edges, cliff faces. Uncommon.
	Poa tenerrima	Delicate bluegrass	Vernal pools. Uncommon at mesa's northern pools.
	*Polypogon australis**	Southern beardgrass	Not observed by author Jokerst
	*Polypogon monspeliensis**	Annual beardgrass	Vernal pools. Common.
	Scribneria bolanderi	Scribner's grass	Low mounds, thick soils. Uncommon.
	*Taeniatherum caput-medusae**	Medusa head	Thick soils. Occasional.
	Vulpia microstachys var. *ciliata*	Fringed fescue	Thin soils, outcrop edges, dry cobbles.
	Vulpia microstachys var. *confusa*	Hairy-leaved fescue	Thin soils, outcrop edges, dry cobbles.
	Vulpia microstachys var. *microstachys*	Small fescue	Thin soils, outcrop edges, dry cobbles. Common.
	Vulpia microstachys var. *pauciflora*	Few-flowered fescue	Thin soils, outcrop edges, dry cobbles.
	Vulpia myuros var. *hirsuta**	Foxtail fescue	Dry cobbles, low mounds, thick soils. Common.
	Vulpia myuros var. *myuros**	Rattail fescue	Thin soils, outcrop edges, dry cobbles, low mounds.

Appendix C
Potential Wildlife Species List

ESA

APPENDIX C

Potential Terrestrial Species Occurrence by Wildlife Habitat Relationship (WHR) Habitat Type

			Habitat Type				
WHR ID	COMMON NAME	*Scientific Name*	Montaine Hardwood	Blue-oak Woodland	Valley-oak Woodland	Riverine	Annual Grassland
	AMPHIBIANS						
A007	CALIFORNIA NEWT*	*Taricha torosa*		x	x	x	x
A012	ENSATINA	*Ensatina eschscholtzii*	x	x	x		
A014	CALIFORNIA SLENDER SALAMANDER	*Batrachoseps attenuatus*		x	x		x
A028	WESTERN SPADEFOOT	*Spea hammondii*		x	x	x	x
A032	WESTERN TOAD*	*Bufo boreas*	x	x	x	x	
A039	PACIFIC CHORUS FROG*	*Hyla regilla*	x	x	x	x	x
A040	RED-LEGGED FROG	*Rana aurora*	x	x	x	x	x
A043	FOOTHILL YELLOW-LEGGED FROG	*Rana boylii*	x	x	x	x	x
A046	BULLFROG	*Rana catesbeiana*	x	x	x	x	x
	BIRDS						
B108	TURKEY VULTURE	*Cathartes aura*	x	x	x	x	x
B111	WHITE-TAILED KITE	*Elanus leucurus*		x	x		x
B113	BALD EAGLE*	*Haliaeetus leucocephalus*	x	x	x	x	x
B114	NORTHERN HARRIER	*Circus cyaneus*	x	x	x	x	x
B115	SHARP-SHINNED HAWK	*Accipiter striatus*	x	x	x		x
B116	COOPER'S HAWK	*Accipiter cooperii*	x	x	x		x
B117	NORTHERN GOSHAWK	*Accipiter gentilis*	x	x	x		
B119	RED-SHOULDERED HAWK	*Buteo lineatus*	x	x	x		x
B123	RED-TAILED HAWK*	*Buteo jamaicensis*	x	x	x		x
B124	FERRUGINOUS HAWK	*Buteo regalis*		x	x		x
B125	ROUGH-LEGGED HAWK	*Buteo lagopus*		x	x		x
B126	GOLDEN EAGLE*	*Aquila chrysaetos*	x	x	x		x
B127	AMERICAN KESTREL*	*Falco sparverius*	x	x	x		x
B128	MERLIN	*Falco columbarius*	x	x	x	x	x
B129	PEREGRINE FALCON	*Falco peregrinus*	x	x	x	x	x
B131	PRAIRIE FALCON*	*Falco mexicanus*	x	x	x		x
B138	WILD TURKEY	*Meleagris gallopavo*	x	x	x		x
B140	CALIFORNIA QUAIL	*Callipepla californica*	x	x	x		x
B141	MOUNTAIN QUAIL	*Oreortyx pictus*	x	x			x
B250	ROCK DOVE	*Columba livia*					x
B251	BAND-TAILED PIGEON	*Patagioenas fasciata*	x	x	x		
B255	MOURNING DOVE	*Zenaida macroura*	x	x	x		x
B262	BARN OWL	*Tyto alba*	x				x

APPENDIX C

Potential Terrestrial Species Occurrence by Wildlife Habitat Relationship (WHR) Habitat Type

			Habitat Type				
WHR ID	COMMON NAME	*Scientific Name*	Montaine Hardwood	Blue-oak Woodland	Valley-oak Woodland	Riverine	Annual Grassland
B264	WESTERN SCREECH OWL	*Megascops kennicottii*	x	x	x		x
B265	GREAT HORNED OWL	*Bubo virginianus*	x	x	x		x
B267	NORTHERN PYGMY OWL	*Glaucidium gnoma*	x	x	x		
B269	BURROWING OWL*	*Athene cunicularia*		x			x
B272	LONG-EARED OWL	*Asio otus*	x	x			x
B273	SHORT-EARED OWL	*Asio flammeus*		x	x		x
B274	NORTHERN SAW-WHET OWL	*Aegolius acadicus*	x	x	x	x	
B275	LESSER NIGHTHAWK	*Chordeiles acutipennis*		x	x	x	x
B276	COMMON NIGHTHAWK	*Chordeiles minor*		x	x	x	x
B277	COMMON POORWILL	*Phalaenoptilus nuttallii*	x	x	x	x	x
B279	BLACK SWIFT	*Cypseloides niger*	x	x	x	x	x
B281	VAUX'S SWIFT	*Chaetura vauxi*	x	x		x	
B282	WHITE-THROATED SWIFT*	*Aeronautes saxatalis*	x	x	x		x
B286	BLACK-CHINNED HUMMINGBIRD	*Archilochus alexandri*		x	x		
B287	ANNA'S HUMMINGBIRD	*Calypte anna*	x	x	x		
B289	CALLIOPE HUMMINGBIRD	*Stellula calliope*	x	x	x		
B293	BELTED KINGFISHER	*Ceryle alcyon*		x	x		
B294	LEWIS' WOODPECKER	*Melanerpes lewis*	x	x	x		x
B296	ACORN WOODPECKER	*Melanerpes formicivorus*	x				
B299	RED-BREASTED SAPSUCKER	*Sphyrapicus ruber*	x	x	x		
B302	NUTTALL'S WOODPECKER	*Picoides nuttallii*	x	x	x		
B303	DOWNY WOODPECKER	*Picoides pubescens*	x	x	x		x
B304	HAIRY WOODPECKER	*Picoides villosus*	x				
B307	NORTHERN FLICKER	*Colaptes auratus*	x	x			
B311	WESTERN WOOD-PEWEE	*Contopus sordidulus*	x	x	x		
B317	HAMMOND'S FLYCATCHER	*Empidonax hammondii*	x	x	x		
B318	DUSKY FLYCATCHER	*Empidonax oberholseri*		x	x		
B320	PACIFIC-SLOPE FLYCATCHER	*Empidonax difficilis*	x	x		x	
B321	BLACK PHOEBE	*Sayornis nigricans*	x	x	x		x
B323	SAY'S PHOEBE	*Sayornis saya*		x	x		x
B326	ASH-THROATED FLYCATCHER	*Myiarchus cinerascens*	x	x	x		
B333	WESTERN KINGBIRD	*Tyrannus verticalis*	x	x	x		x
B337	HORNED LARK	*Eremophila alpestris*		x	x	x	x
B338	PURPLE MARTIN	*Progne subis*	x	x	x	x	x

APPENDIX C

Potential Terrestrial Species Occurrence by Wildlife Habitat Relationship (WHR) Habitat Type

			Habitat Type				
WHR ID	COMMON NAME	*Scientific Name*	Montaine Hardwood	Blue-oak Woodland	Valley-oak Woodland	Riverine	Annual Grassland
B339	TREE SWALLOW	*Tachycineta bicolor*	x	x	x	x	x
B340	VIOLET-GREEN SWALLOW*	*Tachycineta thalassina*	x	x		x	x
B341	NORTHERN ROUGH-WINGED SWALLOW	*Stelgidopteryx serripennis*	x	x	x	x	x
B342	BANK SWALLOW	*Riparia riparia*					x
B343	CLIFF SWALLOW	*Petrochelidon pyrrhonota*		x		x	x
B344	BARN SWALLOW	*Hirundo rustica*	x	x	x		x
B346	STELLER'S JAY	*Cyanocitta stelleri*	x	x	x		
B348	WESTERN SCRUB-JAY	*Aphelocoma californica*	x	x	x		
B352	YELLOW-BILLED MAGPIE	*Pica nuttalli*		x	x	x	x
B353	AMERICAN CROW	*Corvus brachyrhynchos*	x	x	x	x	x
B354	COMMON RAVEN	*Corvus corax*	x	x	x	x	x
B356	MOUNTAIN CHICKADEE	*Poecile gambeli*	x	x	x		
B357	CHESTNUT-BACKED CHICKADEE	*Poecile rufescens*	x	x	x		
B358	OAK TITMOUSE	*Baeolophus inornatus*	x	x	x		
B360	BUSHTIT	*Psaltriparus minimus*	x	x	x		
B362	WHITE-BREASTED NUTHATCH	*Sitta carolinensis*	x	x	x		
B364	BROWN CREEPER	*Certhia americana*	x	x	x		
B366	ROCK WREN*	*Salpinctes obsoletus*	x	x	x		
B367	CANYON WREN	*Catherpes mexicanus*		x			
B368	BEWICK'S WREN	*Thryomanes bewickii*	x	x	x		
B369	HOUSE WREN	*Troglodytes aedon*	x			x	
B373	AMERICAN DIPPER	*Cinclus mexicanus*		x	x		
B375	GOLDEN-CROWNED KINGLET	*Regulus satrapa*	x	x	x		
B376	RUBY-CROWNED KINGLET	*Regulus calendula*	x	x	x		
B377	BLUE-GRAY GNATCATCHER	*Polioptila caerulea*	x	x	x		
B380	WESTERN BLUEBIRD	*Sialia mexicana*	x	x	x		x
B381	MOUNTAIN BLUEBIRD	*Sialia currucoides*		x	x		x
B385	SWAINSON'S THRUSH	*Catharus ustulatus*	x	x	x		
B386	HERMIT THRUSH	*Catharus guttatus*	x	x	x		
B389	AMERICAN ROBIN	*Turdus migratorius*	x	x	x		x
B390	VARIED THRUSH	*Ixoreus naevius*	x	x	x		
B391	WRENTIT	*Chamaea fasciata*	x	x	x		
B393	NORTHERN MOCKINGBIRD	*Mimus polyglottos*		x	x		x
B404	AMERICAN PIPIT	*Anthus rubrescens*		x	x		x

APPENDIX C

Potential Terrestrial Species Occurrence by Wildlife Habitat Relationship (WHR) Habitat Type

			Habitat Type				
WHR ID	COMMON NAME	*Scientific Name*	Montaine Hardwood	Blue-oak Woodland	Valley-oak Woodland	Riverine	Annual Grassland
B407	CEDAR WAXWING	*Bombycilla cedrorum*	x	x	x		
B408	PHAINOPEPLA	*Phainopepla nitens*	x	x	x		
B410	LOGGERHEAD SHRIKE	*Lanius ludovicianus*	x	x	x		x
B411	EUROPEAN STARLING	*Sturnus vulgaris*	x	x	x		x
B417	HUTTON'S VIREO	*Vireo huttoni*	x	x	x		
B418	WARBLING VIREO	*Vireo gilvus*	x	x	x		
B425	ORANGE-CROWNED WARBLER	*Vermivora celata*	x	x	x		
B426	NASHVILLE WARBLER	*Vermivora ruficapilla*	x	x	x		
B430	YELLOW WARBLER	*Dendroica petechia*	x	x	x		
B435	YELLOW-RUMPED WARBLER	*Dendroica coronata*	x	x	x		x
B461	COMMON YELLOWTHROAT	*Geothlypis trichas*					
B471	WESTERN TANAGER	*Piranga ludoviciana*	x				
B475	BLACK-HEADED GROSBEAK	*Pheucticus melanocephalus*	x	x	x		
B477	LAZULI BUNTING	*Passerina amoena*	x	x	x		
B483	SPOTTED TOWHEE	*Pipilo maculatus*	x	x	x		
B484	CALIFORNIA TOWHEE	*Pipilo crissalis*	x	x			
B487	RUFOUS-CROWNED SPARROW	*Aimophila ruficeps*		x	x		x
B489	CHIPPING SPARROW	*Spizella passerina*	x	x	x		x
B495	LARK SPARROW	*Chondestes grammacus*	x	x	x		x
B499	SAVANNAH SPARROW*	*Passerculus sandwichensis*		x	x		x
B501	GRASSHOPPER SPARROW	*Ammodramus savannarum*					x
B504	FOX SPARROW	*Passerella iliaca*	x	x	x	x	
B505	SONG SPARROW	*Melospiza melodia*	x	x	x		x
B506	LINCOLN'S SPARROW	*Melospiza lincolnii*	x	x	x		x
B509	GOLDEN-CROWNED SPARROW	*Zonotrichia atricapilla*	x	x	x		x
B510	WHITE-CROWNED SPARROW	*Zonotrichia leucophrys*	x	x	x		x
B512	DARK-EYED JUNCO	*Junco hyemalis*	x	x	x		
B519	RED-WINGED BLACKBIRD	*Agelaius phoeniceus*					x
B521	WESTERN MEADOWLARK*	*Sturnella neglecta*	x	x	x	x	x
B524	BREWER'S BLACKBIRD*	*Euphagus cyanocephalus*	x	x	x		x
B528	BROWN-HEADED COWBIRD	*Molothrus ater*	x	x	x		x
B532	BULLOCK'S ORIOLE	*Icterus bullockii*	x	x			
B536	PURPLE FINCH	*Carpodacus purpureus*	x	x	x		
B538	HOUSE FINCH*	*Carpodacus mexicanus*	x	x	x		x

Potential Terrestrial Species Occurrence by Wildlife Habitat Relationship (WHR) Habitat Type

			Habitat Type				
WHR ID	COMMON NAME	*Scientific Name*	Montaine Hardwood	Blue-oak Woodland	Valley-oak Woodland	Riverine	Annual Grassland
B542	PINE SISKIN	*Carduelis pinus*	x	x	x		x
B543	LESSER GOLDFINCH	*Carduelis psaltria*	x	x	x		x
B544	LAWRENCE'S GOLDFINCH	*Carduelis lawrencei*	x	x	x		x
B545	AMERICAN GOLDFINCH	*Carduelis tristis*	x	x	x		x
B546	EVENING GROSBEAK	*Coccothraustes vespertinus*	x	x	x		
B547	HOUSE SPARROW	*Passer domesticus*		x	x		
B554	PLUMBEOUS VIREO	*Vireo plumbeus*	x	x	x		
B773	AMERICAN REDSTART	*Setophaga ruticilla*	x	x			
B798	WHITE-THROATED SPARROW	*Zonotrichia albicollis*	x	x	x		
B809	INDIGO BUNTING	*Passerina cyanea*	x	x	x		
	MAMMALS						
M001	VIRGINIA OPOSSUM	*Didelphis virginiana*	x	x	x		x
M018	BROAD-FOOTED MOLE	*Scapanus latimanus*	x	x	x	x	x
M021	LITTLE BROWN MYOTIS	*Myotis lucifugus*	x	x	x	x	x
M023	YUMA MYOTIS	*Myotis yumanensis*	x	x	x	x	x
M025	LONG-EARED MYOTIS	*Myotis evotis*	x	x	x	x	
M026	FRINGED MYOTIS	*Myotis thysanodes*	x	x	x	x	x
M027	LONG-LEGGED MYOTIS	*Myotis volans*	x	x	x	x	x
M028	CALIFORNIA MYOTIS	*Myotis californicus*	x	x	x	x	x
M029	WESTERN SMALL-FOOTED MYOTIS	*Myotis ciliolabrum*	x	x	x	x	x
M030	SILVER-HAIRED BAT	*Lasionycteris noctivagans*	x	x	x	x	x
M031	WESTERN PIPISTRELLE	*Pipistrellus hesperus*	x	x	x	x	x
M032	BIG BROWN BAT	*Eptesicus fuscus*	x	x	x	x	x
M033	WESTERN RED BAT	*Lasiurus blossevillii*	x	x	x	x	x
M034	HOARY BAT	*Lasiurus cinereus*	x	x	x	x	x
M036	SPOTTED BAT	*Euderma maculatum*		x	x	x	x
M037	TOWNSEND'S BIG-EARED BAT	*Corynorhinus townsendii*	x	x	x	x	x
M038	PALLID BAT	*Antrozous pallidus*	x	x	x	x	x
M039	BRAZILIAN FREE-TAILED BAT	*Tadarida brasiliensis*	x	x	x		x
M042	WESTERN MASTIFF BAT	*Eumops perotis*	x	x	x		x
M051	BLACK-TAILED JACKRABBIT	*Lepus californicus*	x				x
M072	CALIFORNIA GROUND SQUIRREL	*Spermophilus beecheyi*	x				x
M077	WESTERN GRAY SQUIRREL	*Sciurus griseus*	x		x		
M081	BOTTA'S POCKET GOPHER	*Thomomys bottae*	x		x		x

APPENDIX C

Potential Terrestrial Species Occurrence by Wildlife Habitat Relationship (WHR) Habitat Type

			Habitat Type				
WHR ID	COMMON NAME	*Scientific Name*	Montaine Hardwood	Blue-oak Woodland	Valley-oak Woodland	Riverine	Annual Grassland
M105	CALIFORNIA KANGAROO RAT*	*Dipodomys californicus*	x		x	x	x
M113	WESTERN HARVEST MOUSE	*Reithrodontomys megalotis*	x	x	x		x
M117	DEER MOUSE	*Peromyscus maniculatus*	x	x	x		x
M119	BRUSH MOUSE	*Peromyscus boylii*	x		x		x
M127	DUSKY-FOOTED WOODRAT	*Neotoma fuscipes*	x	x			
M134	CALIFORNIA VOLE	*Microtus californicus*					x
M140	BLACK RAT	*Rattus rattus*				x	
M142	HOUSE MOUSE	*Mus musculus*		x	x		x
M146	COMMON PORCUPINE	*Erethizon dorsatum*	x	x	x		
M147	RED FOX	*Vulpes vulpes*					x
M149	GRAY FOX	*Urocyon cinereoargenteus*	x	x	x	x	x
M146	COYOTE*	*Canis latrans*	x	x	x		x
M152	RINGTAIL	*Bassariscus astutus*	x	x		x	x
M153	RACCOON	*Procyon lotor*	x		x		x
M157	LONG-TAILED WEASEL	*Mustela frenata*	x	x	x		x
M160	AMERICAN BADGER	*Taxidea taxus*	x	x	x		x
M161	WESTERN SPOTTED SKUNK	*Spilogale gracilis*	x		x	x	x
M162	STRIPED SKUNK	*Mephitis mephitis*	x	x	x		x
M165	MOUNTAIN LION	*Puma concolor*	x	x	x		x
M166	BOBCAT	*Lynx rufus*	x	x	x		x
M176	WILD PIG	*Sus scrofa*	x	x	x		x
M181	MULE DEER	*Odocoileus hemionus*	x	x	x		x
	REPTILES						
R004	WESTERN POND TURTLE	*Emys marmorata*	x	x	x	x	x
R022	WESTERN FENCE LIZARD*	*Sceloporus occidentalis*	x	x	x		x
R029	COAST HORNED LIZARD*	*Phrynosoma coronatum*		x	x		x
R036	WESTERN SKINK*	*Eumeces skiltonianus*	x	x	x		x
R039	WESTERN WHIPTAIL	*Aspidoscelis tigris*	x	x	x		x
R040	SOUTHERN ALLIGATOR LIZARD	*Elgaria multicarinata*	x	x	x		x
R046	RUBBER BOA	*Charina bottae*	x				
R048	RINGNECK SNAKE	*Diadophis punctatus*	x	x	x		x
R049	SHARP-TAILED SNAKE	*Contia tenuis*	x	x	x		x
R051	RACER*	*Coluber constrictor*	x	x	x		
R053	STRIPED RACER	*Masticophis lateralis*	x	x	x		

APPENDIX C

Potential Terrestrial Species Occurrence by Wildlife Habitat Relationship (WHR) Habitat Type

			Habitat Type				
WHR ID	COMMON NAME	*Scientific Name*	Montaine Hardwood	Blue-oak Woodland	Valley-oak Woodland	Riverine	Annual Grassland
R057	GOPHER SNAKE*	*Pituophis catenifer*	x	x	x		x
R058	COMMON KINGSNAKE	*Lampropeltis getula*	x	x	x		x
R059	CALIFORNIA MOUNTAIN KINGSNAKE	*Lampropeltis zonata*	x	x	x		x
R061	COMMON GARTER SNAKE	*Thamnophis sirtalis*	x	x	x		x
R062	WESTERN TERRESTRIAL GARTER SNAKE	*Thamnophis elegans*	x	x	x	x	x
R071	NIGHT SNAKE	*Hypsiglena torquata*	x	x	x		x
R076	WESTERN RATTLESNAKE*	*Crotalus viridis*	x	x	x		x

* Reported in Mackey and Bills, 2004.

Appendix D

List of Potentially Affected Special-Status Species

ESA

APPENDIX D

List of Potentially Affected Special-Status Species

The "Potential for Species to Occur" category is defined as follows:

None: The project site and/or immediate area does not support suitable habitat for a particular species. Alternatively, the project site is outside of the species known range.

Low Potential: The project site and/or immediate area only provides limited habitat for a particular species. In addition, the known range for a particular species may be outside of the project area.

Medium Potential: The project site and/or immediate area provides suitable habitat for a particular species.

High Potential: The project site and/or immediate area provides ideal habitat conditions for a particular species. Species is known to occur within the project area.

Species that have medium or high potential to be impacted by the proposed project are shown in **boldface** type.

TABLE D-1
SPECIAL-STATUS SPECIES THAT MAY OCCUR IN THE PROJECT AREA

Scientific Name Common Name	Status: Federal/State/CNPS	General habitat	Potential for Species to Occur
Invertebrates			
Branchinecta conservatio Conservancy fairy shrimp	FE/--/--	Lifecycle restricted to large, cool-water vernal pools with moderately turbid water.	**Medium.** Vernal pools are present on the project site and may support this species.
Branchinecta lynchi Vernal pool fairy shrimp	FT/--/--	Lifecycle restricted to vernal pools.	**Medium.** Vernal pools are present on the project site and may support this species.
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	FT/--/--	Breeds and forages exclusively on elderberry shrubs (*Sambucus mexicana*) below 3,000 feet. Occurs only in the Central Valley of California.	**Medium.** Riparian areas are present on the project site and elderberry shrubs may be present. Focused surveys should be conducted.
Lepidurus packardi Vernal pool tadpole shrimp	FE/--/--	Lifecycle restricted to vernal pools.	**Medium.** Vernal pools are present on the project site and may support this species.

Scientific Name Common Name	Status: Federal/State/CNPS	General habitat	Potential for Species to Occur
Linderiella occidentalis California linderiella	--/--/--	Lifecycle restricted to vernal pools.	**Medium.** Vernal pools are present on the project site and may support this species.
Amphibian			
Rana aurora draytonii California red-legged frog	FT/CSC/--	Breeds in slow moving streams, ponds, and marshes with emergent vegetation forages in nearby uplands within about 200 feet.	**Medium.** Canyon streams within the Project area may be suitable for this species. California red-legged frogs are known from streams throughout Butte County.
Reptiles			
Emys (=Clemmys) marmorata marmorata Northwestern pond turtle	--/CSC/--	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat for egg-laying. Nest sites most often characterized as having gentle slopes (<15%) with little vegetation or sandy banks.	**Medium.** Canyon streams within the Project area may provide suitable habitat for this species.
Phrynosoma coronatum (frontale) Coast (California) horned lizard	--/CSC/--	In a variety of habitats, most commonly in lowlands and sandy washes with scattered low bushes. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant ant/insect prey.	**High.** Species is known from the Project area.
Thamnophis gigas Giant garter snake	FT/ST/--	Generally inhabits marshes, sloughs, ponds, slow-moving streams, ditches, and rice fields that have water from early spring until mid-fall. Emergent vegetation (cattails and bulrushes), open areas for sunning and high ground for hibernation and cover.	None. Suitable habitat is not present for this species in the Project area.
Birds			
Agelaius tricolor Tricolored blackbird	--/CSC/--	Largely endemic to California, most numerous in the Central Valley and nearby vicinity. Typically requires open water, protected nesting substrate, and foraging grounds within vicinity of the nesting colony. Nests in dense thickets of cattails, tules, willows.	None. Riparian vegetation in the canyons and nearby water bodies are unlikely to support the dense thickets of wetland vegetation needed for nesting.
Ardea herodias Great blue heron	--/--/--	Groves of tall trees, especially near shallow water foraging areas such as marshes, tide-flats, lakes, rivers/streams and wet meadows.	Low. There is limited wetland habitat for this species.
Buteo swainsoni Swainson's hawk	--/ST/--	Forages in open plains, grasslands, and prairies typically nests in trees or large shrubs.	Low. Project area is at the northern end of this species nesting range.
Circus cyaneus Northern harrier	--/CSC/--	Nests in wet meadows and tall grasslands, forages in grasslands and marshes.	**Medium.** Open habitat may prove suitable for foraging for this species.
Haliaeetus leucocephalus Bald eagle	FPD, FT/SE/--	Nests in large trees with open branches along lake and river margins, usually within one mile of water.	Low. Habitat for this species is limited in the project area.
Pandion haliaetus Osprey	--/CSC/--	Builds large platform stick nests near fish-bearing water. Feeds primarily on fish in open waters of lakes, estuaries, bays, reservoirs, and within the surf zone.	Low. Habitat for this species is limited in the project area.
Riparia riparia Bank swallow	--/ST/--	Banks of rivers, creeks, lakes, and seashores nests in excavated dirt tunnels near the top of steep banks.	None. Habitat is not present for this species in the Project area.
Mammals			
Lasionycteris noctivagans Silver-haired bat	--/--/--	Summer habitats include coniferous forests, woodlands, and riparian habitats. Roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark. Needs drinking water.	**Medium.** Project area may provide suitable habitat to support this species.

Scientific Name Common Name	Status: Federal/State/CNPS	General habitat	Potential for Species to Occur
Fishes			
Hypomesus transpacificus Delta smelt	FT/ST/--	Open surface waters in the Sacramento/San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Found in Delta estuaries with dense aquatic vegetation and low occurrence of predators. May be affected by downstream sedimentation.	None. Suitable habitat is not present for this species in the Project area.
Oncorhynchus mykiss Steelhead - Central Valley ESU	FT/--/--	This ESU enters the Sacramento and San Joaquin Rivers and their tributaries from July to May; with spawning from December to April. Young move to rearing areas in and through the Sacramento and San Joaquin Rivers, Delta, and San Pablo and San Francisco Bays.	None. Suitable habitat is not present for this species in the Project area.
Oncorhynchus tshawytscha Chinook Salmon - Central Valley Fall / Late Fall-Run ESU	--/CSC/--	This ESU enters the Sacramento and San Joaquin rivers and their tributaries from July to April; with spawning October to February. Young move to rearing areas in and through the Sacramento and San Joaquin Rivers, Delta, and San Pablo and San Francisco Bays.	None. Suitable habitat is not present for this species in the Project area.
Oncorhynchus tshawytscha Chinook Salmon Winter Run	FE/SE/--	This ESU enters the Sacramento River December to May; spawning peaks May and June. Upstream movement occurs more quickly than in spring run population. Young move to rearing areas in and through the Sacramento River, Delta, and San Pablo and San Francisco Bays.	None. Suitable habitat is not present for this species in the Project area.
Oncorhynchus tshawytscha Spring-Run Chinook Salmon	FT/ST/--	This ESU enters the Sacramento and San Joaquin Rivers and tributaries March to July spawning from late August to early October. Young move to rearing areas in and through the Sacramento and San Joaquin Rivers, Delta, and San Pablo and San Francisco Bays.	None. Suitable habitat is not present for this species in the Project area.
Plants			
Allium jepsonii Jepson's onion	--/--/1B.2	Cismontane woodland, coniferous forests on serpentinite or volcanic substrates.	**Medium.** There is suitable habitat within the Project area.
Astragalus tener var. *ferrisiae* Ferris's milk-vetch	--/--/1B.1	Annual herb occurring in vernally mesic meadow and seeps, and sub alkaline flats in valley and foothill grasslands. Blooms Apr-May. 5-75 meters elevation.	None. Suitable habitat is not present for this species in the Project area.
Cardamine pachystigma var. *dissectifolia* Dissected-leaved toothwort	--/--/3	Serpentine outcrops and gravelly serpentine talus in chaparral or lower montane coniferous forest. 255-2100m.	None. Suitable habitat is not present for this species in the Project area.
Carex vulpinoidea Fox sedge	--/--/2.2	Perennial herb occurring in freshwater marshes and swamps, and in riparian woodland. Found at elevations 30-1200 meters and blooms May-June.	None. Suitable habitat is not present for this species in the Project area.
Castilleja rubicundula ssp. *rubicundula* Pink creamsacs	--/--/1B.2	Annual herb occurring in open areas of chaparral, in cismontane woodland, in meadows and seeps, and on serpentinite substrate in valley and foothill grassland. Found at 20-900 m elevation. Blooms Apr-Jun.	**Medium.** There is suitable habitat within the Project area.
Chamaesyce hooveri Hoover's spurge	FT/--/1B.2	Found in vernal pools on volcanic mudflow or clay substrate. Blooms Jul-Aug.	None. Suitable habitat is not present for this species in the Project area.

Scientific Name Common Name	Status: Federal/State/CNPS	General habitat	Potential for Species to Occur
Clarkia biloba ssp. *brandegeeae* Brandegee's clarkia	--/--/1B.2	Annual herb that occurs in chaparral and cismontane woodland, often in roadcuts, at elevations 225-915 m. Blooms May-July.	**Medium.** There is suitable habitat within the Project area.
Clarkia gracilis ssp. *albicaulis* White-stemmed clarkia	--/--/1B.2	Annual herb occurring in chaparral and in cismontane woodland, sometimes on serpentinite substrate. Found at elevations 245-1085 m. Blooms May-July.	**Medium.** There is suitable habitat within the Project area.
Clarkia mildrediae ssp. *mildrediae* Mildred's clarkia	--/--/1B.3	Annual herb occurring in cismontane woodland and in lower montane coniferous forest, usually on sandy granitic substrate. Found at elevations 245-1710 m. Blooms May-August.	None. Suitable habitat is not present for this species in the Project area.
Clarkia mosquinii Mosquin's clarkia	--/--/1B.1	Annual herb occurring in cismontane woodland and in lower montane coniferous forest, usually on rocky substrate along roadsides. Found at elevations 185-1170 m. Blooms May-July.	**Medium.** There is suitable habitat within the Project area.
Delphinium recurvatum Recurved larkspur	--/--/1B.2	Perennial herb occurring in chenopod scrub, cismontane woodland, and in alkaline substrate in valley and foothill grassland. Found at 3-750 meters elevation. Blooms Mar-May.	**Medium.** There is suitable habitat within the Project area.
Eleocharis quadrangulata Four-angled spikerush	--/--/2.2	Perennial herb occurring in freshwater marshes and swamps at 30-500 m elevation. Blooms May-September.	None. Suitable habitat is not present for this species in the Project area.
Erodium macrophyllum Round-leaved filaree	--/--/2.1	Generally found in Valley grasslands and foothill woodlands, 0-3937 feet in elevation. Blooms Mar-May.	**Medium.** There is suitable habitat within the Project area.
Fritillaria eastwoodiae Butte County fritillary	--/--/3.2	Bulbiferous herb that grows in chaparral, cismontane woodland, and lower montane coniferous forest. Usually found on dry slopes but also found in wet places. Soil can be serpentine, red clay, or sandy loam. Occurs at elevations 40-1500m. Blooms March-May.	**Medium.** There is suitable habitat within the Project area.
Fritillaria pluriflora Adobe-lily	--/--/1B.2	Bulbiferous herb occurring in chaparral, cismontane woodland, and valley and foothill grassland, often on adobe or serpentine substrate. Blooms Feb-Apr. 65-705 meters elevation.	**Medium.** There is suitable habitat within the Project area.
Hibiscus lasiocarpus Rose-mallow	--/--/2.2	Prefers freshwater marshes and swamps. Blooms Jun-Sep. 0-120 meters.	None. Suitable habitat is not present for this species in the Project area.
Juncus leiospermus var. *ahartii* Ahart's dwarf rush	--/--/1B.2	Annual herb occurring in mesic valley and foothill grasslands. Found at 30-100 meters elevation. Blooms March-May.	**Medium.** There is suitable habitat within the Project area.
Juncus leiospermus var. *leiospermus* Red Bluff dwarf rush	--/--/1B.1	Annual herb occurring in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and in vernally mesic vernal pools. Found at 35-1020 m elevation. Blooms March-May.	**High.** Species known from the Project area.
Limnanthes floccosa ssp. *californica* Butte County meadowfoam	FE/SE/1B.1	Annual herb occurring in mesic valley and foothill grassland and vernal pools. Found at 50-930 m elevation. Blooms March-May.	**High.** Species known from the Project area.
Monardella douglasii ssp. *venosa* Veiny monardella	--/--/1B.1	Annual herb occurring in cismontane woodland, and in heavy clay substrate in valley and foothill grasslands. Found at 60-410 m elevation. Blooms May-July.	**Medium.** There is suitable habitat within the Project area.

Scientific Name Common Name	Status: Federal/State/CNPS	General habitat	Potential for Species to Occur
Orcuttia pilosa Hairy orcutt grass	FE/SE/1B.1	Endemic to vernal pools of the Sacramento Valley.	None. Project area is outside of known species range.
Orcuttia tenuis Slender orcutt grass	FT/SE/1B.1	Annual herb occurring in vernal pools. 35-1760 m elevation. Blooms May-October.	None. Project area is outside of known species range.
Sagittaria sanfordii Sanford's arrowhead	--/--/1B.2	Found in assorted freshwater habitats including marshes, swamps, and seasonal drainages. Blooms May-Oct.	None. Suitable habitat is not present for this species in the Project area.
Senecio eurycephalus var. *lewisrosei* Cut-leaved ragwort	--/--/1B.2	Perennial herb occurring in chaparral, cismontane woodland, and on serpentinite substrate in lower montane coniferous forest. Found at 285-1890 m elevation. Blooms March-September.	**Medium.** There is suitable habitat within the Project area.
Sidalcea robusta Butte County checkerbloom	--/--/1B.2	Rhizomatous herb occurring in chaparral and cismontane woodland. Found at 90-1600 m elevation. Blooms April-June.	**Medium.** There is suitable habitat within the Project area.
Trifolium jokerstii Butte County golden clover	--/--/1B.2	Annual herb occurring in mesic valley and foothill grassland and in vernal pools. Found at 50-385 m elevation. Blooms April-May.	**High.** Species known from the Project area.
Tuctoria greenei Greene's tuctoria	FE/SR/1B.1	Occurs under vernally-flooded conditions in vernal-pool habitats.	None. Project area is outside of known species range.

Sources: CNDDB (2006); CNPS (2006); USFWS (2006).

Status Codes

Federal

FE = Endangered
FT = Threatened
FPE = Proposed Endangered
FPT = Proposed Threatened
FC = Candidate

State

SE = Endangered
ST = Threatened
SR = Rare
SFP = Fully Protected
CSC = California Department of Fish and Game Special Concern species

California Native Plant Society

List 1B = Plants rare, threatened, or endangered in California and elsewhere
List 2 = Plants rare, threatened, or endangered in California, but more common elsewhere
List 3 = Plants about which we need more information--a review list
List 4 = Plants of limited distribution--a watch list

Appendix E

Public Comments, DFG Responses to Comments, and Environmental Checklist Initial Study

ESA

APPENDIX E

Public Comments, DFG Responses to Comments, and Environmental Checklist Initial Study

Public Comments and DFG Responses to Comments

1. Trespass on neighboring properties occurs at Phantom Falls, which are not within the boundaries on NTMER, and the entrance on Cherokee Road.

   Response: The DFG acknowledges trespass is an issue at Phantom Falls when accessing the NTMER above Beatson Hollow. The DFG will continue to post the area in order to inform the public of the location of the property boundary and to provide information on respecting the private property rights of neighboring landowners.

   Under the Public Use Element: Goals and Environmental Impacts, Goal 5 will be added to read: *To develop cooperative agreements with neighboring landowners regarding methods to discourage illegal trespass by the public on neighboring private properties*.

   Under the Facilities and Maintenance Element: Goals and environmental impacts, Goal 2 will be added to read: *Public access will be evaluated to determine if adequate legal access exists and to determine how to discourage illegal trespass on neighboring private properties. Objective 1: Incorporating knowledge gained through Element 1, Goal 1, Objective 1, Task 1, determine where the public is accessing the NTMER. Objective 2: Place additional signage and barricades, as necessary, to direct the public towards legal access points and to discourage illegal trespass on neighboring private lands. Goal 3: Continue to evaluate the potential for additional land acquisition to provide protection to currently unprotected sensitive plant, water, and animal resources, and to provide additional legal access to the NTMER*.

2. There is no supporting information in the LMP for many of the conclusions. Conclusions seem to be based only on qualitative observations. The LMP should state what is know and what is assumed regarding the effect of the current grazing regime on native plant populations, how does the current grazing regime exclude the possibility of introduced non-native invasive species, what data supports the conclusion that salt stations do not have a negative impact?

   Response: The DFG acknowledges a lack of quantitative scientific information regarding the current management of the NTMER, including the grazing plan, the threats and potential control of invasive non-native plant populations, the locations for salt station placement, and the impacts of public use. Under the Biological Elements: Goals,

Objectives and Environmental Impacts, Element 1, Goal 1, Task 1, the DFG identified the goal to consult with the University of California Cooperative Extension and USDA Natural Resources Conservation Service to: 1) Analyze the current grazing plan and determine the appropriate stocking rate, duration of grazing, frequency of grazing, rotation, timing, and appropriate grazing species for achieving the conservation goals for NTMER, and; 2) If necessary based on strong and conclusive evidence acquired from multi-season field experiments, develop a grazing plan that will achieve the stated conservation goals of the NTMER.

We note that any suggested changes to the existing grazing management must be based on strong and conclusive scientific evidence. Quantitative scientific research in vernal pool ecosystems with the same or very similar vegetation types (including the same rare species as well as some of the same invasive non-native species such as medusa-head that are present on NTMER) has conclusively proven that altering long-standing grazing management will directly cause substantial negative impacts to vernal pool ecosystems and the native plant and wildlife species that live in those ecosystems (Barry 1998, Griggs 2000, Silveira 2000, Marty 2005, Pike and Marty 2005). We also note that the grazing management regime that has been practiced on NTMER continuously for over 45 years serves to prevent the introduction of invasive species that are not currently on NTMER by not using supplemental feed and by fall stocking. Both tactics greatly reduce the probability that seed of invasive species will be inadvertently introduced in feed, while adhering to the hides or hoofs of animals, or through the feces of the grazing animals. Salt stations are required for providing important nutrients and minerals that ensure the health of the pregnant cows and their calves and, for that reason, have a net positive effect on the environment. They do lead to very localized increases in hoof impacts to soil and vegetation that are similar to the impacts humans cause where hikers congregate near trail heads.

Under Biological Elements: Goals, Objectives and Environmental Impacts, Element 1, Goal 1, Task 3, will be changed to read: *The DFG will commit to conducting small multi-season grazing exclusions experiments…*

These studies will compare grazed to ungrazed areas and quantitatively analyze the differences in vegetative responses due to the different grazing treatments across at least 5 seasons.

Under the Biological Elements: Goals, Objectives and Environmental Impacts, Element 1, Goal 1, Task 2, add at the end: *The DFG will investigate the effects of salt stations on native plants. The DFG is aware that salt licks have a beneficial effect for livestock and wildlife providing needed nutrients and minerals, but also tends to congregate animals, thereby increasing the potential for soil disturbance. The DFG is currently unaware of any information that salt lick have a detrimental effect to native plants other than those due to hoof impacts (soil compaction).*

3. How is grazing allowed on and ecological reserve given Section 1580 and 1584, which state ER are to protect sensitive biota and ERs are to be preserved in their natural condition.

   Response: Fish and Game Code §1580, Establishment of ecological reserves describes the policy of the state to protect threatened or endangered native plants, wildlife or aquatic organism for the use of mankind. This section also allows the department to

occupy, develop, maintain, use, and administer land for the purpose of establishing ecological reserves, and the Commission the authority to adopt regulations for the occupation, utilization, operation, protection, enhancement, maintenance, and administration of ecological reserves.

Fish and Game Code § 1584 defines an ecological reserve as land designated by the commission as an ecological reserve pursuant to Section 1580, and that are to be preserved in a natural condition, or which are to be provided some level of protection as determined by the commission for the benefit of the general public to observe native flora and fauna and for scientific study or research.

In addition, Section § 1585, describes the departments powers and duties and allows the department to construct facilities and conduct programs when they are compatible with the protection of the biological resources of the preserve. Title 14, § Section 630 (b)(81)(B), California Code of Regulations states: Livestock grazing for habitat management is permitted under permit from the department.

The DFG acknowledges the potential for adverse effects that may result from the grazing of native plants and the overgrazing of vegetation, although we are unaware of any information that would allow us to conclude adverse significant effects are indeed occurring at NTMER as a result of the current grazing program. Additionally, we note that the natural state of the NTMER includes known non-native invasive species, such as medusae-head, which must be managed to prevent the loss of native species and the degradation of the existing ecosystems. Quantitative scientific studies have found that grazing is necessary for maintaining vernal pool ecosystems and vegetation which have historically been grazed and which have been invaded by these same non-native species (Barry 1998, Griggs 2000, Silveira 2000, Marty 2005, Pike and Marty 2005). Under the Biological Elements: Goals, Objectives and Environmental Impacts, Element 1, Goal 1, Task 1 the DFG identified the goal to consult with the University of California Cooperative Extension and USDA Natural Resources Conservation Service to: 1) Analyze the current grazing plan and determine the appropriate stocking rate, duration of grazing, frequency of grazing, rotation, timing, and appropriate grazing species for achieving the conservation goals for the NTMER; and; 2) If necessary based on strong and conclusive evidence acquired from multi-season field experiments, develop a grazing plan that will achieve the stated conservation goals of the NTMER..

Scientific research in vernal pool ecosystems with the same or very similar vegetation types, including both the rare species as well as invasive non-native species such as medusa-head that are present on NTMER, has conclusively demonstrated that altering long-standing grazing management will directly cause substantial negative impacts to vernal pool ecosystems and to the populations of native plant and wildlife species that live in that ecosystem (Barry 1998, Griggs 2000, Silveira 2000, Marty 2005, Pike and Marty 2005).

4. Controlled burning should be considered as a viable management tool. Explanations in the LMP for not using controlled burns to control non-native non-native species are not well supported.

The DFG agrees that prescribed burning may be an effective vegetation management and fuels reduction tool in very specific cases when combine with other vegetation management tools. However, a large number of scientific studies have show that the use of fire as a tool for controlling invasive species is not likely to be effective without a multi-year effort combined with other management techniques (DiTomaso et. al 2006, Keeley 2006). Additionally, prescribed burns, including fire breaks and the foam used to establish burn lines, often have direct negative impacts on the environment by introducing and facilitating the spread of invasive non-native species and by water and soil pollution caused the chemicals used in the foam (Angeler et. al 2004, Angeler et. al 2004, DiTomaso et. al 2006, Keeley 2006, Merriam 2006). Prescribed burns require the preparation of a burn plan approved by both the Department of Forestry and Fire Protection (CDF) and the California Air Resources Board and require exact conditions be met (weather, fuel, equipment, and personnel) before beginning. Local agencies (CHP, County Sheriff, County Fire, etc.) must also be consulted in advance. Because of their extensive personnel and equipment requirements, prescribed burns are relatively expensive; costing between $25 to $30 per acre, but this cost can vary based on the number of acres and resources necessary. The CDF offers a cost-sharing program (Vegetation Management Program), where the landowner normally pays about 25 to 30 percent of the total project costs, but projects selected under this program are usually fuels reduction projects that reduce the likelihood or intensity of wild fires.

While fire can sometimes be an effective management tool, its effect on the floristic assemblages present at NTMER are unknown and would need to be investigated. This workload and expense, combined with the direct costs to conduct prescribed burns as well as the inherent difficulty of working with fire (i.e. escapes may occur on rare occasions even with all of the planning, preparation, and staffing that is part of a controlled burn project), make this management option less feasible than other options that may be revenue generating as opposed to revenue depleting.

5. Current and future hunting on the NTMER should be described.

   The current program at NTMER allows the legal taking of deer, quail, dove, and turkey during their respective hunting seasons following all applicable laws. The permitted hunting season opens in late August with the archery deer hunting and now ends with the close of the quail season in January. Based on DFG observations, few people hunt the area during any season. Upland game hunting provides the greatest opportunity for public recreation; however, use is also low due to access issues requiring long walks, approximately 2 miles, to reach the area where hunting is most favorable. Because NTMER does not have permanent staff assigned to the area, information is difficult to obtain regarding the success rates and type of game taken, but is expected to be low. Conflicts between hunters and other users including livestock have not been reported. Most public inquiries into hunting on NTMER pertain to the statewide spring turkey hunting season. This particular season is not currently permitted on the area because of potential conflicts with wildflower enthusiasts, although a future controlled mobility impaired spring turkey archery/shotgun hunt may be considered in the future.

For information purposes only, the summary 2006 hunting season calendar is provided below:

Summary 2006 Hunting Season Calendar *																	
Season/zone	Type+	J	F	M	A	M	J	J		A	S		O	N		D	
Deer (Zone D-all)	A									19	10						
Deer (Zone D 3-7)	R										23		29				
Deer (Zone A-all)	A							8	30								
Deer (Zone A-all)	R									12	24						
Turkey	S			31		6								11	26		
Waterfowl	S	28											21				
Pheasant	S													11			24
Pheasant	A	9												11			
Quail	S	28											21				
Quail	A									19	8						
Quail (Zone C)	A	28											21				
Band Tailed Pigeons (Southern)	S															16	24
Dove	S										1	15		11			25
*Dates valid for 2006/07 hunting season and will vary year to year. For specified zones only. + A-Archery; R-Rifle; S-Shotgun.																	

6. Changes in the hunting program at NTMER should be reviewed under CEQA.

   The Legislature has delegated authority to the Fish and Game Commission to regulate the take and possession of wildlife. The potential impacts from the legal hunting of game species in the State of California is evaluated on a yearly basis by the Fish and Game Commission through its regulatory process. A functionally equivalent environmental document is prepared to evaluate harvest levels and seasons throughout the state. The regulatory program of the Commission has been certified by the Secretary of Resources and the Commission is eligible to submit the environmental document in lieu of an EIR or Negative Declaration (CEQA Guidelines 15252).

   If changes to the hunting program at NTMER are proposed, the DFG will evaluate the need and make recommendations to the Fish and Game Commission pursuant to the equivalent CEQA environmental document process.

7. There is insufficient information in the plan to conclude current grazing regime, influence of changing climate, changing public use levels, introduction of non-native invasive species are not significant environmental impacts. A negative declaration is not warranted.

   The DFG has carefully considered the direct physical changes in the environment that may result from implementation of the LMP, and indirect physical changes that may occur in the reasonably foreseeable future. A negative declaration was determined to be the appropriate environmental document to use for the LMP as no significant impacts

were identified during the initial study for the project. CEQA requires when determining whether a project may have a significant effect on the environment to consider the views held by members of the public as expressed in the record. The record does not contain information or data provided by the public to consider that would change the DFG's determination that significant impacts are not likely to occur.

8. Several abandoned fence lines are a hazard to people and wildlife. They should be removed.

   The DFG is aware of the abandoned fence lines and to the extent they are not needed to support the present or future grazing operation, they will be removed. The NTMER does not receive any funding for ongoing maintenance at the site. DFG will investigate whether there are opportunities to enlist the assistance from the public or volunteer groups to remove the abandoned fences.

9. Acquisition to alleviate trespass by the public who access the ER from the head of Beatson Hollow and the Phantom Falls are not mentioned in the plan.

   The DFG acquires lands from willing sellers at fair market value. Acquisition to alleviate public trespass at NTMER is a high priority and will be pursued if a suitable parcel is found and funding becomes available.

   Please refer to response to question 1 (above)

References

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Barry, S. 1998. Managing the Sacramento vernal pool landscape to sustain native flora. In California's ephemeral wetlands. Pages 236-240. *in* C. W. Witham, E. T. Bauder, D. Belk, W. R. J. Ferren, and R. Ornduff, editors. Ecology, Conservation, and Management of Vernal Pool Ecosystems. California Native Plant Society, Sacramento.

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Merriam, K., J. Keeley, and J. Beyers 2006. Fuel breaks affect nonnative species abundance in California plant communities. Ecological Applications **16**:515-527.

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J. Silveira 2000. Vernal pool and relic duneland at Arena Plains. Fremontia **27**:38-47.

Environmental Checklist Initial Study

1. Project Title:	North Table Mountain Ecological Reserve Land Management Plan
2. Lead Agency Name and Address:	California Department of Fish and Game 1701 Nimbus Road, Suite A Rancho Cordova, CA 95670-4599
3. Contact Person and Phone Number:	Armand Gonzales (916) 358-2876
4. Project Location:	North Table Mountain, Butte County
5. Project Sponsor's Name and Address:	California Department of Fish and Game 1701 Nimbus Road, Suite A Rancho Cordova, CA 95670-4599
6. General Plan Designation(s):	N/A
7. Zoning Designation(s):	Grazing & Open Land
8. Description of Project:	See attached Draft North Table Mountain Ecological Reserve Land Management Plan
9. Surrounding Land Uses and Setting:	See attached Draft North Table Mountain Ecological Reserve Land Management Plan
10. Other public agencies whose approval is required:	None

Environmental Factors Potentially Affected

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☒ Biological Resources	☐ Cultural Resources	☒ Geology, Soils and Seismicity
☐ Hazards and Hazardous Materials	☐ Hydrology and Water Quality	☐ Land Use and Land Use Planning
☐ Mineral Resources	☐ Noise	☐ Population and Housing
☐ Public Services	☐ Recreation	☐ Transportation and Traffic
☐ Utilities and Service Systems	☐ Mandatory Findings of Significance	

DETERMINATION: (To be completed by Lead Agency)
On the basis of this initial study:

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

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

Sandra Morey
Signature

9/5/06
Date

Sandra Morey
Printed Name

For

Notice of Completion & Environmental Document Transmittal *Appendix C*

For U.S. Mail: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #2006092093

Project Title:
North Table Mountain Ecological Reserve Land Management Plan

Lead Agency: California Department of Fish and Game Contact Person: Armand Gonzales
Street Address: 1701 Nimbus Road, Suite A Phone: (916) 358-2876
City: Rancho Cordova Zip: 95670-4599 County: Sacramento

Project Location:
County: Butte City/Nearest Community: Oroville
Cross Streets: Cherokee Road and Derrick Road Zip code:
Assessor's Parcel No. available upon request Section: 7,8,12,13,14,17,18, 19,20,23,24 Twp: 20N Range: 3E Base: MDBM
Within 2 miles: State Hwy#: 70 Waterways: Lake Oroville
Airports: Railways: Western Pacific Schools:

Document Type:

CEQA:
- ☐ NOP
- ☐ Early Cons
- ☒ Neg Dec
- ☐ Mit Neg Dec
- ☐ Draft EIR
- ☐ Supplement to EIR
- ☐ Subsequent EIR
- ☒ Other:

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NEPA:
- ☐ NOI
- ☐ EA
- ☐ Draft EIS
- ☐ FONSI

Other:
- ☐ Joint Document
- ☐ Final Document
- ☒ Other:

Local Action Type:
- ☐ General Plan Update
- ☐ General Plan Amendment
- ☐ General Plan Element
- ☐ Community Plan
- ☐ Specific Plan
- ☐ Master Plan
- ☐ Planned Unit Development
- ☐ Site Plan
- ☐ Rezone
- ☐ Prezone
- ☐ Use Permit
- ☐ Land Division (Subdivision, etc.)
- ☐ Annexation
- ☐ Redevelopment
- ☐ Coastal Permit
- ☒ Other: Land Management Plan

Development Type:
- ☐ Residential: *Units* *Acres*
- ☐ Office: *Sq.ft.* *Acres* *Employees*
- ☐ Commercial: *Sq.ft.* *Acres* *Employees*
- ☐ Industrial: *Sq.ft.* *Acres* *Employees*
- ☐ Educational
- ☐ Recreational
- Total Acres: (approx.) 3,315
- ☐ Water Facilities: *Type* *MGD*
- ☐ Transportation: *Type*
- ☐ Mining: *Mineral*
- ☐ Power: *Type* *MW*
- ☐ Waste Treatment: *Type* *MGD*
- ☐ Hazardous Waste: *Type*
- ☒ Other: Ecological Reserve

Project Issues That May Have A Significant Or Potentially Significant Impact:
- ☐ Aesthetic/Visual
- ☐ Agricultural Land
- ☐ Air Quality
- ☐ Archeological/Historical
- ☐ Biological Resources
- ☐ Coastal Zone
- ☐ Drainage/Absorption
- ☐ Economic/Jobs
- ☐ Fiscal
- ☐ Flood Plain/Flooding
- ☐ Forest Land/Fire Hazard
- ☐ Geologic/Seismic
- ☐ Minerals
- ☐ Noise
- ☐ Population/Housing Balance
- ☐ Public Services/Facilities
- ☐ Recreation/Parks
- ☐ Schools/Universities
- ☐ Septic Systems
- ☐ Sewer Capacity
- ☐ Soil Erosion/Compaction/Grading
- ☐ Solid Waste
- ☐ Toxic/Hazardous
- ☐ Traffic/Circulation
- ☐ Vegetation
- ☐ Water Quality
- ☐ Water Supply/Groundwater
- ☐ Wetland/Riparian
- ☐ Growth Inducement
- ☐ Land Use
- ☐ Cumulative Effects
- ☐ Other:

Present Land Use/Zoning/General Plan Designation: Grazing and open land

Project Description: (*please use a separate page if necessary*)

North Table Mountain Land Management Plan describes the resources present on site and establishes goals and guidelines for operation. Primary activities described for the Reserve are protection and enhancement of native vegetation, and wildlife, continuance of an exisitng grazing program and public use

State Clearinghouse Contact: (916) 445-0613

State Review Began: 9-18-2006 CMC

SCH COMPLIANCE 10-17-2006

Please note State Clearinghouse Number (SCH#) on all Comments

SCH#: 2006092093

Please forward late comments directly to the Lead Agency

AQMD/APCD 3

(Resources: 9/23)

Project Sent to the following State Agencies

- X Resources
- Boating & Waterways
- Coastal Comm
- Colorado Rvr Bd
- X Conservation
- Fish & Game #
- Delta Protection Comm
- X Forestry & Fire Prot
- X Historic Preservation
- X Parks & Rec
- Reclamation Board
- Bay Cons & Dev Comm
- X DWR
- OES (Emergency Svcs)

Bus Transp Hous
- Aeronautics
- X CHP
- X Caltrans # 3
- Trans Planning
- Housing & Com Dev
- Food & Agriculture
- Health Services

State/Consumer Svcs
- General Services

Cal EPA
- ARB – Airport Projects
- ARB – Transportation Projects
- ARB – Major Industrial Projects
- Integrated Waste Mgmt Bd
- SWRCB: Clean Wtr Prog
- SWRCB: Wtr Quality
- SWRCB: Wtr Rights
- X Reg. WQCB # 5R
- X Toxic Sub Ctrl-CTC

Yth/Adlt Corrections
- Corrections

Independent Comm
- Energy Commission
- X NAHC
- Public Utilities Comm
- State Lands Comm
- Tahoe Rgl Plan Agency
- Conservancy
- Other:

Environmental Checklist

Aesthetics

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
1. AESTHETICS—Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway corridor?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	☐	☐	☐	☒

Discussion

Proposed project would not have an impact on the environment with regard to these questions.

References

See attached Draft North Table Mountain Ecological Reserve Land Management Plan.

Agricultural Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
2. AGRICULTURAL RESOURCES In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. **Would the project:**				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland of Statewide Importance to non-agricultural use?	☐	☐	☐	☒

Discussion

Proposed project would not have an impact on the environment with regard to these questions.

References

See attached Draft North Table Mountain Ecological Reserve Land Management Plan.

Air Quality

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
3. AIR QUALITY Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Would the project:**				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

Discussion

Proposed project would not have an impact on the environment with regard to these questions.

References

See attached Draft North Table Mountain Ecological Reserve Land Management Plan.

Biological Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
4. BIOLOGICAL RESOURCES— Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion

a) Proposed project would be a continuation of historic grazing management which could impact individuals of special-status and sensitive plant species but which has been proven to be necessary for maintaining self-sustaining populations of those species.

b) Proposed project is a continuation of historic grazing management and no other actions are contemplated.

c) Proposed project is a continuation of historic grazing management and no other actions are contemplated.

d) Proposed project is a continuation of historic grazing management and no other actions are contemplated.

e) Proposed project is a continuation of historic grazing management and no other actions are contemplated.

f) None have been approved for the project area.

References

See attached Draft North Table Mountain Ecological Reserve Land Management Plan.

Cultural Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
5. CULTURAL RESOURCES— Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

Discussion

a-g) The proposed project would not have an impact on the environment with regard to these questions. No site alteration will be allowed prior to a survey for cultural features; no detrimental management action will be allowed at a cultural site, and any action will follow archeological guidelines. Sites will be protected by site closures should vandalism or artifact collection occur. Site location will not be disclosed to the public and public use will be monitored.

References

See attached Draft North Table Mountain Ecological Reserve Land Management Plan.

Geology, Soils, and Seismicity

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
6. GEOLOGY, SOILS, AND SEISMICITY— Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Discussion

a.i) No delineated Alquist-Priolo fault is present.

a.ii) No known faults.

a.iii) No known faults.

a.iv) Small potential for personal injury landslides due to natural weathering of basalt cap.

b) Proposed project would not constitute physical changes to the environment.

c) Small potential for landslides due to natural weathering of basalt cap.

d) No expansive soils are present.

e) No disposal of wastewater is proposed.

References

See attached Draft North Table Mountain Ecological Reserve Land Management Plan.

Hazards and Hazardous Materials

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
7. HAZARDS AND HAZARDOUS MATERIALS Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

Discussion

a-g) Proposed project would not have an impact on the environment with regard to these questions.

h) Proposed grazing management would maintain grass fuel loads at low levels and public use of the site would largely be confined to the wet season when there is no risk of wildfire.

References

See attached Draft North Table Mountain Ecological Reserve Land Management Plan.

Hydrology and Water Quality

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
8. HYDROLOGY AND WATER QUALITY— Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river or, by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion

Proposed project would not have an impact on the environment with regard to these questions.

References

See attached Draft North Table Mountain Ecological Reserve Land Management Plan.

Land Use and Land Use Planning

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
9. LAND USE AND LAND USE PLANNING— Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion

a) No communities are present.

b) No conflicts are present.

c) No habitat conservation plan or natural community conservation plan is applicable.

References

See attached Draft North Table Mountain Ecological Reserve Land Management Plan.

Mineral Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
10. MINERAL RESOURCES—Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion

Proposed project would not have an impact on the environment with regard to these questions.

References

See attached Draft North Table Mountain Ecological Reserve Land Management Plan.

Noise

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
11. NOISE—Would the project:				
a) Result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b) Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	☐	☐	☐	☒
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

Proposed project would not have an impact on the environment with regard to these questions.

References

See attached Draft North Table Mountain Ecological Reserve Land Management Plan.

Population and Housing

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
12. POPULATION AND HOUSING— Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

Proposed project would not have an impact on the environment with regard to these questions.

References

See attached Draft North Table Mountain Ecological Reserve Land Management Plan.

Public Services

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
13. PUBLIC SERVICES— Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Discussion

Proposed project would not have an impact on the environment with regard to these questions.

References

See attached Draft North Table Mountain Ecological Reserve Land Management Plan.

Recreation

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
14. RECREATION—Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

Proposed project would be a continuation of historic grazing management and outdoor recreational activities.

References

See attached Draft North Table Mountain Ecological Reserve Land Management Plan.

Transportation and Traffic

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
15. TRANSPORTATION AND TRAFFIC— Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	☐	☐	☐	☒

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Result in inadequate parking capacity?	☐	☐	☐	☒
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., conflict with policies promoting bus turnouts, bicycle racks, etc.)?	☐	☐	☐	☒

Discussion

Proposed project would be a continuation of historic grazing management and outdoor recreational activities.

References

See attached Draft North Table Mountain Ecological Reserve Land Management Plan.

Utilities and Service Systems

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
16. UTILITIES AND SERVICE SYSTEMS—Would the project:				
a) Conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Require new or expanded water supply resources or entitlements?	☐	☐	☐	☒

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
e) Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion

Proposed project would be a continuation of historic grazing management and outdoor recreational activities.

References

See attached Draft North Table Mountain Ecological Reserve Land Management Plan.

Mandatory Findings of Significance

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
17. MANDATORY FINDINGS OF SIGNIFICANCE— Would the project:				
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
b) Have impacts that would be individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☐	☒
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

Discussion

a) Proposed project would be a continuation of historic grazing management which could impact individuals of special-status and sensitive plant species but which has been proven to be necessary for maintaining self-sustaining populations of those species.

b) Proposed project would be a continuation of historic grazing management and no other actions are contemplated.

c) None.

References

See attached Draft North Table Mountain Ecological Reserve Land Management Plan.

Notice of Determination

Form C

To:

☒ Office of Planning and Research

For U.S. Mail: P.O. Box 3044, Sacramento, CA 95812-3044

Street Address: 1400 Tenth St., Sacramento, CA 95814

☒ County Clerk
County of: Butte
Address: 25 County Center Dr. Oroville, CA 95965

From:

Public Agency: Department of Fish and Game
Address: 1701 Nimbus Rd., Suite A , Rancho Cordova CA 95670

Contact: Henry Lomeli
Phone: (530) 892-8470

Lead Agency (if different from above):

Address:

Contact:
Phone:

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse): 2006092093

Project Title: North Table Mt. Ecological Reserve Land Management Plan

Project Location (include county): Butte County, access Cherokee Rd./Derrick approx. five milés north of Oroville

Project Description:

North Table Mountain Ecological Reserve Land Management Plan describes the resources present on site and establishes goals and guidelines for operation. Primary activities described for the Reserve are protection and enhancement of native vegetation, and wildlife continuance of an exisitng grazing program and public use.

This is to advise that the California Department of Fish and Game ☒ Lead Agency or ☐ Responsible Agency has approved the above described project on 11·9·07 (Date) and has made the following determinations regarding the above described project:

1. The project [☐ will ☒ will not] have a significant effect on the environment.
2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☒ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [☐ were ☒ were not] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [☐ was ☒ was not] adopted for this project.
4. A statement of Overriding Considerations [☐ was ☒ was not] adopted for this project.
5. Findings [☐ were ☒ were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at: DFG North Central Region 2 field office: 1701 Nimbus Rd., Suite A , Rancho Cordova CA 95670

Signature (Public Agency) [signature] Title Acting Deputy Director for Regional Operations

Date 11/9/07 Date Received for filing at OPR

RECEIVED
NOV - 9 2007
STATE CLEARING HOUSE

Authority cited: Sections 21083, Public Resources Code.
Reference Section 21000-21174, Public Resources Code.

Revised 2005

California Department of Fish and Game
Certificate of Fee Exemption
Pursuant to Fish and Game Code section 711.4(2)(B)

Project Title: Final Management Plan for the North Table Mountain Ecological Reserve (NTMER)

Project Location (including County): North Table Mountain Ecological Reserve is located in Butte County approximately five miles north of the City of Oroville, and encompasses 3,315 acres.

Address of Project Proponent: California Department of Fish and Game, North Central Region 2, 1701 Nimbus Road Suite A, Rancho Cordova, CA . 95670

Project Description: The Land Management Plan will provide the framework necessary for implementing management goals (Chapter of the Plan). The NTMER was acquired primarily to preserve and protect the rare Northern Basalt Flow Vernal Pools habitat type that supports sensitive plants and animals that are either locally endemic or unique to California. Northern Basalt Flow Vernal Pools habitat is found in only four localities in California. Sensitive plant and animal species that occur on the NTMER include Butte County meadowfoam (*Limnanthes floccosa* ssp. *californica*), Butte County golden clover (*Trifolium jokerstii*), Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*), and California horned lizard (*Phrynosoma coronatum*).

Findings of Exemption:

1. A Negative Declaration has been prepared by the Dept. Fish and Game

2. The project is exempt from filing fees per Fish and Game Code section 711.4(2)(B), as the project is undertaken by the Department.

Certification:
I hereby certify that the lead agency has made the above findings and that based upon the record, the project will not individually or cumulatively have an adverse effect on fish or wildlife resources, as defined in Section 711.2 of the Fish and Game Code.

Teresa LePlane
Signature of Planning Official

Senior Wildlife Biologist
Title

Department of Fish and Game
Lead Agency Name

11/08/2007
Date

RECEIVED
NOV - 9 2007
STATE CLEARING HOUSE

State Clearinghouse
1400 Tenth Street
Sacramento, California 95814

November 9, 2007

Notice of Determination for the Land Management Plan for the North Table Mountain Ecological Reserve (SCH # 2006 09 2093)

Attached is the Notice of Determination (NOD) for the Management Plan for the North Table Mountain Ecological Reserve in Butte County. The Department of Fish and Game has determined that the project will not have a significant effect on the environment. The draft plan and accompanying negative declaration was submitted to the State Clearing House and was subject to public review beginning September 18, 2006 and ending October 17, 2006. Public comments were accepted after the end of the official thirty day review period to provide sufficient opportunity for interested user groups to comment on the proposed draft plan, initial study and negative declaration.

A synopsis of the comments received and the Department's written responses may be found in Appendix E, within the Final Plan. The Department has approved the plan and is filing the NOD in compliance with Section 21108 of the Public Resources Code. The environmental documents plus an electronic copy of the Plan on CD is included with this memo.

Copies of the final documents may be viewed at the North Central Regional office, 1701 Nimbus Road, in Rancho Cordova . The documents are also posted on the Department's website at: http://www.dfg.ca.gov/html/pubnotice.html If you have any questions or need further information, please contact Mr. Henry Lomeli, Associate Wildlife Biologist at (530) 892-8470 or Mr. Armand Gonzales at (916) 358-2876.

Sandra Morey
Acting Deputy Director for Regional Operations

Enclosure

cc: Mr. Henry Lomeli NCR (2)
Mr. Armand Gonzales, NCR (2)
Ms. Teresa Le Blanc, Lands Program

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