United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Mother lode Field Office
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EA Number: CA-180-15-29

Project Name: Sandy Gulch / Woodhouse Mine Road Vegetation Thinning Project

Location:

Sandy Gulch project area: T. 6 N., R. 13 E., within sections 15 and 16, MDBM. West of Sandy Gulch Road and south of Highway 26 within the community of West Point within Calaveras County, CA (see attached project area map).

Woodhouse Mine Road project area: T. 6 N., R. 13 E., within sections 8 and 17, MDBM. Along portions Woodhouse Mine Road and along the BLM lands located adjacent to 1600, 2180 and 2190 Woodhouse Mine Road within the community of West Point within Calaveras County, CA (see attached project area map).

1.0 Purpose of and Need for Action

1.1 Need for Action

The Bureau of Land Management's Mother Lode Field Office (BLM) administers scattered public lands within the community of West Point. The Sandy Gulch and Woodhouse Mine Road project areas were identified in 2014 as areas in need of fuels reduction by local residents and the Mother Lode BLM Fuels Management Specialist. Forest fuel loads in the area have been untreated in the past leaving a high density of fuels. Rural homeowners rely on urban fire organizations such as the volunteer fire departments, and Cal-Fire for fire protection.

In the West Point area citizens are moving farther into "natural" areas to take advantage of the privacy, natural beauty, recreational opportunities and affordable living. Many of these lands are adjacent to BLM managed parcels. Data from the Wildland Fire Decision Support System (WFDSS) indicates that the proposed project areas have not experienced a wildland fire in the past 100 years. Shrub stands have aged and contain a large proportion of dead fuels and in many forest stands understory fuels have increased markedly, creating unhealthy forest conditions and making the probability that the area will experience a catastrophic wildfire more likely. At the same time, the local community has grown. There are numerous private residences in the area, many of them located adjacent to BLM parcels containing dense fuels.

In areas of dense rural residential settlement, homes can actually add to the fuel load available to a wildfire, increasing the size and magnitude of the fire. The private developments in the West

Point area are surrounded by a scattered urban interface where parcels range from 2.5 to 20 acres in size, much of which contains residential and some light commercial development.

The West Point area is considered to be a wildland-urban interface (WUI) community. WUI refers to the zone of transition between unoccupied land and human development. Communities that are within 0.5 miles (0.80 km) of the zone are included. These lands and communities adjacent to and surrounded by wildlands are at an increased risk of wildfires. This mix creates a true WUI problem where even the smallest fires with the most prompt emergency response could be catastrophic and result in structure loss. The increase in the WUI threat has been steep because of continued development and exposure of the community. Members of the local community and local state and county agencies are concerned about this situation and have been working with the BLM and Cal-Fire to improve forest health and reduce hazardous fuels within the West Point area.

The project area is also of special concern because a large portion of the projects area lands are adjacent to private lands/homes. A fire occurrence on these lands could cut off access for emergency responders and evacuees should the roads be compromised. Due to limited firefighting resources, especially during the early stages of an expanding wildfire incident, high home density, and/or long response times, individual firefighting resources may not be able to reach the residents in a timely manner should the roads and the areas around them become compromised with fire. Dense fuels on the lands surrounding the Sandy Gulch area increase the risk of fire igniting along Highway 26 which could potentially cut off essential community access and evacuation.

The proposed action to be analyzed in this EA would expand on, support and link past and current landscape projects in the West Point area to reduce hazardous fuels for local residents' safety. With this need in mind, the primary purpose of the proposed action is to reduce the fire danger on the public lands within the West Point WUI through treatment of the lands using vegetation thinning.

1.2 Conformance with Applicable Land Use Plans

The proposed action—to reduce hazardous fuels on public land within the West Point WUI —is consistent with the Sierra Resource Management Plan, approved in February 2008. The Sierra Resource Management Plan's Record of Decision (pages 15-16) gives BLM the goal of establishing a cost-efficient fire management program commensurate with threats to life, property, public safety, and environmental resources. BLM's objectives for meeting these goals are to:

1. Reduce the risk of wildfire in WUI communities;
2. Reduce the risk of catastrophic wildfire through fuels management;
3. Use prescribed fire, mechanical, and biological treatments to reduce fuels and promote ecosystem diversity and resilience, control invasive species, reduce fuel hazard, improve wildlife habitat, increase water yield, and enhance watersheds.

The Mother Lode Field Office Fire Management Plan, approved in March 2011, gives the BLM various fire and fuels treatment objectives and strategies for specific lands under the BLM's

administration. Specific objectives and strategies for this plan are the same as those listed above. The proposed action is consistent with these objectives and strategies.

2.0 Proposed Action and Alternatives

2.1 Proposed Action

Implementation would be carried out by Cal-Fire and its partners through consultation with BLM. The proposed BLM action is part of an ongoing large-scale fuels reduction project focusing on lands previously treated in the area by Cal-Fire. The proposed action to be analyzed in this EA is to expand on, support and link past and current landscape projects in the West Point area. Treatments would take place between 2015 and 2024 and would ideally be conducted every three to five years. However, treatment may occur in any given year through 2024, based on prioritization of values at risk (such as private and personal property) and the ability to secure funding.

The objective of the proposed project is to remove 30% to 40% of vegetative fuels within the identified units. This would reduce the fuel load by an estimated 20-26 tons per acre. The project has been broken into two separate areas of work. The first area is the Sandy Gulch project area and the second is the Woodhouse Mine Road area. The Sandy Gulch project area lands are identified on the attached map. The lands within the Sandy Gulch project area are adjacent to multiple private residential parcels. The BLM would clear the BLM lands adjacent to the private parcels up to 200 feet from the property line to provide a buffer to the residents' private lands. The Woodhouse Mine Road project area is predominantly off of Woodhouse Mine Road with two additional areas added for buffers to residential properties. The portions of the project located off of the road would be cleared for up to 100 feet either side of the centerline of the road. The areas within the Woodhouse Mine Road project zone that are not off of roads will be cleared as shown on the map up to 200 feet from the property line to provide a buffer to residents' private lands. Unit priorities would be based on risk factors and available funding for work. See the attached map for the breakdown of project areas.

The Sandy Gulch project area would treat 18 acres of BLM lands and the Woodhouse Mine project area would treat 19.5 acres. In total, there would be 37.5 BLM managed acres treated. The proposed action would occur in two phases followed by continued maintenance through 2024.

The objective for the first phase would be to change the arrangement of fuels by cutting and thinning select vegetation using one of two methods. The first method of implementation would be the utilization of a hand crew (e.g., a BLM fuels crew, a Cal-Fire crew, a Hotshot crew, a BLM-selected contractor, etc.). Hand treatment would be accomplished by crews using chainsaws and other hand tools. Hand treatment is the preferred method of clearing/thinning.

In addition (or as an alternative) to hand treatments, mechanical treatments may be used and would involve the use of mechanized equipment to either cut or chip onsite. Mechanical treatments would be used in the maintenance phase of the project only. The mechanical equipment would be either rubber tired/tracked or steel track mounted. Mechanical treatments would only be used on slopes less than 40 percent and within one mile of existing roads.

Mechanical treatments would be used where appropriate to rearrange the fuel loading over the selected project area. Methods would be chosen and used solely or jointly based on changing topography and site specific features. The BLM Fuels Management Specialist would determine the specific treatment to be used.

During the first phase, dead and decadent stands of whiteleaf manzanita, buckbrush, deerbrush, and other shrubby vegetation would be cut and placed in piles to dry. Black and live oaks would be retained regardless of canopy position unless they constitute a potential ladder fuel. In these areas, nearly all black oaks less than 8 inches diameter at breast height (DBH) would be cut and placed in burn piles or offered up as woody biomass. Other broadleaf tree species such as madrone, tan oak, and dogwood would be left to create diversity unless they constitute a potential ladder fuel.

Douglas fir, ponderosa pine, incense-cedar, and other conifers less than 12 inches DBH would be cut and placed in piles or removed for woody biomass. The USDA Forest Service (FS) defines woody biomass as "the trees and woody plants, including limbs, tops, needles, leaves, and other woody parts, grown in a forest, woodland, or rangeland environment, that are the by-products of forest management ." Some conifers less than 8 inches DBH would be retained to ensure species diversity and a full range of size and age classes are represented. Large conifers and groups of large conifers would be retained, with strategic clearing of potential ladder fuels around them to give them additional protection and to create some open gaps in the canopy. No conifers or other trees greater than 12 inches DBH would be removed to decrease overall stand density even if they are potential ladder fuels. They may be trimmed or pruned instead of removal to reduce the potential hazard.

A higher density of tree stems and canopy cover would be retained in moist drainages to prevent erosion. Moist drainages for the project include unnamed drainages off of the Mokelumne Middle Fork River as shown on the Woodhouse Mine Road project area map. The South Fork Mokulumne River is on the BLM parcel being treated in the Sandy Gulch project area but the river is not within the proposed project area. All drainages are shown on the attached topographic maps. Defect trees (trees with flaws that reduce its structural strength), snags, and downed logs would be retained for wildlife to the extent feasible. In particular, snags greater than 24 inches DBH provide hiding, denning, nesting, and food storage sites for a variety of wildlife. These large snags would be retained unless to do so would create an unsafe concentration of fuels.

Piles from hand and or mechanical cutting would generally be small, up to 5 feet in diameter, and would be placed in the immediate area of the cutting. The number of piles per acre would vary based upon vegetation density but would be expected to be in the range of 10 to 30 piles per acre.

The second phase would involve the use of prescribed fire either to burn piles, or in areas where appropriate, to introduce a low intensity understory prescribed fire in accordance with a BLM-approved burn plan, other BLM policy, and state of California rules and regulations. Fire control lines would be constructed through the use of hand crews cutting with chainsaws or mechanized cutting around areas to be burned. Prescribed fire would aid in fuel load reduction.

Understory burning would be used where enough fuel exists to carry a fire, where a fire can be managed safely, and where conditions are suitable for achieving the objective of safely and efficiently reducing the fuel hazard. Pile burning would take place in areas where slash is generated from hand cutting with chainsaws or mechanized cutting. Piles would be burned in late fall through late spring when conditions are suitable to reduce the risk of burn piles igniting a wildfire. If conditions are favorable and necessary safety procedures can be maintained, the prescribed burn would be allowed to "creep" on the forest floor around the piles to emulate a low intensity surface fire. This would potentially reduce the one-hour fuels built up over time within the conifer stands and leave a "mosaic" pattern across the forest floor.

During the construction of piles, bark and branches around the basal area of the larger conifers would be reduced by 50 percent; this would be done in order to lower the likelihood that these trees would be killed during low-intensity, low-severity wildfire. All work would be done by a hand crew (e.g., contracted fuels crew, Cal-Fire crew, Hotshots, etc.) who would be under the close supervision of BLM's or Cal-Fire's fuel/fire management specialists. The location and extent of use of understory burning would be determined by community protection/safety requirements and other specifications outlined within approved agency burn plans. Vehicle barriers such as cables, berms, and large boulders may be placed at strategic locations to prevent dirt bikes and other off-highway motorized vehicles from driving within the treated areas.

The objective of the proposed project is to remove 30% to 40% of vegetative fuels within the identified units. This objective would be achieved through multiple understory burn treatments over a ten-year period. The method of implementation used and/or combination of methods used on a specific piece of forested landscape can change from acre to acre and often changes several times throughout a project area based on adaptive management. The quality and the end product of the treatment depend on where and how techniques are implemented. The BLM Fuels Management Specialist and or Cal-Fire Fuels Management Specialist would pre determine the best treatment or combination of treatments to obtain the best ecological outcome during implementation.

2.2 Project Design Features

All treatment work would be subject to the following stipulations:

1. Erosion and Sedimentation Control - Erosion and sedimentation are potential issues affecting drainages within the project area. To prevent potential degradation, streamside buffers (100 ft minimum from the centerline of streams) would be established near all drainages. No equipment operation would be allowed on slopes greater than 40%. In areas greater than 40% only hand work would be allowed. A higher density of tree stems and canopy cover would be retained in moist drainages. Masticated brush and other fuels would be dispersed throughout the project area or piled for burning. This layer of mulch would help prevent erosion. Vehicle barriers such as cables, berms, and large boulders may be placed at strategic locations to prevent dirt bikes and other off-highway vehicles from driving within the treated areas and causing erosion problems.

2. Weed Control - To minimize the potential for introduction or spread of invasive weeds, equipment used for the proposed action would be cleaned prior to entering the area and,

where possible, would avoid operating within weed-infested areas. Crews will be educated by BLM to use best management practices to prevent weed spread, including cleaning equipment prior to entry into the project area. If small infestations are identified within the project area, these will be pulled and piled for burning. If more weeds are discovered during project implementation, they will be appropriately treated or marked and avoided until a plan is developed.

3. Cultural Resources - Flagging-tape buffers would be established around identified cultural resources that could be affected by the proposed action. These cultural resources would be avoided during project implementation.

4. Wildlife – Wood rat nests and large woody debris will be avoided when creating burn piles. If a potential nest cannot be avoided, the pile will be checked for signs of wildlife before lighting. If nests or dens are found, the pile will be avoided. If the pile must be burned, the nest will be restacked nearby or the animal will be given an escape route from the fire.

5. Wildlife - Leave an uncut patch (minimum of 0.25 acres) for every 10 acres harvested, with patches totaling 5 percent of the area. Use "leave-trees" as the center for uncut patches. Riparian and other buffers can help to satisfy this goal.

6. Wildlife - Retain live trees with existing cavities when possible.

7. Wildlife - Retain large trees, defect trees, snags and downed logs for wildlife to the extent feasible. Large snags in particular provide hiding, denning, nesting, and food storage sites for a variety of wildlife. Retain all snags 24 inches and greater in diameter at breast height unless to do so would create an unusual unsafe concentration of fuels.

8. Wildlife. Avoid damaging existing downed woody debris, especially large (18+ inches) hollow or rotten logs and rotten stumps. Leave all existing coarse woody material (more than 6 inches in diameter at the large end) as possible.

9. Wildlife. Retention of coarse woody debris in managed stands should more closely model coarse woody debris found in natural stands. Retain and scatter tops and limbs from 20 percent of the trees harvested.

10. Wildlife. It is recommended that project implementation occur during a limited operating period of July1 to March 1 (functionally October 1 to March 1 due to wildfire season) so as not to disrupt bird nests during the spring breeding season. Should work occur during breeding season a biologist will first survey the project area for nesting birds. The biologist will mark sites to be avoided during vegetation removal or be onsite during work. A buffer of vegetation will be left around each nest to avoid nest abandonment.

11. Wildlife. A 100-foot buffer has been established around a blue elderberry bush where no treatment will occur. Blue elderberry is the host plant for the valley elderberry long-horned beetle, a federally threatened invertebrate. The bush and the buffer are flagged.

Crews will be educated about the elderberry bush and the flagging, and will be clearly instructed to avoid the no-treatment buffer zone.

2.3 No Action

Under the no action alternative, the BLM would not conduct the planned fuels reduction within the project area. Fuels would continue to build up, increasing the likelihood of a high severity fire. Ladder fuels could carry wildfire into the tree canopy creating crown fire conditions. These conditions could be devastating to the environment, not to mention lives and property. Without the treatment, even a low intensity surface fire has the potential to move into the canopy of larger conifers, potentially killing these trees and causing a relatively small fire to intensify and grow into a catastrophic crown fire. The potential would remain for a catastrophic fire within the West Point WUI which could off access for emergency responders and evacuees.

3.0 Affected Environment

The project areas are located within portions of BLM administered parcels surrounding the community of West Point in the central foothills/low mountains of the Sierra Nevada, within Calaveras County California. The elevation for the area is 2,769 feet. The project area consists of two separate project areas (see the attached map). The Sandy Gulch project area is located south of highway 26 running along the border of the BLM managed lands and the adjacent private residential lands. The Woodhouse Mine Road project area is located along portions of Woodhouse Mine Road and also along the buffer of the BLM lands adjacent to the properties located along Woodhouse Mine Road. Moist drainages for the project include an un-named drainage coming off of the Middle Fork Mokelumne River shown on the topographic map for the Woodhouse Mine Road project area. Currently the average fuel load for the proposed parcels is estimated by the BLM Fuels Specialist to be around 40 tons per acre.

<u>Vegetation</u> - In June 2013 and April 2015, the BLM Botanist surveyed and inventoried the vegetation of the project area. The dominant vegetation on the western side of the Sandy Gulch area consists of mixed conifer forest interspersed with thickets of whiteleaf manzanita (*Arctostaphylos viscida*) and black and canyon live oak (*Quercus kelloggii* and *Q. chrysolepis*). The mature conifer overstory canopy consists of ponderosa pine (*Pinus ponderosa*), sugar pine (*Pinus lambertiana*) and western white pine (*Pinus monticola*). Understory species include mountain misery (*Chamaebatia foliolosa*) and poison oak (*Toxicodendron diversilobum*). The north and eastern side of the Sandy Gulch area consists of a more open gray pine (*Pinus sabiniana*) and ponderosa pine overstory with a black and live oak (*Quercus wislizenii*) understory and blue oak (*Quercus douglasii*) occurring along the low-lying ridge. Grasses such as blue wildrye (Elymus glaucus) and hedgehog dogtail (*Cynosurus echinatus*) are dominant in the clearings.

The Woodhouse Mine area consists of mixed conifer forest with ponderosa pine, Douglas fir (*Pseudotsuga menziesii*), live oak (*Quercus wislizenii*), black oak, poison oak and buckbrush (*Ceanothus cuneatus*). There is a small drainage that runs through the project with bigleaf maple (*Acer macrophyllum*), buckeye (*Aesculus californica*), incense cedar (*Calocedrus decurrens*) and Himalayan blackberry (*Rubus armeniacus*). There was no habitat found that would support special status plant species.

Wildlife - The vegetation in the project area provides habitat for a variety of wildlife. The project area is composed primarily of mixed conifer. The mixed conifer forest supports some 355 species of animals (Verner and Boss 1980), including sensitive species such as California spotted owl. Variety in plant species composition provides diversity in food and cover. Black oak acorns, berries from a variety of shrubs (e.g., deerbrush), and a great number of grasses and forbs provide the forage resource essential for wildlife (Kosco and Bartolome 1983). During a site visit on July 10, 2015, a blue elderberry was observed. Blue elderberry is the host plant for the valley elderberry longhorn beetle, a federally threatened invertebrate. No other special status wildlife species or habitat that would support these species was observed.

Recreation - The Sandy Gulch project area is adjacent to numerous private parcels containing residential homes. The Woodhouse Mine Road project area is off of a county road and one private parcel of land. The level of recreational use in the project area is quite low due to the close proximity to private residential parcels. The project area is used by hunters, hikers and wildlife enthusiasts.

Visual Resources - The BLM manages this area in accordance with class III visual resource management (VRM) standards. The BLM's objective for class III is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Cultural – Both project areas, including the Sandy Gulch and Woodhouse Mine Road areas, have been inventoried by a BLM archaeologist. Intensive inventories specific to the proposed action were conducted by a BLM archaeologist in 2013 (Sandy Gulch) and 2015 (Sandy Gulch and Woodhouse Mine Road). Five cultural resources (as well as seven isolated finds) have been identified within the project areas (the area of potential effects or APE). These resources are typical for BLM-administered lands in the west central Sierra Nevada, and include prehistoric bedrock mortars, historic-era mining ditches, historic-era mining areas (prospects and other topographic evidence of exploration and production), and a post-World War II occupancy site associated with a mining claim.

4.0 Environmental Effects

The following critical elements have been considered in this environmental assessment and have been determined to be unaffected by the proposal: areas of critical environmental concern, prime/unique farmlands, floodplains, wilderness, and environmental justice.

4.1 Impacts of the Proposed Action and Alternatives

Air quality – The proposed action would produce smoke from prescribed fires and to a lesser degree particulate matter from mechanical treatments. Potential effects to air quality from prescribed fire and pile burning could range from reduced visibility to potential pneumonic irritation, as well as the smell of smoke affecting people in proximity to the project area when such treatments are underway. However, the duration of these effects is expected to be short with the greatest impact occurring during the actual ignition or active burning phase, and lasting from

one to a few days depending on the size or number of actual burn units or number of piles to be ignited. Residual smoke produced from the burnout of large fuels, or slower burning fuel concentrations could also occur, and may last between one to three days following the ignition phase. Effects to air quality from mechanical treatments and wood cutting would be dominated by airborne particulate matter generated during the operation of mechanical equipment and transport vehicles and could temporarily reduce visibility in the immediate project area; however, these impacts would quickly upon the completion of operations.

The short-term effects on air quality resulting from the smoke generated from prescribed fire would be temporary and should last less than five days. Potential air quality impacts would be monitored and controlled through existing regulatory processes. Potential adverse impacts would be eliminated using adaptive management and authorizations would not be issued for prescribed fires proposed under conditions conducive to adverse effects. Mechanical treatments causing temporary short-term impacts from dust and exhaust emissions would be very short-lived. No long-term air quality effects would result from implementation of the proposed action. The long-term beneficial effects from fire use and mechanical treatments would reduce the magnitude of smoke and other negative effects caused from potential large wildfires should these treatments not occur.

Water and soil resources – The proposed action would have negligible impacts on water and soil resources; however, proposed treatments could result in short-term adverse effects to soil resources, including compaction and decreased infiltration, erosion and sediment loss. In addition, removal of vegetation through prescribed burning could lead to erosion and sediment loss. However, under prescribed conditions and over relatively small areas during any one prescribed burning event, fire intensity and vegetation mortality are anticipated to be low to moderate. Some vegetation will remain to assist in reducing soil erosion after a prescribed burn treatment. A wildfire event would potentially burn at a greater intensity over a much larger area and produce severe vegetation mortality, leading to more extensive soil erosion as compared to a prescribed burn**.** Implementation of the Project Design Features for erosion and sedimentation would prevent negative impacts to water and soils. Erosion of sediments into local streams should not occur. Masticated brush and other fuels would be dispersed throughout the project area or piled for burning. This layer of mulch would help prevent erosion.

Vegetation – The BLM Botanist analyzed the impacts of the proposed action on vegetation, particularly special status plants. The analysis is designed to help the BLM meet its obligations under the Endangered Species Act and other BLM policies with respect to special status species. The analysis included a background records search through the California Natural Diversity Database as well as an internal BLM natural resources geodatabase. Information was also collected in the field during rare plant surveys conducted in June 2013 and April 2015. The BLM Botanist determined that there are no special status plants in the project area; therefore, the proposed action would not negatively impact special status plants.

Project area plant communities including riparian zones and mixed conifer forests are adapted to periodic wildfire. The proposed treatments of mechanical mastication and prescribed fire would mimic the effects of a low intensity wildfire. The project area has experienced natural wildfire events in the past (as well as broadcast burning) and has recovered after the removal of shrubs

and other understory vegetation. Likewise, the common woody species (e.g., deerbrush, small black oak, whiteleaf manzanita, etc.) that would be cut in the course of the proposed action would reestablish within the project area over time.

Wildlife - The BLM wildlife biologist analyzed the impacts of the proposed action on wildlife, especially on special status wildlife with an on the ground survey on July 10, 2015, and through the use of Geographical Information Systems (GIS) databases. She reviewed the California Natural Diversity Database, as well as an internal BLM natural resources geodatabase. Her analysis was designed to help BLM meet its obligations under the Endangered Species Act and other authorities and BLM policies. A blue elderberry shrub is present within the project footprint. Blue elderberry is the host plant for the valley elderberry longhorn beetle, a federally listed invertebrate. Per U.S. Fish and Wildlife Service Conservation Guidelines for the Valley Elderberry Longhorn Beetle, 1999, a 100-foot buffer has been established around the shrub. The buffer has been clearly flagged, as well as the shrub (see photos in the attached appendix). Photos of both the flagging and shrub will be shown to the crew implementing the project so that they are aware of the shrub. No treatment will occur within this 100-foot buffer. There will be no effect to the valley elderberry longhorn beetle with the adherence to the 100-foot no treatment buffer and crew education. No other special status wildlife was present in the project footprint.

While fuel treatments can decrease the risk of catastrophic fire, they do not provide the ecosystem benefits of low intensity low severity fire, and they alter habitat needed by wildlife. In general, fire-dependent species, species preferring open habitats, and species that are associated with early successional vegetation or that consume seeds and fruit appear to benefit from mechanical fuel reduction activities. Increasing understory light for shrub patch development can increase habitat for some small mammals and birds. In contrast, species that prefer closed-canopy forests or dense understory, and species closely associated with those habitat elements that may be removed or consumed by fuel reductions, would likely be negatively affected by fuel reductions. Some habitat loss may persist for only a few months or a few years, such as the loss of shrubby understory vegetation which can recover quickly. The proposed retention of several important wildlife habitat features such as large snags, large woody debris, riparian buffer zones, and live trees with cavities should mitigate for some of the potential impacts to wildlife.

Overall, direct mortality of wildlife owing to crushing from heavy equipment during fuel reduction is considered to be low, but this is mostly based on anecdotal information. It is believed that most species are able to find refuge microsites (e.g., inside burrows or under surface objects) or move away from approaching equipment. However, spring-season thinning during the breeding season may result in mortality of ground- and shrub-nesting bird nestlings and species living within litter such as small mammals, reptiles, amphibians, and invertebrates. The proposed limited operating period will reduce impacts to ground- and shrub-nesting birds, as well as species living within the litter layer.

Wildlife populations may be affected by fire either directly by heat and flames, or indirectly through modification of the habitat. Most animals can escape fire, particularly low-intensity fire under prescribed conditions. However, relatively immobile animals, such as salamanders, some small mammals, turtles, and snakes may be killed. Dusky-footed woodrat (*Neotoma fuscipes*) are particularly vulnerable species because its houses are made of dry twigs. In addition, woodrats

are reluctant to leave their homes even with approaching fire (Lawrence, 1966). Small animals and insects have also been observed being predated upon while attempting escape from a prescribed fire (Lawrence, 1966).

In addition, ground-nesting or shrub-nesting birds and young mammals (thus less mobile) may be directly impacted by prescribed burning during the spring season. Another short-term impact of spring and early summer burns is a temporary drop in food availability or cover because understory vegetation may not resprout until the following year. This could lead to a reduction in reproductive success. Reduced cover exposes animals to increased likelihood of predation. Prescribed burning outside of the breeding season would eliminate the impacts to nesting birds and young mammals.

Early successional wildlife species are favored by fire, while those associated with climax communities may be reduced in number or displaced. However, uneven burning which leaves a diversity of habitats and patches of unburned vegetation would mitigate for impacts to species preferring climax communities or species with narrow ecological niches. Prescribed burning commonly results in a mosaic of burned and unburned vegetation and therefore increases habitat diversity, which is reflected in the species composition and diversity of associated animal communities.

Once it sprouts, new vegetation is highly palatable and nutritious. Populations of small mammals, as well as animals such as deer and quail, build up rapidly after the start of new growth. During the first year after a fire, deer generally forage on the new sprouts that are within 300 feet of unburned cover. During the second post-year burn, vegetation growth meets and exceeds the cover needs for deer. Herbaceous forage benefits for deer last about seven years. The forage benefits translate into increased fawn production and survival (Ashcraft, 1979).

Prescribed burns can create small isolated islands of shrubs and trees which can lead to habitat fragmentation (National Wildfire Coordinating Group, 1994). Adequate linkage of habitat components (e.g., a stringer of cover connecting larger areas of escape cover) would most likely still be in place with the proposed prescribed burn. This unburned connector habitat would mitigate for the potential of habitat fragmentation.

Cultural Resources – A BLM archaeologist has conducted cultural resource studies for the Sandy Gulch and Woodhouse Mine Road project areas (the area of potential effects) to determine whether significant cultural resources could be affected by the proposed action. The study included a background records search, intensive field inventories, and other efforts. The studies were designed to help BLM meet its obligations under Section 106 of the Historic Preservation Act and other authorities. Five cultural resources as well as seven isolated finds have been identified within the project areas. These resources include prehistoric bedrock mortars as well as ditches, prospects, and other resources related to historic-era placer and hardrock gold mining. It is anticipated that the proposed actions would not affect significant cultural resources. All potentially significant cultural resources that could be affected by the proposed action would be flagged for avoidance. We do not anticipate that any places of traditional religious and cultural significance to Native Americans would be affected. Project design features address cultural resource protection.

Recreation – The proposed action could have negligible short-term negative impacts on recreational use. Hunters and motorists on designated routes might be inconvenienced temporarily during project implementation due to the noise and dust caused by cutting and chipping fuels, and the use of the roads in the area by project-related vehicles. Recreationists would continue to use the project area after the proposed action is implemented with no additional inconvenience.

Visual Resources – The project area is near the North Fork Mokelumne River; however, there would be no impacts to this area. The proposed project would not have a negative impact on visual resources. Vegetation would be removed from the understory of forested stands only. Some might consider this an improvement to the scenery. Most importantly, the proposed action would be consistent with BLM's VRM class III management objective under the 2008 Sierra RMP, which is to partially retain the existing character of the landscape.

4.2 Impacts of the No Action Alternative

Though highly variable and difficult to predict with certainty, not implementing the proposed action could lead to detrimental impacts to forest health, firefighting efforts, and adjacent private properties. If a fire were to occur within the project area during a high fire season it would likely move into the upper story, creating a crown fire and burning virtually all the trees and vegetation. A wildfire within the project area could cut off access for emergency responders and evacuees should the road be compromised. A catastrophic wildfire would remove large areas of vegetation, leading to increased erosion and very limited habitat and forage for wildlife. Implementing the proposed action would move this stand to a healthier, more resilient condition so if a fire were to occur, it would only kill the smaller trees and the shrub and forb understory which is what likely occurred historically.

4.3 Cumulative Impacts

Negative cumulative impacts on the larger watershed scale are not anticipated. The proposed action would have negligible negative impacts on plants and wildlife. The current condition of the vegetation has been influenced by decades of wildfire suppression. There is not at present a better way to reduce dense understory vegetation that would have been reduced by wildfire in the past, before fire suppression was practiced. The proposed action is expected to have a beneficial cumulative impact on wildfire suppression in the area, as long as the BLM maintains the treatment area.

5.0 Agencies and Persons Consulted

Tuolumne Calaveras Unit Cal-Fire

5.1 Authors

Heather Daniels, Realty Specialist

5.2 BLM Interdisciplinary Team/Reviewers:

\/s/ Heather Daniels	*7.24.2015*
Heather Daniels NEPA Coordinator	Date
\/s/ James Barnes	*6/23/15*
James Barnes Archaeologist	Date
\/s/ Brian Mulhollen	*6/24/15*
Brian Mulhollen Fire Management Officer	Date
\/s/ Peggy Cranston	*7/13/15*
Peggy Cranston Wildlife Biologist	Date
\/s/ Beth Brenneman	*7/14/15*
Beth Brenneman Botanist	Date
\/s/ Jeff Horn	*7/14/15*
Jeff Horn Outdoor Recreation Planner/VRM Specialist	Date

5.3 Availability of Document and Comment Procedures

This EA will be posted on Mother Lode Field Office's website (www.blm.gov/ca/motherlode) under NEPA and will be available for a 15-day public review period. The EA is also available by mail upon request during this 15-day public review period. Comments should be sent to Heather Daniels at Bureau of Land Management, Mother Lode Field Office, 5152 Hillsdale Circle, El Dorado Hills, California 95762 or emailed to bbrennem@blm.gov.

6.0 References

Ashcraft, G.C. 1979. Effects of fire on deer in chaparral. CAL-NEVA Wildlife Transactions 1979: pp. 177-189.

Kosco, B.H., and J.W. Bartolomne. 1983. Effects of cattle and deer on regenerating mixed conifer clearcuts. J. Range Manage. 36: 265-268.

Lawrence, G.E. 1966. Ecology of vertebrate animals in relation to chaparral fire in the Sierra Nevada foothills. Ecology 47: 278-291.

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Appendix A: Blue Elderberry Bush

Photo 1: Blue Elderberry Bush Leaves

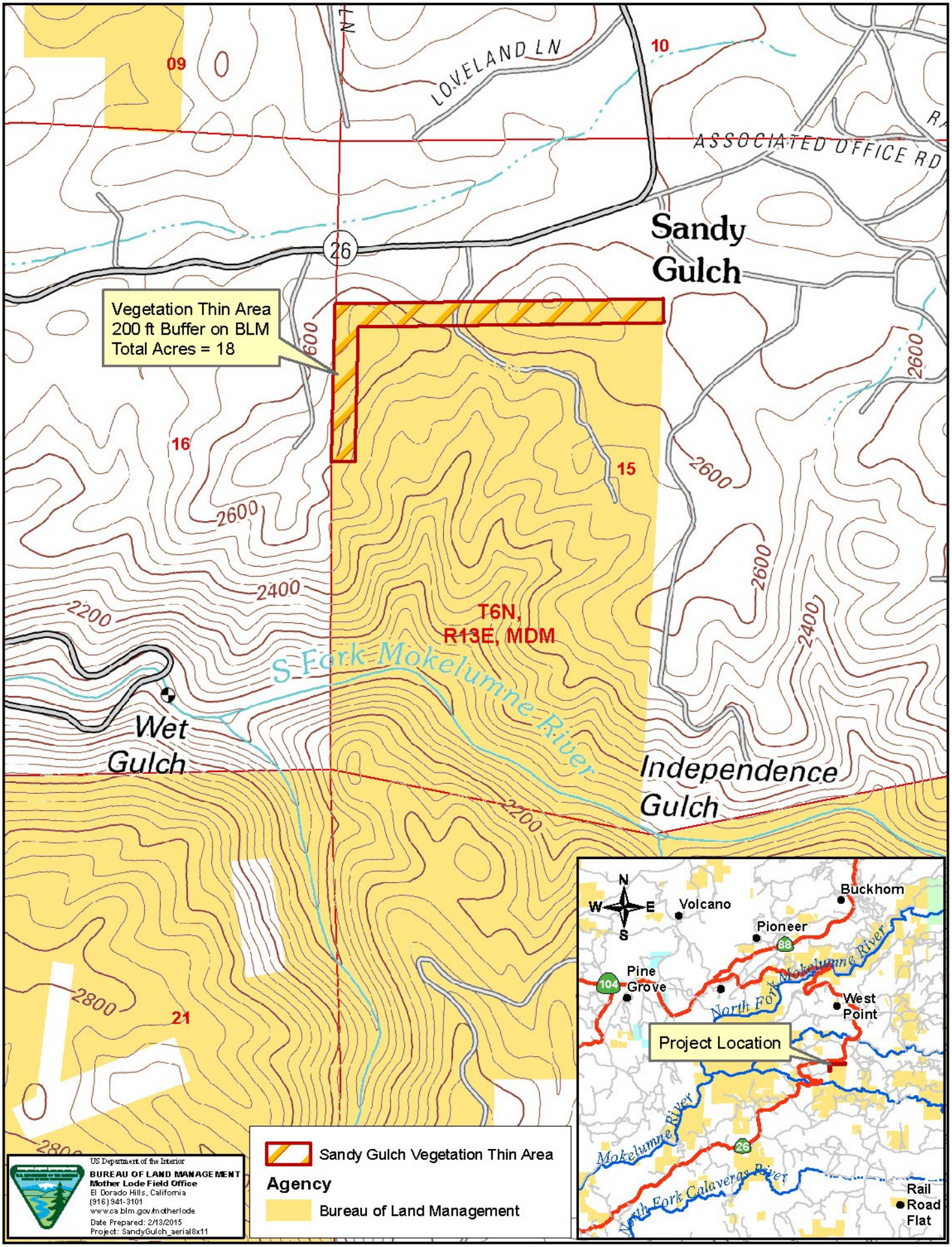
Photo 2: Close-up of Leaves

Photo 3: Flagging of Bush for avoidance

Photo 4: Flagging along road showing avoidance area

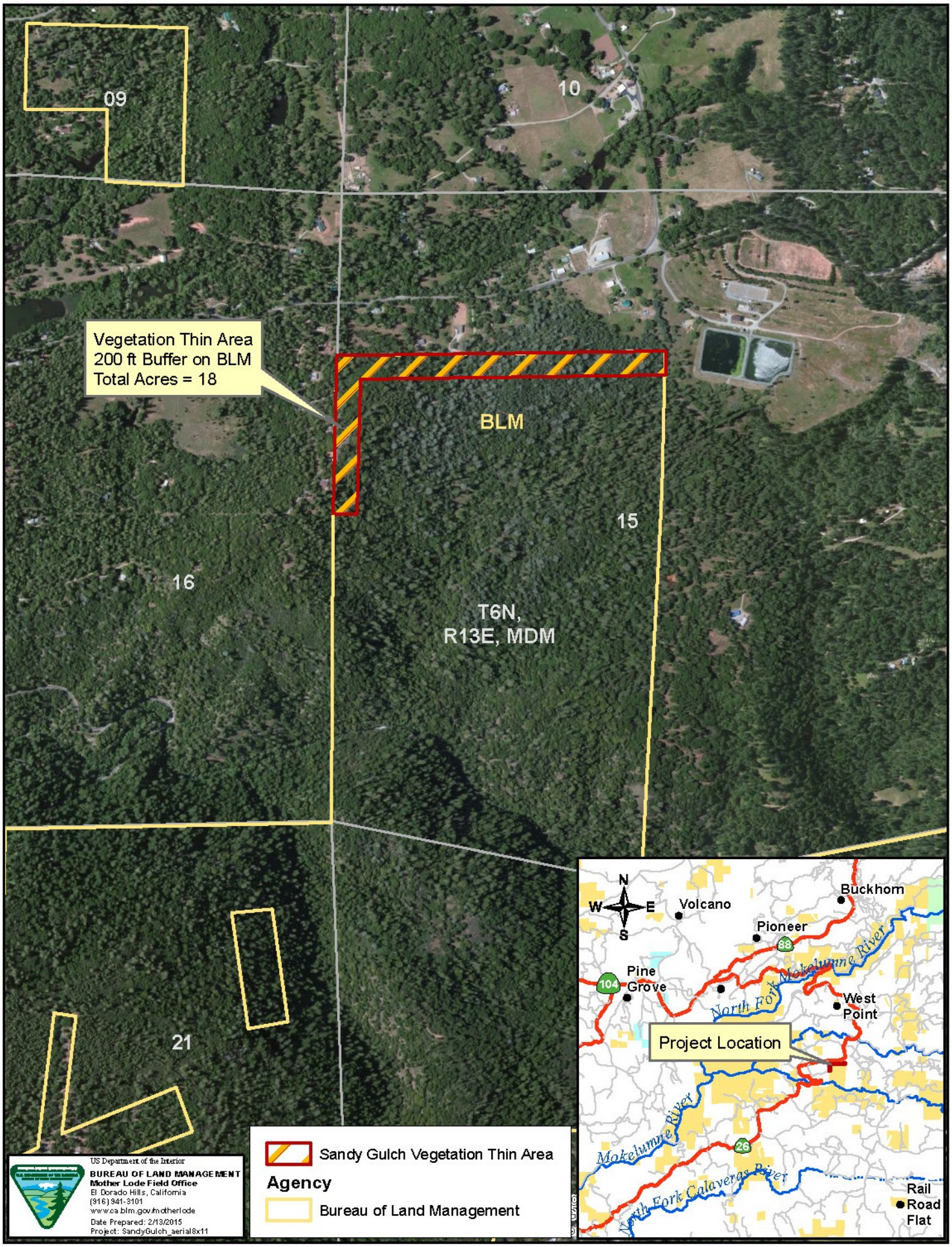
Photo 5: Up-close of flagging

Sandy Gulch Vegetation Thinning



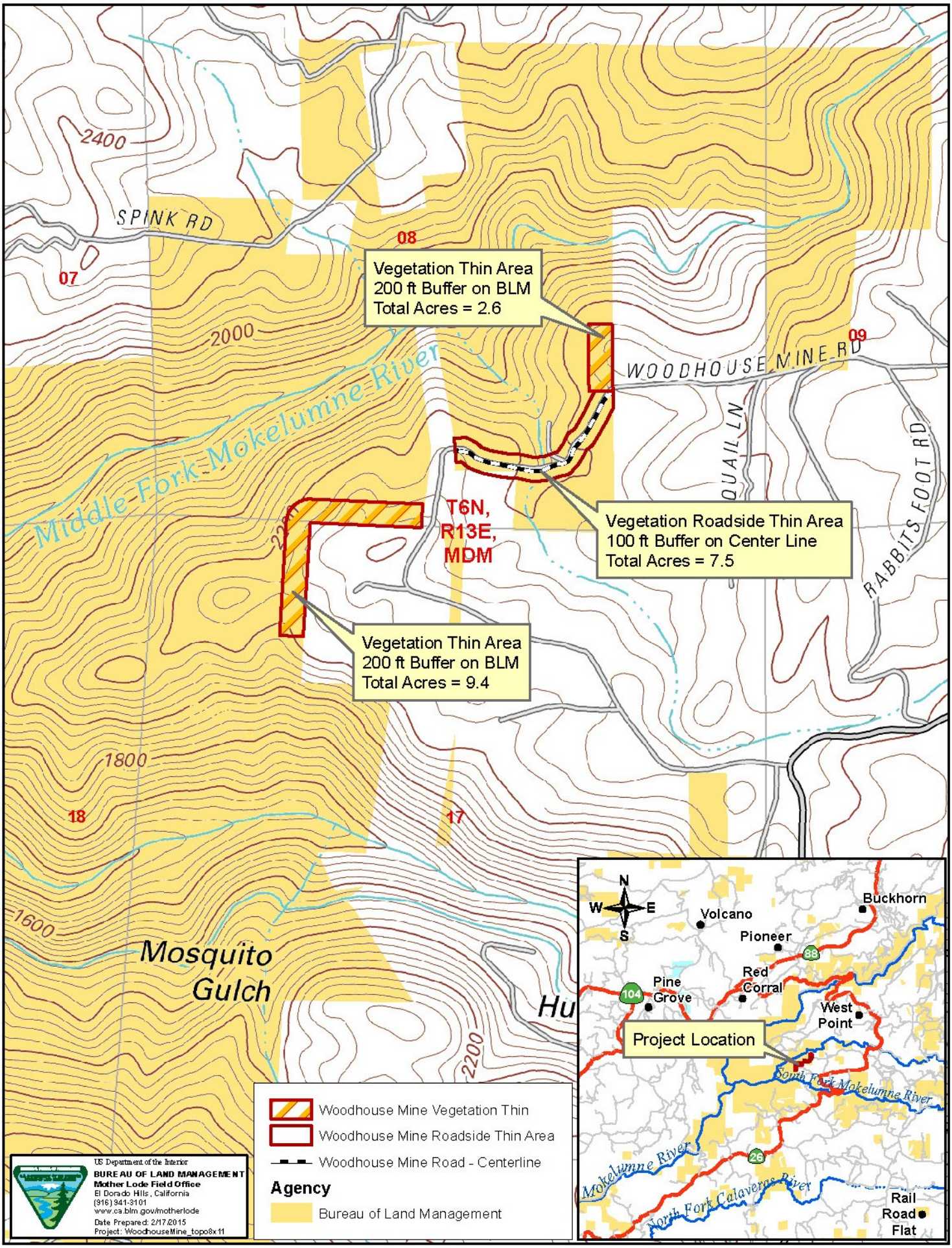
1:12,500 1 inch = 1,042 feet

Sandy Gulch Vegetation Thinning



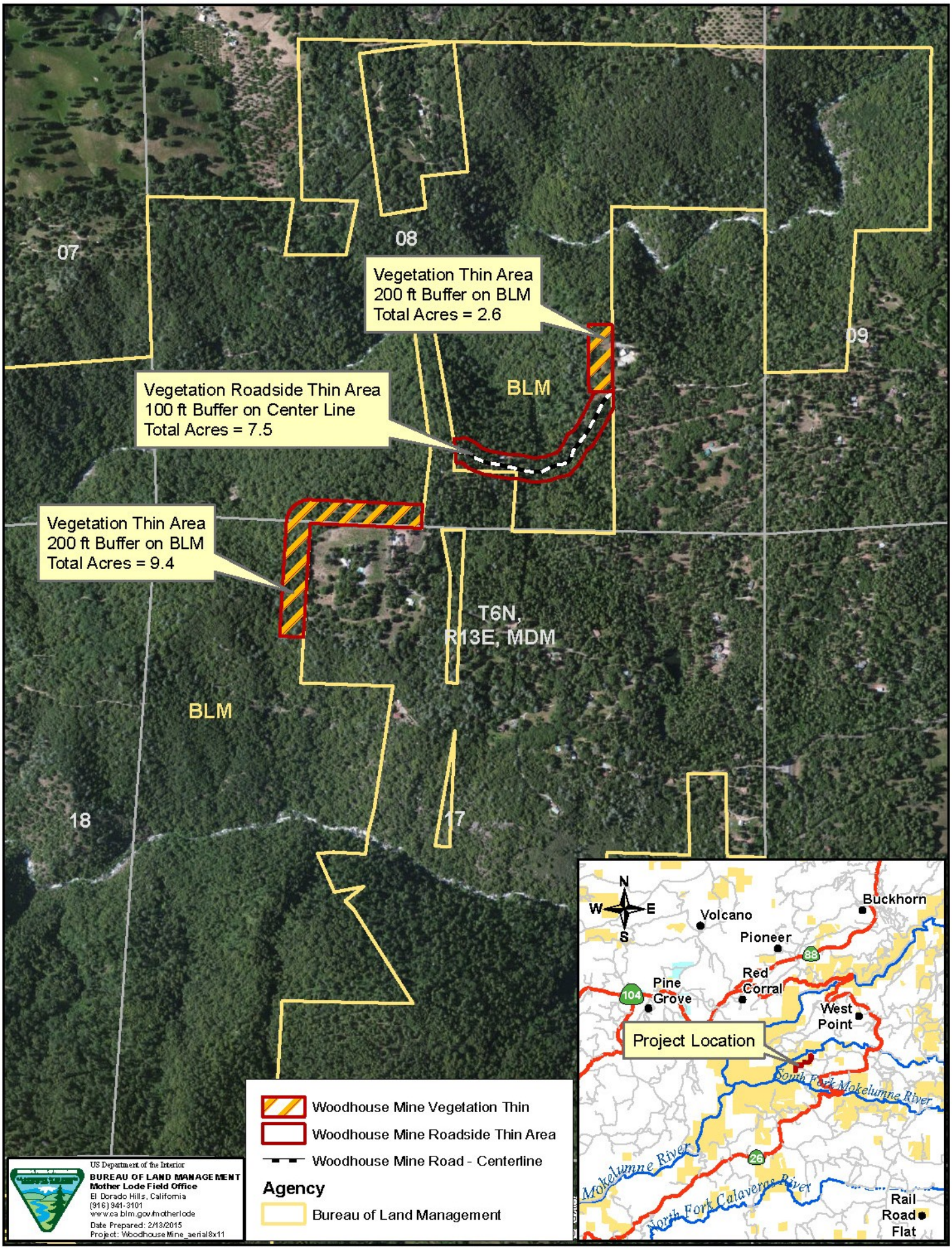
1:12,500 1 inch = 1,042 feet

Woodhouse Mine Vegetation Thinning



1:12,500 1 inch = 1,042 feet

Woodhouse Mine Vegetation Thinning



1:12,500 1 inch = 1,042 feet